0902.0431: equation evidence

Display equations

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_ EQ0515 **[conf 0.002]**	85	■ 0.002	\begin{aligned} & \lambda_{0}-\lambda_{1}=1 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \\ & \lambda_{0}-\lambda_{2}=1 \quad 1 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_ EQ0517 **[conf 0.002]**	85	■ 0.002	\begin{aligned} & \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3}\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=0 \quad 0 \quad 1 \quad 0 \quad 1 \\ & \frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=1 \quad 2 \quad 3 \quad 1 \quad 2 \quad 1 \\ & \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=0 \quad 1 \quad 2 \quad 1 \quad 2 \quad 1 \\ & \frac{1}{2}\left(\quad \lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=1 \quad 1 \quad 2 \quad 1 \quad 2 \quad 1 \\ & \frac{1}{2}\left(\quad \lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=1 \quad 2 \quad 2 \quad 1 \quad 2 \quad 1 \\ & \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=0 \quad 0,0 \quad 0 \quad 1 \quad 1 \quad 0 \\ & \frac{1}{2}\left(\quad \lambda_{0}-\lambda_{1}-\lambda_{2}-\lambda_{3}\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=1 \quad 1 \quad 1 \quad 1 \quad 0 \quad 1 \\ & \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}-\lambda_{2}-\lambda_{3}\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=0 \quad 1 \quad 1 \quad 0 \\ & \frac{1}{2}\left(\quad \lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3}\right)-\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=1 \quad 1 \quad 2 \quad 1 \\ & \frac{1}{2}\left(\quad \lambda_{0}-\lambda_{1}-\lambda_{2}+\lambda_{3}\right)-\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=1 \quad 1 \quad 1 \\ & \frac{1}{2}\left(\quad \lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right)+\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 1 \end{aligned} \quad \frac{1}{1} \quad 1 \quad 0	$\frac{1}{2}(-\lambda_0-\lambda_1+\lambda_2-\lambda_3)+\frac{1}{2}(\mu_3-\mu_1) = 0 \quad 0 \quad 1 \quad 0 \quad 1 \quad 0$ $\frac{1}{2}(\quad \lambda_0+\lambda_1+\lambda_2-\lambda_3)+\frac{1}{2}(\mu_3-\mu_1) = 1 \quad 2 \quad 3 \quad 1 \quad 2 \quad 1$ $\frac{1}{2}(-\lambda_0+\lambda_1+\lambda_2+\lambda_3)+\frac{1}{2}(\mu_3-\mu_1) = 0 \quad 1 \quad 2 \quad 1 \quad 2 \quad 1$ $\frac{1}{2}(\quad \lambda_0-\lambda_1+\lambda_2+\lambda_3)+\frac{1}{2}(\mu_3-\mu_1) = 1 \quad 1 \quad 2 \quad 1 \quad 2 \quad 1$ $\frac{1}{2}(\quad \lambda_0+\lambda_1-\lambda_2+\lambda_3)+\frac{1}{2}(\mu_3-\mu_1) = 1 \quad 2 \quad 2 \quad 1 \quad 2 \quad 1$ $\frac{1}{2}(-\lambda_0-\lambda_1-\lambda_2+\lambda_3)+\frac{1}{2}(\mu_3-\mu_1) = 0 \quad 0 \quad 0 \quad 0 \quad 1 \quad 0$ $\frac{1}{2}(\quad \lambda_0-\lambda_1-\lambda_2-\lambda_3)+\frac{1}{2}(\mu_3-\mu_1) = 1 \quad 1 \quad 1 \quad 0 \quad 1 \quad 0$ $\frac{1}{2}(-\lambda_0+\lambda_1-\lambda_2-\lambda_3)+\frac{1}{2}(\mu_3-\mu_1) = 0 \quad 1 \quad 1 \quad 0 \quad 1 \quad 0$ $\frac{1}{2}(\quad \lambda_0-\lambda_1+\lambda_2-\lambda_3)-\frac{1}{2}(\mu_1-\mu_2) = 1 \quad 1 \quad 2 \quad 1 \quad 1 \quad 0$ $\frac{1}{2}(\quad \lambda_0-\lambda_1-\lambda_2+\lambda_3)-\frac{1}{2}(\mu_1-\mu_2) = 1 \quad 1 \quad 1 \quad 1 \quad 1 \quad 0$ $\frac{1}{2}(\quad \lambda_0+\lambda_1+\lambda_2+\lambda_3)+\frac{1}{2}(\mu_1-\mu_2) = 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 1$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_ EQ1026 **[conf 0.018]**	171	■ 0.018	`\left.\begin{array}{lllllllrlllll} \lambda_{0}-\lambda_{1}=2 & 3 & 4 & 3 & 2 & 1 & 0 & 2 & \lambda_{0}+\lambda_{1}=2 & 4 & 6 & 5 & 4 & 3 & 2 \end{array}\right], \begin{array}{lllllllll} \lambda_{0}-\lambda_{2}=2 & 3 & 4 & 3 & 2 & 1 & 1 & 2 & \lambda_{0}+\lambda_{2}=2 & 4 & 6 \\ \lambda_{0}-\lambda_{3}=2 & 3 & 4 & 3 & 2 & 2 & 1 & 2 & \lambda_{0}+\lambda_{3}=2 & 4 & 6 \\ \lambda_{1}-\lambda_{2}=0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 4 & 2 & 1 \\ \lambda_{1}-\lambda_{3}=0 & 0 & 0 & 0 & 0 & 1 & 1 & 0 & \lambda_{1}+\lambda_{2}=0 & 1 & 2 \\ \lambda_{2}-\lambda_{3}=0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 2 & 2 & 1 \\ \lambda_{2}+\lambda_{3}=0 & 1 & 2 & 2 & 2 & 1 & 0 & 1 & & & \end{array}`	$\lambda_{0}-\lambda_{1}=2 \quad 3 \quad 4 \quad 3 \quad 2 \quad 1 \quad 0 \quad 2 \qquad \lambda_{0}+\lambda_{1}=2 \quad 4 \quad 6 \quad 5 \quad 4 \quad 3 \quad 2$ $\lambda_{0}-\lambda_{2}=2 \quad 3 \quad 4 \quad 3 \quad 2 \quad 1 \quad 1 \quad 2 \qquad \lambda_{0}+\lambda_{2}=2 \quad 4 \quad 6 \quad 5 \quad 4 \quad 3 \quad 1$ $\lambda_{0}-\lambda_{3}=2 \quad 3 \quad 4 \quad 3 \quad 2 \quad 2 \quad 1 \quad 2 \qquad \lambda_{0}+\lambda_{3}=2 \quad 4 \quad 6 \quad 5 \quad 4 \quad 2 \quad 1$ $\lambda_{1}-\lambda_{2}=0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 1 \quad 0 \qquad \lambda_{1}+\lambda_{2}=0 \quad 1 \quad 2 \quad 2 \quad 2 \quad 2 \quad 1$ $\lambda_{1}-\lambda_{3}=0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 1 \quad 1 \quad 0 \qquad \lambda_{1}+\lambda_{3}=0 \quad 1 \quad 2 \quad 2 \quad 2 \quad 1 \quad 1$ $\lambda_{2}-\lambda_{3}=0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 1 \quad 0 \quad 0 \qquad \lambda_{2}+\lambda_{3}=0 \quad 1 \quad 2 \quad 2 \quad 2 \quad 1 \quad 0 \quad 1$
0902.0431_ EQ0518 **[conf 0.021]**	86	■ 0.021	`\begin{aligned} & \frac{1}{2}\left(\lambda_{0}+\lambda_{1}-\lambda_{2}-\lambda_{3}\right)-\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=1 \quad 2 \quad 2 \quad 2 \quad 1 \quad 1 \quad c \\ & \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}-\lambda_{2}+\lambda_{3}\right)-\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=0 \quad 1 \quad 1 \quad 1 \quad 1 \quad 1 \\ & \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right)-\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=0 \quad 1 \quad 2 \quad 1 \quad 1 \quad 1 \\ & \frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right)-\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=1 \quad 2 \quad 3 \quad 2 \\ & \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right)-\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=0 \quad 0 \end{aligned}`	$\frac{1}{2}\left(\lambda_{0}+\lambda_{1}-\lambda_{2}-\lambda_{3}\right)-\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=1 \quad 2 \quad 2 \quad 2 \quad 1 \quad 1 \quad c$ $\frac{1}{2}\left(-\lambda_{0}+\lambda_{1}-\lambda_{2}+\lambda_{3}\right)-\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=0 \quad 1 \quad 1 \quad 1 \quad 1 \quad 1$ $\frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right)-\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=0 \quad 1 \quad 2 \quad 1 \quad 1 \quad 1$ $\frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right)-\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=1 \quad 2 \quad 3 \quad 2$ $\frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right)-\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=0 \quad 0$	$\frac{1}{2}(\lambda_{0}+\lambda_{1}-\lambda_{2}-\lambda_{3})-\frac{1}{2}(\mu_{1}-\mu_{2}) = 1 \quad 2 \quad 2 \quad 1 \quad 1 \quad 0$ $\frac{1}{2}(-\lambda_{0}+\lambda_{1}-\lambda_{2}+\lambda_{3})-\frac{1}{2}(\mu_{1}-\mu_{2}) = 0 \quad 1 \quad 1 \quad 1 \quad 1 \quad 0$ $\frac{1}{2}(-\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3})-\frac{1}{2}(\mu_{1}-\mu_{2}) = 0 \quad 1 \quad 2 \quad 1 \quad 1 \quad 0$ $\frac{1}{2}(\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3})-\frac{1}{2}(\mu_{1}-\mu_{2}) = 1 \quad 2 \quad 3 \quad 2 \quad 2 \quad 1$ $\frac{1}{2}(-\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3})-\frac{1}{2}(\mu_{1}-\mu_{2}) = 0 \quad 0 \quad 1 \quad 1 \quad 1 \quad 0.$

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0902.0431_ EQ1032 **[conf 0.022]**	173	■ 0.022	`\begin{aligned} & \frac{1}{2}\left(\lambda_{0}+ \lambda_{1}+\lambda_{2}-\lambda_{3}\right)+\frac{1}{2} \mu_{2}-\frac{2}{3} \nu=1 \quad 2 \quad 3 \quad 3 \quad 2 \quad 2 \end{aligned} \quad 1 \quad =\frac{1}{2}\left(\lambda_{0}+\lambda_{1}-\lambda_{2}+\lambda_{3}\right)+ \frac{1}{2} \mu_{2}-\frac{2}{3} \nu=1 \quad 2 \quad 3 \quad 3 \quad 2 \quad 1 \quad 1 .`	*(not rendered)*	$\frac{1}{2}(\lambda_0+\lambda_1+\lambda_2-\lambda_3)+\frac{1}{2}\mu_2-\frac{2}{3}\nu=1 \quad 2 \quad 3 \quad 3 \quad 2 \quad 2 \quad 1 \quad 1$ $\frac{1}{2}(\lambda_0+\lambda_1-\lambda_2+\lambda_3)+\frac{1}{2}\mu_2-\frac{2}{3}\nu=1 \quad 2 \quad 3 \quad 3 \quad 2 \quad 1 \quad 1 \quad 1$ $\frac{1}{2}(\lambda_0-\lambda_1+\lambda_2+\lambda_3)+\frac{1}{2}\mu_2-\frac{2}{3}\nu=1 \quad 2 \quad 3 \quad 3 \quad 2 \quad 1 \quad 0 \quad 1$ $\frac{1}{2}(\lambda_0-\lambda_1-\lambda_2-\lambda_3)+\frac{1}{2}\mu_2-\frac{2}{3}\nu=1 \quad 1 \quad 1 \quad 1 \quad 0 \quad 0 \quad 0 \quad 0$ $\frac{1}{2}(\lambda_0+\lambda_1+\lambda_2-\lambda_3)-\frac{1}{2}\mu_2+\frac{2}{3}\nu=1 \quad 2 \quad 3 \quad 2 \quad 2 \quad 2 \quad 1 \quad 2$ $\frac{1}{2}(\lambda_0+\lambda_1-\lambda_2+\lambda_3)-\frac{1}{2}\mu_2+\frac{2}{3}\nu=1 \quad 2 \quad 3 \quad 2 \quad 2 \quad 1 \quad 1 \quad 2$ $\frac{1}{2}(\lambda_0-\lambda_1+\lambda_2+\lambda_3)-\frac{1}{2}\mu_2-\frac{2}{3}\nu=1 \quad 2 \quad 3 \quad 2 \quad 2 \quad 1 \quad 0 \quad 2$ $\frac{1}{2}(\lambda_0-\lambda_1-\lambda_2-\lambda_3)-\frac{1}{2}\mu_2+\frac{2}{3}\nu=1 \quad 1 \quad 1 \quad 0 \quad 0 \quad 0 \quad 0 \quad 1$ $\frac{1}{2}(\lambda_0+\lambda_1+\lambda_2+\lambda_3)+\frac{1}{2}\mu_3-\frac{2}{3}\nu=1 \quad 2 \quad 3 \quad 3 \quad 3 \quad 2 \quad 1 \quad 1$ $\frac{1}{2}(\lambda_0+\lambda_1-\lambda_2-\lambda_3)+\frac{1}{2}\mu_3-\frac{2}{3}\nu=1 \quad 1 \quad 1 \quad 1 \quad 1 \quad 1 \quad 1 \quad 0$ $\frac{1}{2}(\lambda_0-\lambda_1+\lambda_2-\lambda_3)+\frac{1}{2}\mu_3-\frac{2}{3}\nu=1 \quad 1 \quad 1 \quad 1 \quad 1 \quad 1 \quad 0 \quad 0$ $\frac{1}{2}(\lambda_0-\lambda_1-\lambda_2+\lambda_3)+\frac{1}{2}\mu_3-\frac{2}{3}\nu=1 \quad 1 \quad 1 \quad 1 \quad 1 \quad 0 \quad 0 \quad 0$ $\frac{1}{2}(\lambda_0+\lambda_1+\lambda_2+\lambda_3)-\frac{1}{2}\mu_3+\frac{2}{3}\nu=1 \quad 3 \quad 5 \quad 4 \quad 3 \quad 2 \quad 1 \quad 3$ $\frac{1}{2}(\lambda_0+\lambda_1-\lambda_2-\lambda_3)-\frac{1}{2}\mu_3+\frac{2}{3}\nu=1 \quad 2 \quad 3 \quad 2 \quad 1 \quad 1 \quad 1 \quad 2$ $\frac{1}{2}(\lambda_0-\lambda_1+\lambda_2-\lambda_3)-\frac{1}{2}\mu_3+\frac{2}{3}\nu=1 \quad 2 \quad 3 \quad 2 \quad 1 \quad 1 \quad 0 \quad 2$ $\frac{1}{2}(\lambda_0-\lambda_1-\lambda_2+\lambda_3)-\frac{1}{2}\mu_3+\frac{2}{3}\nu=1 \quad 2 \quad 3 \quad 2 \quad 1 \quad 0 \quad 0 \quad 2$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_ EQ1033 **[conf 0.026]**	174	■ 0.026	\begin{array}{lllllllll} \lambda_{0}+\frac{1}{2} \mu_{1}+ \frac{1}{3} \nu+r=2 & 4 & 6 & 4 & 3 & 2 & 1 & 3 & \\ \lambda_{0}+\frac{1}{2} \mu_{1}+\frac{1}{3} \nu-r=2 & 4 & 5 & 4 & 3 & 2 & 1 & 3 & \\ \lambda_{0}-\frac{1}{2}\mu_{1}-\frac{1}{3}\nu+r=2 & 3 & 5 & 4 & 3 & 2 & 1 & 2 & \\ \lambda_{0}-\frac{1}{2}\mu_{1}-\frac{1}{3}\nu-r=2 & 3 & 4 & 4 & 3 & 2 & 1 & 2 & \\ \lambda_{1}+\frac{1}{2}\mu_{1}+\frac{1}{3}\nu+r=0 & 1 & 2 & 1 & 1 & 1 & 1 & 1 & \\ \lambda_{1}+\frac{1}{2}\mu_{1}+\frac{1}{3}\nu-r=0 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & \\ \lambda_{1}-\frac{1}{2}\mu_{1}-\frac{1}{3}\nu+r=0 & 0 & 1 & 1 & 1 & 1 & 1 & 0 & \\ \lambda_{1}-\frac{1}{2}\mu_{1}-\frac{1}{3}\nu-r=0 & 0 & 0 & 1 & 1 & 1 & 1 & 0 & \\ \lambda_{2}+\frac{1}{2}\mu_{1}+\frac{1}{3}\nu+r=0 & 1 & 2 & 1 & 1 & 1 & 0 & 1 & \\ \lambda_{2}+\frac{1}{2}\mu_{1}+\frac{1}{3}\nu-r=0 & 1 & 1 & 1 & 1 & 1 & 0 & 1 & \\ \lambda_{2}-\frac{1}{2}\mu_{1}-\frac{1}{3}\nu+r=0 & 0 & 1 & 1 & 1 & 1 & 0 & 0 & \\ \lambda_{2}-\frac{1}{2}\mu_{1}-\frac{1}{3}\nu-r=0 & 0 & 0 & 1 & 1 & 1 & 0 & 0 & \\ \lambda_{3}+\frac{1}{2}\mu_{1}+\frac{1}{3}\nu+r=0 & 1 & 2 & 1 & 1 & 0 & 0 & 1 & \\ \lambda_{3}+\frac{1}{2}\mu_{1}+\frac{1}{3}\nu-r=0 & 1 & 1 & 1 & 1 & 0 & 0 & 1 & \\ \lambda_{3}-\frac{1}{2}\mu_{1}-\frac{1}{3}\nu+r=0 & 0 & 1 & 1 & 1 & 0 & 0 & 0 & \\ \lambda_{3}-\frac{1}{2}\mu_{1}-\frac{1}{3}\nu-r=0 & 0 & 0 & 1 & 1 & 0 & 0 & 0 & \\ 1+\lambda_{2}-\lambda_{3}+\frac{1}{2}\mu_{2}+\frac{1}{3}\nu+r=1 & 2 & 4 & 3 & 2 & 2 & 1 & & \\ 1+\lambda_{2}-\lambda_{3}+\frac{1}{2}\mu_{2}+\frac{1}{3}\nu-r=1 & 2 & 3 & 3 & 2 & 2 & 1 & 2 & \end{array}	$\lambda_0+\frac{1}{2}\mu_1+\frac{1}{3}\nu+r=2 \quad 4 \quad 6 \quad 4 \quad 3 \quad 2 \quad 1 \quad 3$ $\lambda_0+\frac{1}{2}\mu_1+\frac{1}{3}\nu-r=2 \quad 4 \quad 5 \quad 4 \quad 3 \quad 2 \quad 1 \quad 3$ $\lambda_0-\frac{1}{2}\mu_1-\frac{1}{3}\nu+r=2 \quad 3 \quad 5 \quad 4 \quad 3 \quad 2 \quad 1 \quad 2$ $\lambda_0-\frac{1}{2}\mu_1-\frac{1}{3}\nu-r=2 \quad 3 \quad 4 \quad 4 \quad 3 \quad 2 \quad 1 \quad 2$ $\lambda_1+\frac{1}{2}\mu_1+\frac{1}{3}\nu+r=0 \quad 1 \quad 2 \quad 1 \quad 1 \quad 1 \quad 1 \quad 1$ $\lambda_1+\frac{1}{2}\mu_1+\frac{1}{3}\nu-r=0 \quad 1 \quad 1 \quad 1 \quad 1 \quad 1 \quad 1 \quad 1$ $\lambda_1-\frac{1}{2}\mu_1-\frac{1}{3}\nu+r=0 \quad 0 \quad 1 \quad 1 \quad 1 \quad 1 \quad 1 \quad 0$ $\lambda_1-\frac{1}{2}\mu_1-\frac{1}{3}\nu-r=0 \quad 0 \quad 0 \quad 1 \quad 1 \quad 1 \quad 1 \quad 0$ $\lambda_2+\frac{1}{2}\mu_1+\frac{1}{3}\nu+r=0 \quad 1 \quad 2 \quad 1 \quad 1 \quad 1 \quad 0 \quad 1$ $\lambda_2+\frac{1}{2}\mu_1+\frac{1}{3}\nu-r=0 \quad 1 \quad 1 \quad 1 \quad 1 \quad 1 \quad 0 \quad 1$ $\lambda_2-\frac{1}{2}\mu_1-\frac{1}{3}\nu+r=0 \quad 0 \quad 1 \quad 1 \quad 1 \quad 1 \quad 0 \quad 0$ $\lambda_2-\frac{1}{2}\mu_1-\frac{1}{3}\nu-r=0 \quad 0 \quad 0 \quad 1 \quad 1 \quad 1 \quad 0 \quad 0$ $\lambda_3+\frac{1}{2}\mu_1+\frac{1}{3}\nu+r=0 \quad 1 \quad 2 \quad 1 \quad 1 \quad 0 \quad 0 \quad 1$ $\lambda_3+\frac{1}{2}\mu_1+\frac{1}{3}\nu-r=0 \quad 1 \quad 1 \quad 1 \quad 1 \quad 0 \quad 0 \quad 1$ $\lambda_3-\frac{1}{2}\mu_1-\frac{1}{3}\nu+r=0 \quad 0 \quad 1 \quad 1 \quad 1 \quad 0 \quad 0 \quad 0$ $\lambda_3-\frac{1}{2}\mu_1-\frac{1}{3}\nu-r=0 \quad 0 \quad 0 \quad 1 \quad 1 \quad 0 \quad 0 \quad 0$ $_1+\lambda_2-\lambda_3)+\frac{1}{2}\mu_2+\frac{1}{3}\nu+r=1 \quad 2 \quad 4 \quad 3 \quad 2 \quad 2 \quad 1 \quad 2$ $_1+\lambda_2-\lambda_3)+\frac{1}{2}\mu_2+\frac{1}{3}\nu-r=1 \quad 2 \quad 3 \quad 3 \quad 2 \quad 2 \quad 1 \quad 2$

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0902.0431_ EQ1031 **[conf 0.036]**	173	■ 0.036	`\begin{aligned} & \lambda_{2}+\frac{1}{2} \mu_{1}-\frac{2}{3} \nu=0 \quad 1 \quad 1 \quad 1 \quad 1 \quad 1 \quad 0 \quad 0 \\ & \lambda_{2}-\frac{1}{2} \mu_{1}+\frac{2}{3} \nu=0 \quad 0 \quad 1 \quad 1 \quad 1 \quad 1 \quad 0 \quad 1 \\ & \lambda_{3}+\frac{1}{2} \mu_{1}-\frac{2}{3} \nu=0 \quad 1 \quad 1 \quad 1 \quad 1 \quad 0 \quad 0 \quad 0 \\ & \lambda_{3}-\frac{1}{2} \mu_{1}+\frac{2}{3} \nu=0 \quad 0 \quad 1 \quad 1 \quad 1 \quad 0 \quad 0 \quad 1 \end{aligned}`	$\lambda_{2}+\frac{1}{2} \mu_{1}-\frac{2}{3} \nu=0 \quad 1 \quad 1 \quad 1 \quad 1 \quad 1 \quad 0 \quad 0$ $\lambda_{2}-\frac{1}{2} \mu_{1}+\frac{2}{3} \nu=0 \quad 0 \quad 1 \quad 1 \quad 1 \quad 1 \quad 0$ $\lambda_{3}+\frac{1}{2} \mu_{1}-\frac{2}{3} \nu=0 \quad 1 \quad 1 \quad 1 \quad 1$ $\lambda_{3}-\frac{1}{2} \mu_{1}+\frac{2}{3} \nu=0 \quad 0 \quad 1 \quad 1 \quad 1 \quad 0$ 0	$\lambda_{2}+\frac{1}{2} \mu_{1}-\frac{2}{3} \nu=0 \quad 1 \quad 1 \quad 1 \quad 1 \quad 1 \quad 0 \quad 0$ $\lambda_{2}-\frac{1}{2} \mu_{1}+\frac{2}{3} \nu=0 \quad 0 \quad 1 \quad 1 \quad 1 \quad 1 \quad 0 \quad 1$ $\lambda_{3}+\frac{1}{2} \mu_{1}-\frac{2}{3} \nu=0 \quad 1 \quad 1 \quad 1 \quad 1 \quad 0 \quad 0 \quad 0$ $\lambda_{3}-\frac{1}{2} \mu_{1}+\frac{2}{3} \nu=0 \quad 0 \quad 1 \quad 1 \quad 1 \quad 0 \quad 0 \quad 1$
0902.0431_ EQ0761 **[conf 0.036]**	127	■ 0.036	`\begin{aligned} & \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3}\right)+\frac{1}{2} \mu_{2}-\frac{2}{3} \nu=0 \quad 0 \quad 1 \quad 1 \quad` **`[U+0930] [U+094D]`** `0 \quad 0 \\ & \frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right)+\frac{1}{2} \mu_{2}-\frac{2}{3} \nu=1 \quad 2 \quad 3 \quad 3 \quad 2 \end{aligned} \quad 1 \quad 2 .`	$\frac{1}{2}(-\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3})+\frac{1}{2}\mu_{2}-\frac{2}{3}\nu=0 \quad 0 \quad 1 \quad 1 \quad$ **[U+0930][U+094D]** $0 \quad 0$ $\frac{1}{2}(\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3})+\frac{1}{2}\mu_{2}-\frac{2}{3}\nu=1 \quad 2 \quad 3 \quad 3 \quad 2$ $\quad 1 \quad 2.$	$\frac{1}{2}(-\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3})+\frac{1}{2}\mu_{2}-\frac{2}{3}\nu=0 \quad 0 \quad 1 \quad 1 \quad 0 \quad 0 \quad 1$ $\frac{1}{2}(\quad\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3})+\frac{1}{2}\mu_{2}-\frac{2}{3}\nu=1 \quad 2 \quad 3 \quad 3 \quad 2 \quad 1 \quad 2$ $\frac{1}{2}(-\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3})+\frac{1}{2}\mu_{2}-\frac{2}{3}\nu=0 \quad 1 \quad 2 \quad 3 \quad 2 \quad 1 \quad 2$ $\frac{1}{2}(\quad\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3})+\frac{1}{2}\mu_{2}-\frac{2}{3}\nu=1 \quad 1 \quad 2 \quad 3 \quad 2 \quad 1 \quad 2$ $\frac{1}{2}(\quad\lambda_{0}+\lambda_{1}-\lambda_{2}+\lambda_{3})+\frac{1}{2}\mu_{2}-\frac{2}{3}\nu=1 \quad 2 \quad 2 \quad 3 \quad 2 \quad 1 \quad 2$ $\frac{1}{2}(-\lambda_{0}-\lambda_{1}-\lambda_{2}+\lambda_{3})+\frac{1}{2}\mu_{2}-\frac{2}{3}\nu=0 \quad 0 \quad 0 \quad 1 \quad 0 \quad 0 \quad 1$ $\frac{1}{2}(\quad\lambda_{0}-\lambda_{1}-\lambda_{2}-\lambda_{3})+\frac{1}{2}\mu_{2}-\frac{2}{3}\nu=1 \quad 1 \quad 1 \quad 1 \quad 0 \quad 0 \quad 1$ $\frac{1}{2}(-\lambda_{0}+\lambda_{1}-\lambda_{2}-\lambda_{3})+\frac{1}{2}\mu_{2}-\frac{2}{3}\nu=0 \quad 1 \quad 1 \quad 1 \quad 0 \quad 0 \quad 1$ $\frac{1}{2}(\quad\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3})+\frac{1}{2}\mu_{3}-\frac{2}{3}\nu=1 \quad 1 \quad 2 \quad 2 \quad 1 \quad 0 \quad 1$ $\frac{1}{2}(\quad\lambda_{0}-\lambda_{1}-\lambda_{2}+\lambda_{3})+\frac{1}{2}\mu_{3}+\frac{2}{3}\nu=1 \quad 1 \quad 1 \quad 2 \quad 1 \quad 0 \quad 1$ $\frac{1}{2}(\quad\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3})-\frac{1}{2}\mu_{3}-\frac{2}{3}\nu=0 \quad 0 \quad 0 \quad 0 \quad 1 \quad 1 \quad 0$ $\frac{1}{2}(\quad\lambda_{0}+\lambda_{1}-\lambda_{2}-\lambda_{3})+\frac{1}{2}\mu_{3}-\frac{2}{3}\nu=1 \quad 2 \quad 2 \quad 2 \quad 1 \quad 0 \quad 1$ $\frac{1}{2}(-\lambda_{0}+\lambda_{1}-\lambda_{2}+\lambda_{3})+\frac{1}{2}\mu_{3}-\frac{2}{3}\nu=0 \quad 1 \quad 1 \quad 2 \quad 1 \quad 0 \quad 1$ $\frac{1}{2}(-\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3})+\frac{1}{2}\mu_{3}-\frac{2}{3}\nu=0 \quad 1 \quad 2 \quad 2 \quad 1 \quad 0 \quad 1$ $\frac{1}{2}(\quad\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3})+\frac{1}{2}\mu_{3}-\frac{2}{3}\nu=1 \quad 2 \quad 3 \quad 4 \quad 3 \quad 1 \quad 2$ $\frac{1}{2}(-\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3})+\frac{1}{2}\mu_{3}-\frac{2}{3}\nu=0 \quad 0 \quad 1 \quad 2 \quad 1 \quad 0 \quad 1.$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_ EQ0516 **[conf 0.041]**	85	■ 0.041	`\begin{aligned} & \lambda_{0}+\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=1 \quad 1 \quad 1 \quad 1 \quad a \quad 0 \\ & \lambda_{1}+\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 \quad 1 \quad 1 \quad 1 \quad a \\ & \lambda_{2}+\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 \quad 0 \quad 1 \quad 1 \\ & \lambda_{3}+\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 \quad 0 \quad 0 \\ & \lambda_{0}-\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=1 \quad 1 \quad 1 \quad 1 \quad 0 \\ & \lambda_{1}-\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 \quad 1 \quad 1 \quad 1 \quad 0 \\ & \lambda_{2}-\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 \quad 0 \quad 1 \quad 1 \\ & \lambda_{3}-\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 \quad 0 \quad 0 \quad 0 \end{aligned}`	$\begin{aligned} & \lambda_{0}+\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=1 \quad 1 \quad 1 \quad 1 \quad a \quad 0 \\ & \lambda_{1}+\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 \quad 1 \quad 1 \quad 1 \quad a \\ & \lambda_{2}+\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 \quad 0 \quad 1 \quad 1 \\ & \lambda_{3}+\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 \quad 0 \quad 0 \\ & \lambda_{0}-\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=1 \quad 1 \quad 1 \quad 1 \quad 0 \\ & \lambda_{1}-\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 \quad 1 \quad 1 \quad 1 \quad 0 \\ & \lambda_{2}-\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 \quad 0 \quad 1 \quad 1 \\ & \lambda_{3}-\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 \quad 0 \quad 0 \quad 0 \end{aligned}$	$\begin{aligned} & \lambda_{0}+\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=1 \quad 1 \quad 1 \quad 1 \quad 0 \quad 0 \\ & \lambda_{1}+\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 \quad 1 \quad 1 \quad 1 \quad 0 \quad 0 \\ & \lambda_{2}+\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 \quad 0 \quad 1 \quad 1 \quad 0 \quad 0 \\ & \lambda_{3}+\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 \quad 0 \quad 0 \quad 1 \quad 0 \quad 0 \\ & \lambda_{0}-\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=1 \quad 1 \quad 1 \quad 0 \quad 1 \quad 1 \\ & \lambda_{1}-\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 \quad 1 \quad 1 \quad 0 \quad 1 \quad 1 \\ & \lambda_{2}-\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 \quad 0 \quad 1 \quad 0 \quad 1 \quad 1 \\ & \lambda_{3}-\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 \quad 0 \quad 0 \quad 0 \quad 1 \quad 1 \end{aligned}$
0902.0431_ EQ0425 **[conf 0.082]**	70	■ 0.082	`\begin{aligned} & A X A^{*} \times A Y A^{*}=A(X \times Y) A^{*} \\ & \left(P M A^{*}\right)^{*}\left(P N A^{*}\right)=A M^{*} P^{*} P N A=A\left(M^{*} N\right) A, \\ & \left(P M A^{*}\right)\left(A Y A^{*}\right)=P(M Y) A^{*}, \\ & \overline{P M A^{*} \times P N A^{*}}=\frac{\bar{t} \widetilde{P}(M \times N)^{t} \widetilde{A}*}{}=P \overline{M \times N} A^{*}, \text { etc. } \end{aligned}`	$\begin{aligned} & A X A^{*} \times A Y A^{*}=A(X \times Y) A^{*} \\ & \left(P M A^{*}\right)^{*}\left(P N A^{*}\right)=A M^{*} P^{*} P N A=A\left(M^{*} N\right) A, \\ & \left(P M A^{*}\right)\left(A Y A^{*}\right)=P(M Y) A^{*}, \\ & \overline{P M A^{*} \times P N A^{*}}=\frac{\bar{t} \widetilde{P}(M \times N)^{t} \widetilde{A}*}{}=P \overline{M \times N} A^{*}, \text { etc. } \end{aligned}$	$\begin{aligned} & A X A^{*} \times A Y A^{*}=A(X \times Y) A^{*}, \\ & \left(P M A^{*}\right)^{*}\left(P N A^{*}\right)=A M^{*} P^{*} P N A=A\left(M^{*} N\right) A, \\ & \left(P M A^{*}\right)\left(A Y A^{*}\right)=P(M Y) A^{*}, \\ & \overline{P M A^{*} \times P N A^{*}}=\overline{{}^{t} \widetilde{P}(M \times N)^{t} \widetilde{A}^{*}}=P \overline{M \times N} A^{*}, \text { etc. } \end{aligned}$
0902.0431_ EQ1059 **[conf 0.093]**	180	■ 0.093	`\begin{aligned} & =\left\{\alpha \in\left(E_{8}{ }^{C} \right)_{1,1-, 1-} \mid \tau \widetilde{\lambda} \alpha= \alpha \tau \widetilde{\lambda}\right\} \\ & =\left\{ \alpha \in E_{7}{ }^{C} \mid \tau \widetilde{\lambda} \alpha=\alpha \tau \widetilde{\lambda}\right\} \text { (Proposition 5.7.1) } \\ & =\left\{\alpha \in E_{7}{ }^{C} \mid \tau \lambda \alpha=\alpha \tau \lambda\right \} \text { (by the correspondence to Proposition 5.7.1) } \\ & =E_{7} \text { (Lemma 4.3.3.(4)). } \end{aligned}`	$\begin{aligned} & =\left\{\alpha \in\left(E_{8}{ }^{C} \right)_{1,1-, 1-} \mid \tau \widetilde{\lambda} \alpha= \alpha \tau \widetilde{\lambda}\right\} \\ & =\left\{ \alpha \in E_{7}{ }^{C} \mid \tau \widetilde{\lambda} \alpha=\alpha \tau \widetilde{\lambda}\right\} \text { (Proposition 5.7.1) } \\ & =\left\{\alpha \in E_{7}{ }^{C} \mid \tau \lambda \alpha=\alpha \tau \lambda\right \} \text { (by the correspondence to Proposition 5.7.1) } \\ & =E_{7} \text { (Lemma 4.3.3.(4)). } \end{aligned}$	$\begin{aligned} & =\left\{\alpha \in\left(E_{8}{ }^{C} \right)_{1,1-, 1-} \mid \tau \widetilde{\lambda} \alpha= \alpha \tau \widetilde{\lambda}\right\} \\ & =\left\{ \alpha \in E_{7}{ }^{C} \mid \tau \widetilde{\lambda} \alpha=\alpha \tau \widetilde{\lambda}\right\} \text { (Proposition 5.7.1) } \\ & =\left\{\alpha \in E_{7}{ }^{C} \mid \tau \lambda \alpha=\alpha \tau \lambda\right \} \text { (by the correspondence to Proposition 5.7.1) } \\ & =E_{7} \text { (Lemma 4.3.3.(4)). } \end{aligned}$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_ EQ0757 **[conf 0.095]**	126	■ 0.095	`\begin{aligned} & \lambda_{0}-\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=1 \quad 1 \quad 1 \quad 1 \quad 1 \quad 1 \quad 0 \quad 0 \\ & \lambda_{1}-\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 \quad 1 \quad 1 \quad 1 \quad 1 \quad 1 \quad a \\ & \lambda_{2}-\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 \quad 0 \quad 1 \quad 1 \quad 1 \quad 1 \quad 1 \quad a \\ & \lambda_{3}-\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 \quad 0 \quad 1 \quad 1 \quad 1 \\ & \lambda_{3}-\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 \quad 0 \quad 0 \\ & 0 \end{aligned}`	$\begin{aligned} & \lambda_{0}-\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=1 \quad 1 \quad 1 \quad 1 \quad 1 \quad 1 \quad 0 \quad 0 \\ & \lambda_{1}-\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 \quad 1 \quad 1 \quad 1 \quad 1 \quad 1 \quad a \\ & \lambda_{2}-\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 \quad 0 \quad 1 \quad 1 \quad 1 \\ & \lambda_{3}-\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 \quad 0 \quad 0 \\ & 0 \end{aligned}$	$\begin{aligned} & \lambda_{0}-\frac{1}{2}(\mu_{2}-\mu_{3})=1 \quad 1 \quad 1 \quad 1 \quad 1 \quad 0 \quad 0 \\ & \lambda_{1}-\frac{1}{2}(\mu_{2}-\mu_{3})=0 \quad 1 \quad 1 \quad 1 \quad 1 \quad 0 \quad 0 \\ & \lambda_{2}-\frac{1}{2}(\mu_{2}-\mu_{3})=0 \quad 0 \quad 1 \quad 1 \quad 1 \quad 0 \quad 0 \\ & \lambda_{3}-\frac{1}{2}(\mu_{2}-\mu_{3})=0 \quad 0 \quad 0 \quad 1 \quad 1 \quad 0 \quad 0 \end{aligned}$
0902.0431_EQ0922	153	■ 0.102	`f^{-1}\left(\sum_{i<j<k} x_{i j k} \boldsymbol{e}_{i} \wedge \boldsymbol{e}_{j} \wedge \boldsymbol{e}_{k} \right)=\left(\begin{array}{c} \left(\begin{array}{ccc} h\left(x_{156}\right) & h\left(x_{164}, \bar{x}_{256} \right) & h\left(x_{145}, \bar{x}_{356}\right) \\ h \left(x_{256}, \bar{x}_{164}\right) & h\left(x_{264}\right) & h\left(x_{245}, \bar{x}_{364}\right) \\ h\left(x_{364}, \bar{x}_{145}\right) & h\left(x_{364}, \bar{x}_{245}\right) & h\left(x_{345}\right) \end{array}\right) \\ \left(\begin{array}{ccc} h\left(x_{423}\right) & h\left(x_{431}, \bar{x}_{523}\right) & h\left(x_{412}, \bar{x}_{623}\right) \\ h\left(x_{523}, \bar{x}_{431}\right) & h\left(x_{531}\right) & h\left(x_{512}, \bar{x}_{631}\right) \\ h\left(x_{623}, \bar{x}_{412}\right) & h\left(x_{631}, \bar{x}_{512}\right) & h\left(x_{612}\right) \end{array}\right) \\ \\ \left(\begin{array}{cc} h\left(x_{123}\right) & \\ h \left(x_{456}\right) & \end{array}\right. \end{array} \right),`	$f^{-1}\left(\sum_{i<j<k} x_{ijk} \boldsymbol{e}_{i} \wedge \boldsymbol{e}_{j} \wedge \boldsymbol{e}_{k}\right)=\left(\begin{array}{c} \left(\begin{array}{ccc} h\left(x_{156}\right) & h\left(x_{164}, \bar{x}_{256} \right) & h\left(x_{145}, \bar{x}_{356}\right) \\ h \left(x_{256}, \bar{x}_{164}\right) & h\left(x_{264}\right) & h\left(x_{245}, \bar{x}_{364}\right) \\ h\left(x_{364}, \bar{x}_{145}\right) & h\left(x_{364}, \bar{x}_{245}\right) & h\left(x_{345}\right) \end{array}\right) \\ \left(\begin{array}{ccc} h\left(x_{423}\right) & h\left(x_{431}, \bar{x}_{523}\right) & h\left(x_{412}, \bar{x}_{623}\right) \\ h\left(x_{523}, \bar{x}_{431}\right) & h\left(x_{531}\right) & h\left(x_{512}, \bar{x}_{631}\right) \\ h\left(x_{623}, \bar{x}_{412}\right) & h\left(x_{631}, \bar{x}_{512}\right) & h\left(x_{612}\right) \end{array}\right) \\ \\ \left(\begin{array}{cc} h\left(x_{123}\right) & \\ h \left(x_{456}\right) & \end{array}\right. \end{array} \right),$	$f^{-1}\Big(\sum_{i<j<k} x_{ijk} \boldsymbol{e}_{i} \wedge \boldsymbol{e}_{j} \wedge \boldsymbol{e}_{k}\Big)=\left(\begin{array}{c} \left(\begin{array}{ccc} h(x_{156}) & h(x_{164}, \overline{x}_{256}) & h(x_{145}, \overline{x}_{356}) \\ h(x_{256}, \overline{x}_{164}) & h(x_{264}) & h(x_{245}, \overline{x}_{364}) \\ h(x_{356}, \overline{x}_{145}) & h(x_{364}, \overline{x}_{245}) & h(x_{345}) \end{array}\right) \\ \left(\begin{array}{ccc} h(x_{423}) & h(x_{431}, \overline{x}_{523}) & h(x_{412}, \overline{x}_{623}) \\ h(x_{523}, \overline{x}_{431}) & h(x_{531}) & h(x_{512}, \overline{x}_{631}) \\ h(x_{623}, \overline{x}_{412}) & h(x_{631}, \overline{x}_{512}) & h(x_{612}) \end{array}\right) \\ \\ \left(\begin{array}{cc} h(x_{123}) & \\ h(x_{456}) & \end{array}\right. \end{array} \right),$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ1117	189	■0.108	\begin{aligned} & (\boldsymbol{X}, \boldsymbol{Y})= \left(X_{1}, Y_{1}\right)+\left(X_{2}, Y_{2}\right)+ \left(X_{3}, Y_{3}\right) \in C, \\ & \langle \boldsymbol{X}, \boldsymbol{Y}\rangle=\left\langle X_{1}, Y_{1}\right\rangle+\left\langle X_{2}, Y_{2} \right\rangle+\left\langle X_{3}, Y_{3}\right\rangle \in C, \\ & \boldsymbol{X} \times \boldsymbol{Y}=\left(\begin{array}{ll} X_{2} \times Y_{3}-Y_{2} \times X_{3} \\ X_{3} \times Y_{1}-Y_{3} \times X_{1} \\ X_{1} \times Y_{2}-Y_{1} \times X_{2} \end{array}\right) \in\left(\mathfrak{J}^{C}\right)^{3}, \\ & \boldsymbol{X} \cdot \boldsymbol{Y}=\left(\begin{array}{ll} \left(X_{1}, Y_{1} \right) & \left(X_{1}, Y_{2}\right) \\ \left(X_{2}, Y_{1}\right) & \left(X_{2}, Y_{2}\right) \\ \left(X_{3}, Y_{1}\right) & \left(X_{2}, Y_{3}\right) \\ X \vee \boldsymbol{Y} & \left(X_{3}, Y_{3}\right) \end{array}\right)-\frac{1}{3}(\boldsymbol{X}, \boldsymbol{Y}) E \in \mathfrak{s}\mathfrak{l}(3, C), \\ & \boldsymbol{X} Y_{1}+X_{2} \vee Y_{2}+X_{3} \vee Y_{3} \in \mathfrak{e}_{6}{ }^{C}, \end{aligned}	$$\begin{aligned} & (\boldsymbol{X}, \boldsymbol{Y})= \left(X_{1}, Y_{1}\right)+\left(X_{2}, Y_{2}\right)+ \left(X_{3}, Y_{3}\right) \in C, \\ & \langle \boldsymbol{X}, \boldsymbol{Y}\rangle=\left\langle X_{1}, Y_{1}\right\rangle+\left\langle X_{2}, Y_{2} \right\rangle+\left\langle X_{3}, Y_{3}\right\rangle \in C, \\ & \boldsymbol{X} \times \boldsymbol{Y}=\left(\begin{array}{ll} X_{2} \times Y_{3}-Y_{2} \times X_{3} \\ X_{3} \times Y_{1}-Y_{3} \times X_{1} \\ X_{1} \times Y_{2}-Y_{1} \times X_{2} \end{array}\right) \in\left(\mathfrak{J}^{C}\right)^{3}, \\ & \boldsymbol{X} \cdot \boldsymbol{Y}=\left(\begin{array}{ll} \left(X_{1}, Y_{1} \right) & \left(X_{1}, Y_{2}\right) \\ \left(X_{2}, Y_{1}\right) & \left(X_{2}, Y_{2}\right) \\ \left(X_{3}, Y_{1}\right) & \left(X_{2}, Y_{3}\right) \\ X \vee \boldsymbol{Y} & \left(X_{3}, Y_{3}\right) \end{array}\right)-\frac{1}{3}(\boldsymbol{X}, \boldsymbol{Y}) E \in \mathfrak{s}\mathfrak{l}(3, C), \\ & \boldsymbol{X} Y_{1}+X_{2} \vee Y_{2}+X_{3} \vee Y_{3} \in \mathfrak{e}_{6}{ }^{C}, \end{aligned}$$	$$\begin{aligned} & (\boldsymbol{X}, \boldsymbol{Y})= \left(X_{1}, Y_{1}\right)+\left(X_{2}, Y_{2}\right)+ \left(X_{3}, Y_{3}\right) \in C, \\ & \langle \boldsymbol{X}, \boldsymbol{Y}\rangle=\left\langle X_{1}, Y_{1}\right\rangle+\left\langle X_{2}, Y_{2} \right\rangle+\left\langle X_{3}, Y_{3}\right\rangle \in C, \\ & \boldsymbol{X} \times \boldsymbol{Y}=\left(\begin{array}{ll} X_{2} \times Y_{3}-Y_{2} \times X_{3} \\ X_{3} \times Y_{1}-Y_{3} \times X_{1} \\ X_{1} \times Y_{2}-Y_{1} \times X_{2} \end{array}\right) \in\left(\mathfrak{J}^{C}\right)^{3}, \\ & \boldsymbol{X} \cdot \boldsymbol{Y}=\left(\begin{array}{ll} \left(X_{1}, Y_{1} \right) & \left(X_{1}, Y_{2}\right) \\ \left(X_{2}, Y_{1}\right) & \left(X_{2}, Y_{2}\right) \\ \left(X_{3}, Y_{1}\right) & \left(X_{2}, Y_{3}\right) \\ X \vee \boldsymbol{Y} & \left(X_{3}, Y_{3}\right) \end{array}\right)-\frac{1}{3}(\boldsymbol{X}, \boldsymbol{Y}) E \in \mathfrak{s}\mathfrak{l}(3, C), \\ & \boldsymbol{X} Y_{1}+X_{2} \vee Y_{2}+X_{3} \vee Y_{3} \in \mathfrak{e}_{6}{ }^{C}, \end{aligned}$$

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0902.0431_EQ0756	125	■ 0.119	\begin{array}{lllllllllllll} \lambda_{0}-\lambda_{1}=1 & 0 & 0 & 0 & 0 & 0 & 0 & \lambda_{0}+\lambda_{1}=1 & 2 & 2 & 2 & 2 & 1 & 1 \\ \lambda_{0}-\lambda_{2}=1 & 1 & 0 & 0 & 0 & 0 & 0 & \lambda_{0}+\lambda_{2}=1 & 1 & 2 & 2 & 2 & 1 & 1 \\ \lambda_{0}-\lambda_{3}=1 & 1 & 1 & 0 & 0 & 0 & 0 & \lambda_{0}+\lambda_{3}=1 & 1 & 1 & 2 & 2 & 1 & 1 \\ \lambda_{1}-\lambda_{2}=0 & 1 & 0 & 0 & 0 & 0 & 0 & \lambda_{1}+\lambda_{2}=0 & 1 & 2 & 2 & 2 & 1 & 1 \\ \lambda_{1}-\lambda_{3}=0 & 1 & 1 & 0 & 0 & 0 & 0 & \lambda_{1}+\lambda_{3}=0 & 1 & 1 & 2 & 2 & 1 & 1 \\ \lambda_{2}-\lambda_{3}=0 & 0 & 1 & 0 & 0 & 0 & 0 & \lambda_{2}+\lambda_{3}=0 & 0 & 1 & 2 & 2 & 1 & 1 \\ \lambda_{0}+\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=1 & 1 & 1 & 1 & 1 & 1 & 1 \\ \lambda_{1}+\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 & 1 & 1 & 1 & 1 & 1 & 1 \\ \lambda_{2}+\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 & 1 & 1 & 1 & 1 & 1 & 1 \\ \lambda_{3}+\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 & 1 & 1 & 1 & 1 & 1 & 1 \end{array}	$\begin{array}{lllllllllllll} \lambda_{0}-\lambda_{1}=1 & 0 & 0 & 0 & 0 & 0 & 0 & \lambda_{0}+\lambda_{1}=1 & 2 & 2 & 2 & 2 & 1 & 1 \\ \lambda_{0}-\lambda_{2}=1 & 1 & 0 & 0 & 0 & 0 & 0 & \lambda_{0}+\lambda_{2}=1 & 1 & 2 & 2 & 2 & 1 & 1 \\ \lambda_{0}-\lambda_{3}=1 & 1 & 1 & 0 & 0 & 0 & 0 & \lambda_{0}+\lambda_{3}=1 & 1 & 1 & 2 & 2 & 1 & 1 \\ \lambda_{1}-\lambda_{2}=0 & 1 & 0 & 0 & 0 & 0 & 0 & \lambda_{1}+\lambda_{2}=0 & 1 & 2 & 2 & 2 & 1 & 1 \\ \lambda_{1}-\lambda_{3}=0 & 1 & 1 & 0 & 0 & 0 & 0 & \lambda_{1}+\lambda_{3}=0 & 1 & 1 & 2 & 2 & 1 & 1 \\ \lambda_{2}-\lambda_{3}=0 & 0 & 1 & 0 & 0 & 0 & 0 & \lambda_{2}+\lambda_{3}=0 & 0 & 1 & 2 & 2 & 1 & 1 \\ \lambda_{0}+\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=1 & 1 & 1 & 1 & 1 & 1 & 1 \\ \lambda_{1}+\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 & 1 & 1 & 1 & 1 & 1 & 1 \\ \lambda_{2}+\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 & 0 & 1 & 1 & 1 & 1 & 1 \\ \lambda_{3}+\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 & 0 & 0 & 1 & 1 & 1 & 1 \end{array}$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ1187	200	■ 0.183	\begin{aligned} &=(\boldsymbol{v}, \boldsymbol{w})(\boldsymbol{a}, *(\boldsymbol{b} \wedge \boldsymbol{x}))- \left(\boldsymbol{a}_{1}, \boldsymbol{w}\right) \left(\boldsymbol{w} \wedge \boldsymbol{a}_{2}, *(\boldsymbol{b} \wedge \boldsymbol{x})\right) \\ &+ \left(\boldsymbol{a}_{2}, \boldsymbol{w}\right) \left(\boldsymbol{w} \wedge \boldsymbol{a}_{1}, *(\boldsymbol{b} \wedge \boldsymbol{x})\right)- \frac{3}{5}(*(\boldsymbol{a} \wedge \boldsymbol{b}), \boldsymbol{x})(\boldsymbol{v}, \boldsymbol{w}) \\ &= \frac{2}{5}(*(\boldsymbol{a} \wedge \boldsymbol{b}), \boldsymbol{x})(\boldsymbol{v}, \boldsymbol{w})- \left(\boldsymbol{a}_{1}, \boldsymbol{w}\right) \left(\boldsymbol{b} \wedge \boldsymbol{x} \wedge \boldsymbol{w} \wedge \boldsymbol{a}_{2}, \boldsymbol{e}_{1} \wedge \cdots \wedge \boldsymbol{e}_{5}\right) \\ &+ \left(\boldsymbol{a}_{2}, \boldsymbol{w}\right) \left(\boldsymbol{b} \wedge \boldsymbol{x} \wedge \boldsymbol{w} \wedge \boldsymbol{a}_{1}, \boldsymbol{e}_{1} \wedge \cdots \wedge \boldsymbol{e}_{5}\right), \\ &((\boldsymbol{b} \times *(\boldsymbol{a} \wedge \boldsymbol{x}))\boldsymbol{v}, \boldsymbol{w}) \\ &= (\boldsymbol{x} \wedge \boldsymbol{a}, \boldsymbol{w} \wedge *(\boldsymbol{b} \wedge \boldsymbol{v}))- \frac{3}{5}(*(\boldsymbol{a} \wedge \boldsymbol{b}), \boldsymbol{x})(\boldsymbol{v}, \boldsymbol{w}) \\ &= (\boldsymbol{v}, \boldsymbol{w})(*(\boldsymbol{a} \wedge \boldsymbol{b}), \boldsymbol{v})+ \left(\boldsymbol{a}_{1}, \boldsymbol{w}\right) \left(\boldsymbol{b} \wedge \boldsymbol{x} \wedge \boldsymbol{w} \wedge \boldsymbol{a}_{2}, \boldsymbol{e}_{1} \wedge \cdots \wedge \boldsymbol{e}_{5}\right) \\ &- \left(\boldsymbol{a}_{2}, \boldsymbol{w}\right) \left(\boldsymbol{b} \wedge \boldsymbol{x} \wedge \boldsymbol{w} \wedge \boldsymbol{a}_{1}, \boldsymbol{e}_{1} \wedge \cdots \wedge \boldsymbol{e}_{5}\right)- \frac{3}{5}(*(\boldsymbol{a} \wedge \boldsymbol{b}), \boldsymbol{x})(\boldsymbol{v}, \boldsymbol{w}). \end{aligned}	*(not rendered)*	$= (\boldsymbol{v}, \boldsymbol{w})(\boldsymbol{a}, *(\boldsymbol{b} \wedge \boldsymbol{x})) - (\boldsymbol{a}_{1}, \boldsymbol{w})(\boldsymbol{w} \wedge \boldsymbol{a}_{2}, *(\boldsymbol{b} \wedge \boldsymbol{x}))$ $+ (\boldsymbol{a}_{2}, \boldsymbol{w})(\boldsymbol{w} \wedge \boldsymbol{a}_{1}, *(\boldsymbol{b} \wedge \boldsymbol{x})) - \frac{3}{5}(*(\boldsymbol{a} \wedge \boldsymbol{b}), \boldsymbol{x})(\boldsymbol{v}, \boldsymbol{w})$ $= \frac{2}{5}(*(\boldsymbol{a} \wedge \boldsymbol{b}), \boldsymbol{x})(\boldsymbol{v}, \boldsymbol{w}) - (\boldsymbol{a}_{1}, \boldsymbol{w})(\boldsymbol{b} \wedge \boldsymbol{x} \wedge \boldsymbol{w} \wedge \boldsymbol{a}_{2}, \boldsymbol{e}_{1} \wedge \cdots \wedge \boldsymbol{e}_{5})$ $+ (\boldsymbol{a}_{2}, \boldsymbol{w})(\boldsymbol{b} \wedge \boldsymbol{x} \wedge \boldsymbol{w} \wedge \boldsymbol{a}_{1}, \boldsymbol{e}_{1} \wedge \cdots \wedge \boldsymbol{e}_{5}),$ $((\boldsymbol{b} \times *(\boldsymbol{a} \wedge \boldsymbol{x}))\boldsymbol{v}, \boldsymbol{w})$ $= (\boldsymbol{x} \wedge \boldsymbol{a}, \boldsymbol{w} \wedge *(\boldsymbol{b} \wedge \boldsymbol{v})) - \frac{3}{5}(*(\boldsymbol{a} \wedge \boldsymbol{b}), \boldsymbol{x})(\boldsymbol{v}, \boldsymbol{w})$ $= (\boldsymbol{v}, \boldsymbol{w})(*(\boldsymbol{a} \wedge \boldsymbol{b}), \boldsymbol{v}) + (\boldsymbol{a}_{1}, \boldsymbol{w})(\boldsymbol{b} \wedge \boldsymbol{x} \wedge \boldsymbol{w} \wedge \boldsymbol{a}_{2}, \boldsymbol{e}_{1} \wedge \cdots \wedge \boldsymbol{e}_{5})$ $- (\boldsymbol{a}_{2}, \boldsymbol{w})(\boldsymbol{b} \wedge \boldsymbol{x} \wedge \boldsymbol{w} \wedge \boldsymbol{a}_{1}, \boldsymbol{e}_{1} \wedge \cdots \wedge \boldsymbol{e}_{5}) - \frac{3}{5}(*(\boldsymbol{a} \wedge \boldsymbol{b}), \boldsymbol{x})(\boldsymbol{v}, \boldsymbol{w}).$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0830	138	0.186	`\begin{aligned} \kappa(X, Y, \xi, \eta)= & \kappa \left(\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right),\left(\begin{array}{ccc} \eta_{1} & y_{3} & \bar{y}_{2} \\ \bar{y}_{3} & \eta_{2} & y_{1} \\ y_{2} & \bar{y}_{1} & \eta_{3} \end{array}\right), \xi, \eta\right) \\ = & \left(\left(\begin{array}{ccc} -\xi_{1} & 0 & 0 \\ 0 & \xi_{2} & x_{1} \\ 0 & \bar{x}_{1} & \xi_{3} \end{array}\right),\left(\begin{array}{ccc} \eta_{1} & 0 & 0 \\ 0 & -\eta_{2} & -y_{1} \\ 0 & -\bar{y}_{1} & -\eta_{3} \end{array}\right),-\xi, \eta\right), \\ \mu(X, Y, \xi, \eta)= & \left(\left(\begin{array}{ccc} \eta & 0 & 0 \\ 0 & \eta_{3} & -y_{1} \\ 0 & -\bar{y}_{1} & \eta_{2} \end{array}\right),\left(\begin{array}{ccc} \xi & 0 & 0 \\ 0 & \xi_{3} & -x_{1} \\ 0 & -\bar{x}_{1} & \xi_{2} \end{array}\right), \eta_{1}, \xi_{1}\right) . \end{aligned}`	$\begin{aligned} \kappa(X, Y, \xi, \eta)= & \kappa \left(\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right),\left(\begin{array}{ccc} \eta_{1} & y_{3} & \bar{y}_{2} \\ \bar{y}_{3} & \eta_{2} & y_{1} \\ y_{2} & \bar{y}_{1} & \eta_{3} \end{array}\right), \xi, \eta\right) \\ = & \left(\left(\begin{array}{ccc} -\xi_{1} & 0 & 0 \\ 0 & \xi_{2} & x_{1} \\ 0 & \bar{x}_{1} & \xi_{3} \end{array}\right),\left(\begin{array}{ccc} \eta_{1} & 0 & 0 \\ 0 & -\eta_{2} & -y_{1} \\ 0 & -\bar{y}_{1} & -\eta_{3} \end{array}\right),-\xi, \eta\right), \\ \mu(X, Y, \xi, \eta)= & \left(\left(\begin{array}{ccc} \eta & 0 & 0 \\ 0 & \eta_{3} & -y_{1} \\ 0 & -\bar{y}_{1} & \eta_{2} \end{array}\right),\left(\begin{array}{ccc} \xi & 0 & 0 \\ 0 & \xi_{3} & -x_{1} \\ 0 & -\bar{x}_{1} & \xi_{2} \end{array}\right), \eta_{1}, \xi_{1}\right) . \end{aligned}$	$\begin{aligned} \kappa(X, Y, \xi, \eta)= & \kappa \left(\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right),\left(\begin{array}{ccc} \eta_{1} & y_{3} & \bar{y}_{2} \\ \bar{y}_{3} & \eta_{2} & y_{1} \\ y_{2} & \bar{y}_{1} & \eta_{3} \end{array}\right), \xi, \eta\right) \\ = & \left(\left(\begin{array}{ccc} -\xi_{1} & 0 & 0 \\ 0 & \xi_{2} & x_{1} \\ 0 & \bar{x}_{1} & \xi_{3} \end{array}\right),\left(\begin{array}{ccc} \eta_{1} & 0 & 0 \\ 0 & -\eta_{2} & -y_{1} \\ 0 & -\bar{y}_{1} & -\eta_{3} \end{array}\right),-\xi, \eta\right), \\ \mu(X, Y, \xi, \eta)= & \left(\left(\begin{array}{ccc} \eta & 0 & 0 \\ 0 & \eta_{3} & -y_{1} \\ 0 & -\bar{y}_{1} & \eta_{2} \end{array}\right),\left(\begin{array}{ccc} \xi & 0 & 0 \\ 0 & \xi_{3} & -x_{1} \\ 0 & -\bar{x}_{1} & \xi_{2} \end{array}\right), \eta_{1}, \xi_{1}\right) . \end{aligned}$
0902.0431_EQ1041	177	0.204	`\begin{aligned} & \left(\alpha_{i}, \alpha_{i}\right)= \frac{1}{30}, \quad i=1,2,3,4,5,6,7,8 \\ & \left(\alpha_{i}, \alpha_{i+1}\right)=-\frac{1}{60}, \quad i=1,2, \cdots, 6, \quad\left(\alpha_{3}, \alpha_{8} \right)=-\frac{1}{60} \\ & \left(\alpha_{i}, \alpha_{j} \right)=0, \quad \text { otherwise } \\ & (-\mu,-\mu)= \frac{1}{30}, \quad\left(-\mu, \alpha_{7}\right)=- \frac{1}{60}, \quad\left(-\mu, \alpha_{i}\right)=0, \quad i=1,2,3,4,5,6,8, \end{aligned}`	$\begin{aligned} & \left(\alpha_{i}, \alpha_{i}\right)= \frac{1}{30}, \quad i=1,2,3,4,5,6,7,8 \\ & \left(\alpha_{i}, \alpha_{i+1}\right)=-\frac{1}{60}, \quad i=1,2, \cdots, 6, \quad\left(\alpha_{3}, \alpha_{8} \right)=-\frac{1}{60} \\ & \left(\alpha_{i}, \alpha_{j} \right)=0, \quad \text { otherwise } \\ & (-\mu,-\mu)= \frac{1}{30}, \quad\left(-\mu, \alpha_{7}\right)=- \frac{1}{60}, \quad\left(-\mu, \alpha_{i}\right)=0, \quad i=1,2,3,4,5,6,8, \end{aligned}$	$\begin{aligned} & \left(\alpha_{i}, \alpha_{i}\right)= \frac{1}{30}, \quad i=1,2,3,4,5,6,7,8, \\ & \left(\alpha_{i}, \alpha_{i+1}\right)=-\frac{1}{60}, \quad i=1,2, \cdots, 6, \quad\left(\alpha_{3}, \alpha_{8} \right)=-\frac{1}{60}, \\ & \left(\alpha_{i}, \alpha_{j} \right)=0, \quad \text { otherwise, } \\ & (-\mu,-\mu)= \frac{1}{30}, \quad\left(-\mu, \alpha_{7}\right)=- \frac{1}{60}, \quad\left(-\mu, \alpha_{i}\right)=0, \quad i=1,2,3,4,5,6,8, \end{aligned}$
0902.0431_EQ0340	54	0.226	`\begin{array}{lr} \lambda_{0}=\alpha_{1}+\alpha_{2}+ & \alpha_{3} \\ \lambda_{1}= & \alpha_{2}+\alpha_{3} \\ \lambda_{3}= & \alpha_{3} \\ \lambda_{3}= & \alpha_{1}+2 \alpha_{2}+3 \alpha_{3}+2 \alpha_{4}, \end{array}`	$\begin{array}{lr} \lambda_{0}=\alpha_{1}+\alpha_{2}+ & \alpha_{3} \\ \lambda_{1}= & \alpha_{2}+\alpha_{3} \\ \lambda_{3}= & \alpha_{3} \\ \lambda_{3}= & \alpha_{1}+2 \alpha_{2}+3 \alpha_{3}+2 \alpha_{4}, \end{array}$	$\begin{array}{lr} \lambda_{0}=\alpha_{1}+ & \alpha_{2}+ \alpha_{3} \\ \lambda_{1}= & \alpha_{2}+ \alpha_{3} \\ \lambda_{3}= & \alpha_{3} \\ \lambda_{3}= & \alpha_{1}+2 \alpha_{2}+3 \alpha_{3}+2 \alpha_{4}, \end{array}$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0937	155	■ 0.238	\begin{aligned} & P=(0,0,1,0) \\ & \xrightarrow{f} \boldsymbol{e}_{1} \wedge \boldsymbol{e}_{2} \wedge \boldsymbol{e}_{3} \\ & \stackrel{D}{\longrightarrow} D \boldsymbol{e}_{1} \wedge \boldsymbol{e}_{2} \wedge \boldsymbol{e}_{3}+\boldsymbol{e}_{1} \wedge D \boldsymbol{e}_{2} \wedge \boldsymbol{e}_{3}+ \boldsymbol{e}_{1} \wedge \boldsymbol{e}_{2} \wedge D \boldsymbol{e}_{3} \\ & \quad+\left(b_{11}+\frac{\nu}{3} \right) \boldsymbol{e}_{1} \wedge \boldsymbol{e}_{2} \wedge \boldsymbol{e}_{3}-\bar{l}_{11} \boldsymbol{e}_{4} \wedge \boldsymbol{e}_{2} \wedge \boldsymbol{e}_{3}- \bar{l}_{12} \boldsymbol{e}_{5} \wedge \boldsymbol{e}_{2} \wedge \boldsymbol{e}_{3}-\bar{l}_{13} \boldsymbol{e}_{6} \wedge \boldsymbol{e}_{2} \wedge \boldsymbol{e}_{3} \\ & \quad+\left(b_{33}+\frac{\nu}{3}\right) \boldsymbol{e}_{1} \wedge \boldsymbol{e}_{2} \wedge \boldsymbol{e}_{3}-\bar{l}_{21} \boldsymbol{e}_{4} \wedge \boldsymbol{e}_{3} \wedge \boldsymbol{e}_{1}-\bar{l}_{21} \boldsymbol{e}_{4} \wedge \boldsymbol{e}_{1} \wedge \boldsymbol{e}_{2}-\bar{l}_{32} \boldsymbol{e}_{5} \wedge \boldsymbol{e}_{3} \wedge \boldsymbol{e}_{2}-\bar{l}_{33} \boldsymbol{e}_{1} \wedge \boldsymbol{e}_{6} \wedge \boldsymbol{e}_{3} \\ & \quad\left(\begin{array}{ccc} 0 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{array}\right) \\ & \xrightarrow{f^{-1}}\left(\begin{array}{ccc} -h \left(\bar{l}_{11}\right) & -h\left(\bar{l}_{21}, l_{12}\right) & -h\left(\bar{l}_{31}, l_{13}\right) \\ -h\left(\bar{l}_{12}, l_{21}\right) & -h\left(\bar{l}_{22}\right) & -h\left(\bar{l}_{32}, l_{23}\right) \\ -h\left(\bar{l}_{13}, l_{31}\right) & -h\left(\bar{l}_{23}, l_{32}\right) & -h\left(\bar{l}_{33}\right) \end{array}\right) \left(\begin{array}{c} h(\nu) \\ 0 \\ -\tau h(L) \\ -i \nu e_{1} \\ 0 \end{array}\right) h(L) \\ & =\left(\begin{array}{ccc} \phi_{\boldsymbol{C}}(B, C)+\frac{i \nu e_{1}}{3} & -2 \tau h(L) & 0 \\ 2 h(L) & \tau \phi_{\boldsymbol{C}}(B, C) \tau-\frac{i \nu e_{1}}{3} & -\tau h(L) \\ 0 & h(L) & -i \nu e_{1} \\ -\tau h(L) & 0 & 0 \\ 0 & & \\ 1 & & \\ 0 & & \end{array}\right) \\ & =\Phi\left(\phi_{\boldsymbol{C}}(B, C), h(L),-\tau h(L),-i \nu e_{1}\right) P. \end{aligned}	$P=(0,0,1,0)$ $\xrightarrow{f} \boldsymbol{e}_1 \wedge \boldsymbol{e}_2 \wedge \boldsymbol{e}_3$ $\xrightarrow{D} D\boldsymbol{e}_1 \wedge \boldsymbol{e}_2 \wedge \boldsymbol{e}_3 + \boldsymbol{e}_1 \wedge D\boldsymbol{e}_2 \wedge \boldsymbol{e}_3 + \boldsymbol{e}_1 \wedge \boldsymbol{e}_2 \wedge D\boldsymbol{e}_3$ $+\left(b_{11}+\frac{\nu}{3}\right)\boldsymbol{e}_1 \wedge \boldsymbol{e}_2 \wedge \boldsymbol{e}_3 - \bar{l}_{11}\boldsymbol{e}_4 \wedge \boldsymbol{e}_2 \wedge \boldsymbol{e}_3 - \bar{l}_{12}\boldsymbol{e}_5 \wedge \boldsymbol{e}_2 \wedge \boldsymbol{e}_3 - \bar{l}_{13}\boldsymbol{e}_6 \wedge \boldsymbol{e}_2 \wedge \boldsymbol{e}_3$ $+\left(b_{33}+\frac{\nu}{3}\right)\boldsymbol{e}_1 \wedge \boldsymbol{e}_2 \wedge \boldsymbol{e}_3 - \bar{l}_{21}\boldsymbol{e}_4 \wedge \boldsymbol{e}_3 \wedge \boldsymbol{e}_1 - \bar{l}_{21}\boldsymbol{e}_4 \wedge \boldsymbol{e}_1 \wedge \boldsymbol{e}_2 - \bar{l}_{32}\boldsymbol{e}_5 \wedge \boldsymbol{e}_3 \wedge \boldsymbol{e}_2 - \bar{l}_{33}\boldsymbol{e}_1 \wedge \boldsymbol{e}_6 \wedge \boldsymbol{e}_3$ $\begin{pmatrix} 0 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{pmatrix}$ $\xrightarrow{f^{-1}} \begin{pmatrix} -h\left(\bar{l}_{11}\right) & -h\left(\bar{l}_{21}, l_{12}\right) & -h\left(\bar{l}_{31}, l_{13}\right) \\ -h\left(\bar{l}_{12}, l_{21}\right) & -h\left(\bar{l}_{22}\right) & -h\left(\bar{l}_{32}, l_{23}\right) \\ -h\left(\bar{l}_{13}, l_{31}\right) & -h\left(\bar{l}_{23}, l_{32}\right) & -h\left(\bar{l}_{33}\right) \end{pmatrix} \begin{pmatrix} h(\nu) \\ 0 \\ -\tau h(L) \\ -i\nu e_1 \\ 0 \end{pmatrix} h(L)$ $= \begin{pmatrix} \phi_{\boldsymbol{C}}(B,C)+\frac{i\nu e_1}{3} & -2\tau h(L) & 0 \\ 2h(L) & \tau\phi_{\boldsymbol{C}}(B,C)\tau-\frac{i\nu e_1}{3} & -\tau h(L) \\ 0 & h(L) & -i\nu e_1 \\ -\tau h(L) & 0 & 0 \\ 0 & & \\ 1 & & \\ 0 & & \end{pmatrix}$ $= \Phi\left(\phi_{\boldsymbol{C}}(B,C), h(L), -\tau h(L), -i\nu e_1\right) P.$	$P=(0,0,1,0)$ $\xrightarrow{f} \boldsymbol{e}_1 \wedge \boldsymbol{e}_2 \wedge \boldsymbol{e}_3$ $\xrightarrow{D} D\boldsymbol{e}_1 \wedge \boldsymbol{e}_2 \wedge \boldsymbol{e}_3 + \boldsymbol{e}_1 \wedge D\boldsymbol{e}_2 \wedge \boldsymbol{e}_3 + \boldsymbol{e}_1 \wedge \boldsymbol{e}_2 \wedge D\boldsymbol{e}_3$ $= \left(b_{11}+\frac{\nu}{3}\right)\boldsymbol{e}_1 \wedge \boldsymbol{e}_2 \wedge \boldsymbol{e}_3 - \bar{l}_{11}\boldsymbol{e}_4 \wedge \boldsymbol{e}_2 \wedge \boldsymbol{e}_3 - \bar{l}_{12}\boldsymbol{e}_5 \wedge \boldsymbol{e}_2 \wedge \boldsymbol{e}_3 - \bar{l}_{13}\boldsymbol{e}_6 \wedge \boldsymbol{e}_2 \wedge \boldsymbol{e}_3$ $+\left(b_{22}+\frac{\nu}{3}\right)\boldsymbol{e}_1 \wedge \boldsymbol{e}_2 \wedge \boldsymbol{e}_3 - \bar{l}_{21}\boldsymbol{e}_4 \wedge \boldsymbol{e}_3 \wedge \boldsymbol{e}_1 - \bar{l}_{22}\boldsymbol{e}_1 \wedge \boldsymbol{e}_5 \wedge \boldsymbol{e}_3 - \bar{l}_{23}\boldsymbol{e}_1 \wedge \boldsymbol{e}_6 \wedge \boldsymbol{e}_3$ $+\left(b_{33}+\frac{\nu}{3}\right)\boldsymbol{e}_1 \wedge \boldsymbol{e}_2 \wedge \boldsymbol{e}_3 - \bar{l}_{31}\boldsymbol{e}_4 \wedge \boldsymbol{e}_1 \wedge \boldsymbol{e}_2 - \bar{l}_{32}\boldsymbol{e}_5 \wedge \boldsymbol{e}_1 \wedge \boldsymbol{e}_2 - \bar{l}_{33}\boldsymbol{e}_6 \wedge \boldsymbol{e}_1 \wedge \boldsymbol{e}_2$ $\xrightarrow{f^{-1}} \begin{pmatrix} \begin{pmatrix} 0 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{pmatrix} \\ \begin{pmatrix} -h(\bar{l}_{11}) & -h(\bar{l}_{21}, l_{12}) & -h(\bar{l}_{31}, l_{13}) \\ -h(\bar{l}_{12}, l_{21}) & -h(\bar{l}_{22}) & -h(\bar{l}_{32}, l_{23}) \\ -h(\bar{l}_{13}, l_{31}) & -h(\bar{l}_{23}, l_{32}) & -h(\bar{l}_{33}) \end{pmatrix} \\ h(\nu) \\ 0 \end{pmatrix} = \begin{pmatrix} 0 \\ -\tau h(L) \\ -i\nu e_1 \\ 0 \end{pmatrix}$ $= \begin{pmatrix} \phi_{\boldsymbol{C}}(B,C)+\frac{i\nu e_1}{3} & -2\tau h(L) & 0 & h(L) \\ 2h(L) & \tau\phi_{\boldsymbol{C}}(B,C)\tau-\frac{i\nu e_1}{3} & -\tau h(L) & 0 \\ 0 & h(L) & -i\nu e_1 & 0 \\ -\tau h(L) & 0 & 0 & i\nu e_1 \end{pmatrix} \begin{pmatrix} 0 \\ 0 \\ 1 \\ 0 \end{pmatrix}$ $= \Phi(\phi_{\boldsymbol{C}}(B,C), h(L), -\tau h(L), -i\nu e_1) P.$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0834	139	■0.239	\[\begin{aligned} \left(\left(\mathfrak{e}_{7}\right)^{ \kappa, \mu}\right)_{\left(0, E_{1}, 0,1\right)}=\left \{\Phi \in\left(\mathfrak{e}_{7}\right)^{\kappa, \mu} \mid \Phi\left(\left(0, E_{1}, 0,1\right)\right)=0 \right\} \\ =\left\{\begin{array}{l|l} \Phi(\phi, A,-\tau A, 0) \in \mathfrak{e}_{7} & \left\lvert\, \begin{array}{l} \phi \in \mathfrak{e}_{6}, \phi E_{1}=0 \\ A \in \mathfrak{J}^{C}, 2 E_{1} \times A=\tau A \end{array}\right. \end{array}\right\} . \end{aligned} \] \end{itemize}	$$\begin{aligned} &\left(\left(\mathfrak{e}_{7}\right)^{\kappa, \mu}\right)_{\left(0, E_{1}, 0,1\right)}=\left\{\Phi \in\left(\mathfrak{e}_{7}\right)^{\kappa, \mu} \mid \Phi\left(\left(0, E_{1}, 0,1\right)\right)=0\right\} \\ &=\left\{\begin{array}{l\|l} \Phi(\phi, A,-\tau A, 0) \in \mathfrak{e}_{7} & \left\lvert\, \begin{array}{l} \phi \in \mathfrak{e}_{6}, \phi E_{1}=0 \\ A \in \mathfrak{J}^{C}, 2 E_{1} \times A=\tau A \end{array}\right. \end{array}\right\} . \end{aligned}$$	$$\begin{aligned} &\left(\left(\mathfrak{e}_{7}\right)^{\kappa, \mu}\right)_{\left(0, E_{1}, 0,1\right)}=\left\{\Phi \in\left(\mathfrak{e}_{7}\right)^{\kappa, \mu} \mid \Phi\left(\left(0, E_{1}, 0,1\right)\right)=0\right\} \\ &=\left\{\begin{array}{l\|l} \Phi(\phi, A,-\tau A, 0) \in \mathfrak{e}_{7} & \left\lvert\, \begin{array}{l} \phi \in \mathfrak{e}_{6}, \phi E_{1}=0, \\ A \in \mathfrak{J}^{C}, 2 E_{1} \times A=\tau A \end{array}\right. \end{array}\right\} . \end{aligned}$$
0902.0431_EQ0946	157	■0.244	\begin{aligned} \psi(A, & \epsilon) \psi(B, 1) P=\psi(A, \epsilon)\left(f^{-1}(B(f P))\right) \\ & \left.=f^{-1} \left(A f \overline{\left(f^{-1}(B(f P)\right.}\right) \right)=f^{-1}\left(A f\left(f^{-1}\left(\overline{ \left.\left(\mathrm{Ad} J_{3}\right) B\right)}(f \bar{P}) \right)\right)\right. \\ & =f^{-1}((A(\epsilon B))(f \bar{P}))=\psi(A(\epsilon B), \epsilon) P \end{aligned}	$$\begin{aligned} \psi(A,&\epsilon)\psi(B,1)P=\psi(A,\epsilon)\left(f^{-1}(B(fP))\right) \\ &=f^{-1}\left(Af\overline{(f^{-1}(B(fP))}\right)=f^{-1}\left(Af\left(f^{-1}\left(\overline{(\mathrm{Ad}J_3)\,B)}(f\bar{P})\right)\right) \\ &=f^{-1}((A(\epsilon B))(f\bar{P}))=\psi(A(\epsilon B),\epsilon)P \end{aligned}$$	$$\begin{aligned} \psi(A,\epsilon)\psi(B,1)P&=\psi(A,\epsilon)(f^{-1}(B(fP))) \\ &=f^{-1}(Af\overline{(f^{-1}(B(fP))})=f^{-1}(Af(f^{-1}(\overline{(\mathrm{Ad}J_3)B)}(f\overline{P}))) \\ &=f^{-1}((A(\epsilon B))(f\overline{P}))=\psi(A(\epsilon B),\epsilon)P. \end{aligned}$$
0902.0431_EQ1037	176	■0.252	\begin{aligned} B_{8}\left(\widetilde{h}, \widetilde{h}^{ \prime}\right) & =\frac{5}{3} B_{7}\left(\Phi(h), \Phi\left(h^{\prime}\right)\right)+120 r r^{\prime}(\text { Theorem 5.3.2 }) \\ & =\frac{5}{3} 6\left(6 \sum_{k=0}^{3} \lambda_{k}{ }^{\prime}+3 \sum_{j=1}^{3} \mu_{j} \mu_{j}{ }^{\prime}+4 \nu \nu^{\prime}\right)+120 r r^{\prime} \quad(\text { Theorem 4.6.2 }) \\ & =60 \sum_{k=0}^{3} \lambda_{k}{ }^{\prime}+30 \sum_{j=1}^{3} \mu_{j} \mu_{j}{ }^{\prime}+40 \nu \nu^{\prime}+120 r r^{\prime} . \end{aligned}	$$\begin{aligned} B_8\left(\widetilde{h}, \widetilde{h}^{\prime}\right) &= \frac{5}{3} B_7\left(\Phi(h), \Phi\left(h^{\prime}\right)\right)+120 r r^{\prime} \quad(\text { Theorem 5.3.2 }) \\ &= \frac{5}{3} 6\left(6 \sum_{k=0}^{3} \lambda_{k}{ }^{\prime}+3 \sum_{j=1}^{3} \mu_{j} \mu_{j}{ }^{\prime}+4 \nu \nu^{\prime}\right)+120 r r^{\prime} \quad(\text { Theorem 4.6.2 }) \\ &= 60 \sum_{k=0}^{3} \lambda_{k}{ }^{\prime}+30 \sum_{j=1}^{3} \mu_{j} \mu_{j}{ }^{\prime}+40 \nu \nu^{\prime}+120 r r^{\prime}. \end{aligned}$$	$$\begin{aligned} B_8(\widetilde{h}, \widetilde{h}^{\prime}) &= \frac{5}{3} B_7(\Phi(h), \Phi(h^{\prime}))+120 r r^{\prime} \quad(\text{Theorem 5.3.2}) \\ &= \frac{5}{3} 6\left(6 \sum_{k=0}^{3} \lambda_{k}{ }^{\prime}+3 \sum_{j=1}^{3} \mu_{j} \mu_{j}{ }^{\prime}+4 \nu \nu^{\prime}\right)+120 r r^{\prime} \quad(\text{Theorem 4.6.2}) \\ &= 60 \sum_{k=0}^{3} \lambda_{k}{ }^{\prime}+30 \sum_{j=1}^{3} \mu_{j} \mu_{j}{ }^{\prime}+40 \nu \nu^{\prime}+120 r r^{\prime}. \end{aligned}$$
0902.0431_EQ0365	59	■0.264	\begin{array}{clcccccc} 1 & \longrightarrow & \operatorname{Spin}(8) & \longrightarrow & \left(F_{4} \right)_{E_{1}} & \longrightarrow & S^{8} & \longrightarrow \\ & & \downarrow p^{\prime} & & \downarrow p & & \downarrow= & \\ 1 & \longrightarrow & SO(8) & \longrightarrow & SO(9) & \longrightarrow & S^{8} & \longrightarrow \end{array} .	$$\begin{array}{ccccccccc} 1 & \longrightarrow & \mathrm{Spin}(8) & \longrightarrow & (F_4)_{E_1} & \longrightarrow & S^8 & \longrightarrow & \\ & & \downarrow p' & & \downarrow p & & \downarrow= & & \\ 1 & \longrightarrow & SO(8) & \longrightarrow & SO(9) & \longrightarrow & S^8 & \longrightarrow & \end{array}.$$	$$\begin{array}{ccccccccc} 1 & \longrightarrow & Spin(8) & \longrightarrow & (F_4)_{E_1} & \longrightarrow & S^8 & \longrightarrow & * \\ & & \downarrow p' & & \downarrow p & & \downarrow= & & \\ 1 & \longrightarrow & SO(8) & \longrightarrow & SO(9) & \longrightarrow & S^8 & \longrightarrow & * \end{array}$$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0206	35	0.294	`\begin{aligned} & \kappa\left(\alpha_{1}, \alpha_{2}, \alpha_{3}\right)=\left(\kappa \alpha_{1}, \kappa \alpha_{3}, \kappa \alpha_{2}\right), \\ & \pi\left(\alpha_{1}, \alpha_{2}, \alpha_{3}\right)=\left(\kappa \alpha_{3}, \kappa \alpha_{2}, \kappa \alpha_{1}\right), \\ & \nu\left(\alpha_{1}, \alpha_{2}, \alpha_{3}\right)= \left(\alpha_{2}, \alpha_{3}, \alpha_{1}\right), \end{aligned}`	$\begin{aligned} & \kappa\left(\alpha_{1}, \alpha_{2}, \alpha_{3}\right)=\left(\kappa \alpha_{1}, \kappa \alpha_{3}, \kappa \alpha_{2}\right), \\ & \pi\left(\alpha_{1}, \alpha_{2}, \alpha_{3}\right)=\left(\kappa \alpha_{3}, \kappa \alpha_{2}, \kappa \alpha_{1}\right), \\ & \nu\left(\alpha_{1}, \alpha_{2}, \alpha_{3}\right)= \left(\alpha_{2}, \alpha_{3}, \alpha_{1}\right), \end{aligned}$	$\begin{aligned} & \kappa\left(\alpha_{1}, \alpha_{2}, \alpha_{3}\right)=\left(\kappa \alpha_{1}, \kappa \alpha_{3}, \kappa \alpha_{2}\right), \\ & \pi\left(\alpha_{1}, \alpha_{2}, \alpha_{3}\right)=\left(\kappa \alpha_{3}, \kappa \alpha_{2}, \kappa \alpha_{1}\right), \\ & \nu\left(\alpha_{1}, \alpha_{2}, \alpha_{3}\right)= \left(\alpha_{2}, \alpha_{3}, \alpha_{1}\right), \end{aligned}$
0902.0431_EQ0655	108	0.299	`\begin{aligned} & \left(P M \tau h(A, B)^{*}\right)^{*} \left(P N \tau h(A, B)^{*}\right)=\tau h(A, B) M^{*} P^{*} P N \tau h(A, B)^{*} \\ & =\tau\left(h(A, B) \tau\left(M^{*} N\right) h(A, B)^{*}\right), \\ & \frac{\left(P M \tau h(A, B)^{*}\right)\left(h(A, B) Y h(A, B)^{*}\right)}{\left(P M \tau h(A, B)^{*}\right) \times\left(P N \tau h(A, B)^{*}\right)}=\frac{\tau \left(P \tau(M Y) \tau h(A, B)^{*}\right),}{\bar{t} \widetilde{P}(M \times N) \tau^{t}\left(h(A, B)^{*} \right)^{\sim}} \\ & \quad=P(\overline{M \times N}) h(A, B)^{*}=\tau\left(P(\overline{M \times N}) \tau h(A, B)^{*}\right) . \end{aligned}`	$\begin{aligned} & \left(P M \tau h(A, B)^{*}\right)^{*} \left(P N \tau h(A, B)^{*}\right)=\tau h(A, B) M^{*} P^{*} P N \tau h(A, B)^{*} \\ & =\tau\left(h(A, B) \tau\left(M^{*} N\right) h(A, B)^{*}\right), \\ & \frac{\left(P M \tau h(A, B)^{*}\right)\left(h(A, B) Y h(A, B)^{*}\right)}{\left(P M \tau h(A, B)^{*}\right) \times\left(P N \tau h(A, B)^{*}\right)}=\frac{\tau \left(P \tau(M Y) \tau h(A, B)^{*}\right),}{\bar{t} \widetilde{P}(M \times N) \tau^{t}\left(h(A, B)^{*} \right)^{\sim}} \\ & \quad=P(\overline{M \times N}) h(A, B)^{*}=\tau\left(P(\overline{M \times N}) \tau h(A, B)^{*}\right) . \end{aligned}$	$\begin{aligned} & \left(P M \tau h(A, B)^{*}\right)^{*} \left(P N \tau h(A, B)^{*}\right)=\tau h(A, B) M^{*} P^{*} P N \tau h(A, B)^{*} \\ & =\tau\left(h(A, B) \tau\left(M^{*} N\right) h(A, B)^{*}\right), \\ & \frac{\left(P M \tau h(A, B)^{*}\right)\left(h(A, B) Y h(A, B)^{*}\right)}{\left(P M \tau h(A, B)^{*}\right) \times\left(P N \tau h(A, B)^{*}\right)}=\frac{\tau \left(P \tau(M Y) \tau h(A, B)^{*}\right),}{\bar{t} \widetilde{P}(M \times N) \tau^{t}\left(h(A, B)^{*} \right)^{\sim}} \\ & \quad=P(\overline{M \times N}) h(A, B)^{*}=\tau\left(P(\overline{M \times N}) \tau h(A, B)^{*}\right) . \end{aligned}$
0902.0431_EQ0101	20	0.306	`\begin{aligned} \lambda_{1}-\lambda_{2} & =\alpha_{1}, & \lambda_{1}-\lambda_{3} & =2 \alpha_{1}+3 \alpha_{2}, & \lambda_{2}-\lambda_{3} & =\alpha_{1}+3 \alpha_{2}, \\ \lambda_{1} & =\alpha_{1}+\alpha_{2}, & \lambda_{2} & =\alpha_{2}, & & =\lambda_{3}+2 \alpha_{2} \end{aligned}`	$\begin{aligned} \lambda_{1}-\lambda_{2} & =\alpha_{1}, & \lambda_{1}-\lambda_{3} & =2 \alpha_{1}+3 \alpha_{2}, & \lambda_{2}-\lambda_{3} & =\alpha_{1}+3 \alpha_{2}, \\ \lambda_{1} & =\alpha_{1}+\alpha_{2}, & \lambda_{2} & =\alpha_{2}, & & =\lambda_{3}+2 \alpha_{2} \end{aligned}$	$\begin{aligned} \lambda_{1}-\lambda_{2} & =\alpha_{1}, & \lambda_{1}-\lambda_{3} & =2 \alpha_{1}+3 \alpha_{2}, & \lambda_{2}-\lambda_{3} & =\alpha_{1}+3 \alpha_{2}, \\ \lambda_{1} & =\alpha_{1}+\alpha_{2}, & \lambda_{2} & =\alpha_{2}, & & =\lambda_{3}+2 \alpha_{2} \end{aligned}$
0902.0431_EQ1154	195	0.318	`\begin{aligned} & +(\boldsymbol{v}, \boldsymbol{w})(\boldsymbol{u}, \boldsymbol{a})-\sum_{i=1}^{3} \sum_{j=1}^{3}\left(\boldsymbol{u}_{i} \wedge \boldsymbol{v}_{j} \wedge \boldsymbol{v}_{j+1}, \boldsymbol{w}\right)\left(\boldsymbol{u}_{i+1} \wedge \boldsymbol{u}_{i+2} \wedge \boldsymbol{v}_{j+2}, \boldsymbol{a}\right) \\ & =-(\boldsymbol{u} \wedge \boldsymbol{v}, \boldsymbol{w} \wedge a)=-(*(*(\boldsymbol{u} \wedge \boldsymbol{v}) \wedge \boldsymbol{w}), \boldsymbol{a}) \end{aligned}`	$\begin{aligned} & +(\boldsymbol{v}, \boldsymbol{w})(\boldsymbol{u}, \boldsymbol{a})-\sum_{i=1}^{3} \sum_{j=1}^{3}\left(\boldsymbol{u}_{i} \wedge \boldsymbol{v}_{j} \wedge \boldsymbol{v}_{j+1}, \boldsymbol{w}\right)\left(\boldsymbol{u}_{i+1} \wedge \boldsymbol{u}_{i+2} \wedge \boldsymbol{v}_{j+2}, \boldsymbol{a}\right) \\ & =-(\boldsymbol{u} \wedge \boldsymbol{v}, \boldsymbol{w} \wedge a)=-(*(*(\boldsymbol{u} \wedge \boldsymbol{v}) \wedge \boldsymbol{w}), \boldsymbol{a}) \end{aligned}$	$\begin{aligned} & +(\boldsymbol{v}, \boldsymbol{w})(\boldsymbol{u}, \boldsymbol{a})-\sum_{i=1}^{3} \sum_{j=1}^{3}\left(\boldsymbol{u}_{i} \wedge \boldsymbol{v}_{j} \wedge \boldsymbol{v}_{j+1}, \boldsymbol{w}\right)\left(\boldsymbol{u}_{i+1} \wedge \boldsymbol{u}_{i+2} \wedge \boldsymbol{v}_{j+2}, \boldsymbol{a}\right) \\ & =-(\boldsymbol{u} \wedge \boldsymbol{v}, \boldsymbol{w} \wedge a)=-(*(*(\boldsymbol{u} \wedge \boldsymbol{v}) \wedge \boldsymbol{w}), \boldsymbol{a}). \end{aligned}$

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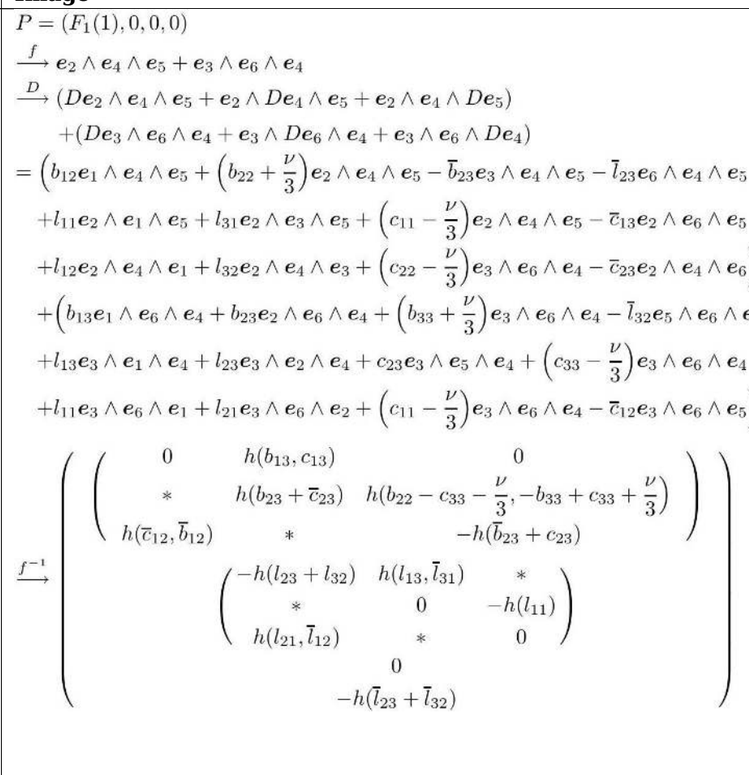
0902.0431_EQ1189	200	0.322	`\begin{aligned} ((\boldsymbol{a} & \times(\boldsymbol{x} \wedge \boldsymbol{y})) \boldsymbol{v}, \boldsymbol{w})=(\boldsymbol{x} \wedge \boldsymbol{y} \wedge \boldsymbol{w}, \boldsymbol{v} \wedge \boldsymbol{a})-\frac{3}{5}(\boldsymbol{a}, \boldsymbol{x} \wedge \boldsymbol{y})(\boldsymbol{v}, \boldsymbol{w}) \\ & =(\boldsymbol{x}, \boldsymbol{v})(\boldsymbol{y} \wedge \boldsymbol{w}, \boldsymbol{a})-(\boldsymbol{y}, \boldsymbol{v})(\boldsymbol{x} \wedge \boldsymbol{w}, \boldsymbol{a})+\frac{2}{5}(\boldsymbol{a}, \boldsymbol{x} \wedge \boldsymbol{y})(\boldsymbol{v}, \boldsymbol{w}) \\ & =(\boldsymbol{x}, \boldsymbol{v})(*(*\boldsymbol{a} \wedge \boldsymbol{y}), \boldsymbol{w})-(\boldsymbol{y}, \boldsymbol{v})(*(*\boldsymbol{a} \wedge \boldsymbol{x}), \boldsymbol{w})+\frac{2}{5}(\boldsymbol{a}, \boldsymbol{x} \wedge \boldsymbol{y})(\boldsymbol{v}, \boldsymbol{w}) . \end{aligned}`	$$\begin{aligned} ((\boldsymbol{a} & \times(\boldsymbol{x} \wedge \boldsymbol{y})) \boldsymbol{v}, \boldsymbol{w})=(\boldsymbol{x} \wedge \boldsymbol{y} \wedge \boldsymbol{w}, \boldsymbol{v} \wedge \boldsymbol{a})-\frac{3}{5}(\boldsymbol{a}, \boldsymbol{x} \wedge \boldsymbol{y})(\boldsymbol{v}, \boldsymbol{w}) \\ & =(\boldsymbol{x}, \boldsymbol{v})(\boldsymbol{y} \wedge \boldsymbol{w}, \boldsymbol{a})-(\boldsymbol{y}, \boldsymbol{v})(\boldsymbol{x} \wedge \boldsymbol{w}, \boldsymbol{a})+\frac{2}{5}(\boldsymbol{a}, \boldsymbol{x} \wedge \boldsymbol{y})(\boldsymbol{v}, \boldsymbol{w}) \\ & =(\boldsymbol{x}, \boldsymbol{v})(*(*\boldsymbol{a} \wedge \boldsymbol{y}), \boldsymbol{w})-(\boldsymbol{y}, \boldsymbol{v})(*(*\boldsymbol{a} \wedge \boldsymbol{x}), \boldsymbol{w})+\frac{2}{5}(\boldsymbol{a}, \boldsymbol{x} \wedge \boldsymbol{y})(\boldsymbol{v}, \boldsymbol{w}). \end{aligned}$$	$$\begin{aligned} ((\boldsymbol{a} & \times(\boldsymbol{x} \wedge \boldsymbol{y})) \boldsymbol{v}, \boldsymbol{w})=(\boldsymbol{x} \wedge \boldsymbol{y} \wedge \boldsymbol{w}, \boldsymbol{v} \wedge \boldsymbol{a})-\frac{3}{5}(\boldsymbol{a}, \boldsymbol{x} \wedge \boldsymbol{y})(\boldsymbol{v}, \boldsymbol{w}) \\ & =(\boldsymbol{x}, \boldsymbol{v})(\boldsymbol{y} \wedge \boldsymbol{w}, \boldsymbol{a})-(\boldsymbol{y}, \boldsymbol{v})(\boldsymbol{x} \wedge \boldsymbol{w}, \boldsymbol{a})+\frac{2}{5}(\boldsymbol{a}, \boldsymbol{x} \wedge \boldsymbol{y})(\boldsymbol{v}, \boldsymbol{w}) \\ & =(\boldsymbol{x}, \boldsymbol{v})(*(*\boldsymbol{a} \wedge \boldsymbol{y}), \boldsymbol{w})-(\boldsymbol{y}, \boldsymbol{v})(*(*\boldsymbol{a} \wedge \boldsymbol{x}), \boldsymbol{w})+\frac{2}{5}(\boldsymbol{a}, \boldsymbol{x} \wedge \boldsymbol{y})(\boldsymbol{v}, \boldsymbol{w}). \end{aligned}$$
0902.0431_EQ1157	195	0.323	`\begin{aligned} & 0=D \boldsymbol{u}=\sum_{I} u_{I} D \boldsymbol{e}_{I}=3 \sum_{I \nsupseteq 9} u_{I} \boldsymbol{e}_{I}-6 \sum_{I \ni 9} u_{I} \boldsymbol{e}_{I}, \\ & 0=-{ }^{t} D \boldsymbol{v}=-3 \sum_{J \not \ni 9} v_{J} \boldsymbol{e}_{J}+6 \sum_{J \ni 9} v_{J} \boldsymbol{e}_{J}, \end{aligned}`	$$\begin{aligned} & 0=D \boldsymbol{u}=\sum_{I} u_{I} D \boldsymbol{e}_{I}=3 \sum_{I \nsupseteq 9} u_{I} \boldsymbol{e}_{I}-6 \sum_{I \ni 9} u_{I} \boldsymbol{e}_{I}, \\ & 0=-{ }^{t} D \boldsymbol{v}=-3 \sum_{J \not \ni 9} v_{J} \boldsymbol{e}_{J}+6 \sum_{J \ni 9} v_{J} \boldsymbol{e}_{J}, \end{aligned}$$	$$\begin{aligned} & 0=D \boldsymbol{u}=\sum_{I} u_{I} D \boldsymbol{e}_{I}=3 \sum_{I \nsupseteq 9} u_{I} \boldsymbol{e}_{I}-6 \sum_{I \ni 9} u_{I} \boldsymbol{e}_{I}, \\ & 0=-{ }^{t} D \boldsymbol{v}=-3 \sum_{J \not \ni 9} v_{J} \boldsymbol{e}_{J}+6 \sum_{J \ni 9} v_{J} \boldsymbol{e}_{J}, \end{aligned}$$
0902.0431_EQ0460	75	0.325	`\mathfrak{a} \supset\left[\mathfrak{a}, \mathfrak{e}_{6}{ }^{C}\right] \supset\left[\mathfrak{f}_{4}{ }^{C}, \widetilde{\mathfrak{J}}_{0}{ }^{C}\right]= \mathfrak{f}_{4} \widetilde{ }^{C} \mathfrak{J}_{0}{ }^{C} \text { (Lemma 3.2.2) }=\widetilde{ \mathfrak{J}}_{0}^{C} \text { (Proposition 2.4.6.(2)). }`	$\mathfrak{a} \supset\left[\mathfrak{a}, \mathfrak{e}_{6}{ }^{C}\right] \supset\left[\mathfrak{f}_{4}{ }^{C}, \widetilde{\mathfrak{J}}_{0}{ }^{C}\right]= \mathfrak{f}_{4} \widetilde{ }^{C} \mathfrak{J}_{0}{ }^{C}$ (Lemma 3.2.2) $=\widetilde{ \mathfrak{J}}_{0}^{C}$ (Proposition 2.4.6.(2)).	$\mathfrak{a} \supset\left[\mathfrak{a}, \mathfrak{e}_{6}{ }^{C}\right] \supset\left[\mathfrak{f}_{4}{ }^{C}, \widetilde{\mathfrak{J}}_{0}{ }^{C}\right]= \mathfrak{f}_{4} \widetilde{ }^{C} \mathfrak{J}_{0}{ }^{C}$ (Lemma 3.2.2) $=\widetilde{ \mathfrak{J}}_{0}^{C}$ (Proposition 2.4.6.(2)).

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0802	134	■ 0.338	\left(\begin{array}{c} \left(\begin{array}{ccc} \cos \left|a_{1}\right| a_{2} \frac{\sin \left|a_{2}\right|}{ \left|a_{2}\right|} a_{3} \frac{\sin \left|a_{3}\right|}{ \left|a_{3}\right|} & 0 & 0 \\ 0 & a_{1} \frac{\sin \left|a_{1}\right|}{\left|a_{1}\right|} \cos \left|a_{2} \right| a_{3} \frac{\sin \left|a_{3}\right|}{\left|a_{3} \right|} & 0 \\ 0 & 0 & a_{1} \frac{\sin \left|a_{1}\right|}{\left|a_{1}\right|} a_{2} \frac{\sin \left|a_{2}\right|}{\left|a_{2}\right|} \cos \left|a_{3}\right| \end{array}\right) \\ \left(\begin{array}{ccc} a_{1} \frac{\sin \left|a_{1}\right|}{\left|a_{1}\right|} \cos \left|a_{2}\right| \cos \left|a_{3}\right| & 0 & 0 \\ 0 & \cos \left|a_{1}\right| a_{2} \frac{\sin \left|a_{2}\right|}{\left|a_{2}\right|} \cos \left|a_{3}\right| & 0 \\ 0 & 0 & \cos \left|a_{1}\right| \cos \left|a_{2}\right| a_{3} \frac{\sin \left|a_{3}\right|}{\left|a_{3} \right|} \end{array}\right) \\ \left(\begin{array}{ccc} \cos \left|a_{1}\right| \cos \left|a_{2}\right| \cos \left|a_{3}\right| & 0 & 0 \\ 0 & a_{1} \frac{\sin \left|a_{1}\right|}{\left|a_{1}\right|} a_{2} \frac{\sin \left|a_{2}\right|}{\left|a_{2}\right|} a_{3} \frac{\sin \left|a_{3}\right|}{\left|a_{3}\right|} \end{array}\right) \end{array}\right)	$$\left(\begin{array}{c} \left(\begin{array}{ccc} \cos \left\|a_{1}\right\| a_{2} \frac{\sin \left\|a_{2}\right\|}{ \left\|a_{2}\right\|} a_{3} \frac{\sin \left\|a_{3}\right\|}{ \left\|a_{3}\right\|} & 0 & 0 \\ 0 & a_{1} \frac{\sin \left\|a_{1}\right\|}{\left\|a_{1}\right\|} \cos \left\|a_{2} \right\| a_{3} \frac{\sin \left\|a_{3}\right\|}{\left\|a_{3} \right\|} & 0 \\ 0 & 0 & a_{1} \frac{\sin \left\|a_{1}\right\|}{\left\|a_{1}\right\|} a_{2} \frac{\sin \left\|a_{2}\right\|}{\left\|a_{2}\right\|} \cos \left\|a_{3}\right\| \end{array}\right) \\ \left(\begin{array}{ccc} a_{1} \frac{\sin \left\|a_{1}\right\|}{\left\|a_{1}\right\|} \cos \left\|a_{2}\right\| \cos \left\|a_{3}\right\| & 0 & 0 \\ 0 & \cos \left\|a_{1}\right\| a_{2} \frac{\sin \left\|a_{2}\right\|}{\left\|a_{2}\right\|} \cos \left\|a_{3}\right\| & 0 \\ 0 & 0 & \cos \left\|a_{1}\right\| \cos \left\|a_{2}\right\| a_{3} \frac{\sin \left\|a_{3}\right\|}{\left\|a_{3} \right\|} \end{array}\right) \\ \left(\begin{array}{ccc} \cos \left\|a_{1}\right\| \cos \left\|a_{2}\right\| \cos \left\|a_{3}\right\| & 0 & 0 \\ 0 & a_{1} \frac{\sin \left\|a_{1}\right\|}{\left\|a_{1}\right\|} a_{2} \frac{\sin \left\|a_{2}\right\|}{\left\|a_{2}\right\|} a_{3} \frac{\sin \left\|a_{3}\right\|}{\left\|a_{3}\right\|} \end{array}\right) \end{array}\right)$$
0902.0431_EQ0875	145	■ 0.339	\begin{aligned} \varphi_{2}(A) & \left(\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right),\left(\begin{array}{lll} \eta_{1} & y_{3} & \bar{y}_{2} \\ \bar{y}_{3} & \eta_{2} & y_{1} \\ y_{2} & \bar{y}_{1} & \eta_{3} \end{array}\right), \xi, \eta\right) \\ = & \left(\left(\begin{array}{ccc} \xi_{1}^{\prime} & x_{3}^{ \prime} & \bar{x}_{2}^{\prime} \\ \bar{x}_{3}^{\prime} & \xi_{2}^{\prime} & x_{1}^{\prime} \\ x_{2}^{\prime} & \bar{x}_{1}^{\prime} & \xi_{3}^{\prime} \end{array} \right),\left(\begin{array}{ccc} \eta_{1}^{\prime} & y_{3}^{ \prime} & \bar{y}_{2}^{\prime} \\ \bar{y}_{3}^{ \prime} & \eta_{2}^{\prime} & y_{1}^{\prime} \\ y_{2}^{\prime} & \bar{y}_{1}^{\prime} & \eta_{3}^{\prime} \end{array}\right), \xi^{\prime}, \eta^{\prime}\right) \end{aligned}	$$\begin{aligned} \varphi_{2}(A) & \left(\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right),\left(\begin{array}{lll} \eta_{1} & y_{3} & \bar{y}_{2} \\ \bar{y}_{3} & \eta_{2} & y_{1} \\ y_{2} & \bar{y}_{1} & \eta_{3} \end{array}\right), \xi, \eta\right) \\ = & \left(\left(\begin{array}{ccc} \xi_{1}^{\prime} & x_{3}^{ \prime} & \bar{x}_{2}^{\prime} \\ \bar{x}_{3}^{\prime} & \xi_{2}^{\prime} & x_{1}^{\prime} \\ x_{2}^{\prime} & \bar{x}_{1}^{\prime} & \xi_{3}^{\prime} \end{array} \right),\left(\begin{array}{ccc} \eta_{1}^{\prime} & y_{3}^{ \prime} & \bar{y}_{2}^{\prime} \\ \bar{y}_{3}^{ \prime} & \eta_{2}^{\prime} & y_{1}^{\prime} \\ y_{2}^{\prime} & \bar{y}_{1}^{\prime} & \eta_{3}^{\prime} \end{array}\right), \xi^{\prime}, \eta^{\prime}\right), \end{aligned}$$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0400	66	■0.351	`\beta_{1} m=\operatorname{prm} \bar{r}, \quad \beta_{2} m=r m \bar{r} q, \quad \beta_{3} m=\bar{q} r m \bar{r} \bar{p}, \quad m \in \boldsymbol{H} .`	$\beta_1 m=\operatorname{prm} \bar{r}, \quad \beta_2 m=r m \bar{r} q, \quad \beta_3 m=\bar{q} r m \bar{r} \bar{p}, \quad m \in \boldsymbol{H} .$	$\beta_1 m=prm\overline{r}, \quad \beta_2 m=rm\overline{r}q, \quad \beta_3 m=\overline{q}rm\overline{r}\,\overline{p}, \quad m \in \boldsymbol{H} .$
0902.0431_EQ0860	143	■0.354	`\begin{array}{cccccccc} 1 & \longrightarrow & \operatorname{Spin}(10) & \longrightarrow & \left(\left(E_{7}\right)^{\kappa, \mu}\right)_{\left(0, E_{1}, 0,1\right)} & \longrightarrow & S^{10} & \longrightarrow \\ & & \downarrow p^{\prime} & & \downarrow p & & \downarrow= & \\ 1 & \longrightarrow & SO(10) & \longrightarrow & SO(11) & \longrightarrow & S^{10} & \longrightarrow \end{array}`	$\begin{array}{cccccccc} 1 & \longrightarrow & \operatorname{Spin}(10) & \longrightarrow & \left(\left(E_{7}\right)^{\kappa, \mu}\right)_{\left(0, E_{1}, 0,1\right)} & \longrightarrow & S^{10} & \longrightarrow \\ & & \downarrow p^{\prime} & & \downarrow p & & \downarrow= & \\ 1 & \longrightarrow & SO(10) & \longrightarrow & SO(11) & \longrightarrow & S^{10} & \longrightarrow \end{array}$	$\begin{array}{ccccccccc} 1 & \longrightarrow & Spin(10) & \longrightarrow & \left(\left(E_{7}\right)^{\kappa, \mu}\right)_{\left(0, E_{1}, 0,1\right)} & \longrightarrow & S^{10} & \longrightarrow & * \\ & & \downarrow p^{\prime} & & \downarrow p & & \downarrow= & & \\ 1 & \longrightarrow & SO(10) & \longrightarrow & SO(11) & \longrightarrow & S^{10} & \longrightarrow & * \end{array}$
0902.0431_EQ0876	145	■0.358	`\begin{gathered} \binom{\xi_{1}^{\prime}}{\eta^{\prime}}=A\binom{\xi_{1}}{\eta}, \quad\binom{\xi^{\prime}}{\eta_{1}^{\prime}}=A\binom{\xi}{\eta_{1}}, \quad\binom{\eta_{2}^{\prime}}{\xi_{3}^{\prime}}=A\binom{\eta_{2}}{\xi_{3}}, \quad\binom{\eta_{3}^{\prime}}{\xi_{2}^{\prime}}=A\binom{\eta_{3}}{\xi_{2}} \\ \binom{x_{1}^{\prime}}{y_{1}^{\prime}}=\tau A\binom{x_{1}}{y_{1}}, \quad\binom{x_{2}^{\prime}}{y_{2}^{\prime}}=\binom{x_{2}}{y_{2}}, \quad\binom{x_{3}^{\prime}}{y_{3}^{\prime}}=\binom{x_{3}}{y_{3}} . \end{gathered}`	$\begin{gathered} \binom{\xi_1'}{\eta'}=A\binom{\xi_1}{\eta}, \quad\binom{\xi'}{\eta_1'}=A\binom{\xi}{\eta_1}, \quad\binom{\eta_2'}{\xi_3'}=A\binom{\eta_2}{\xi_3}, \quad\binom{\eta_3'}{\xi_2'}=A\binom{\eta_3}{\xi_2} \\ \binom{x_1'}{y_1'}=\tau A\binom{x_1}{y_1}, \quad\binom{x_2'}{y_2'}=\binom{x_2}{y_2}, \quad\binom{x_3'}{y_3'}=\binom{x_3}{y_3}. \end{gathered}$	$\begin{gathered} \binom{\xi_1{}'}{\eta'}=A\binom{\xi_1}{\eta}, \quad\binom{\xi'}{\eta_1{}'}=A\binom{\xi}{\eta_1}, \quad\binom{\eta_2{}'}{\xi_3{}'}=A\binom{\eta_2}{\xi_3}, \quad\binom{\eta_3{}'}{\xi_2{}'}=A\binom{\eta_3}{\xi_2}, \\ \binom{x_1{}'}{y_1{}'}=\tau A\binom{x_1}{y_1}, \quad\binom{x_2{}'}{y_2{}'}=\binom{x_2}{y_2}, \quad\binom{x_3{}'}{y_3{}'}=\binom{x_3}{y_3}. \end{gathered}$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0941	156	■ 0.372	`\begin{aligned} & P=\left(F_{1}(1), 0,0,0\right) \\ & \xrightarrow{f} \boldsymbol{e}_{2} \wedge \boldsymbol{e}_{4} \wedge \boldsymbol{e}_{5}+ \boldsymbol{e}_{3} \wedge \boldsymbol{e}_{6} \wedge \boldsymbol{e}_{4} \\ & \xrightarrow{D}\left(D e_{2} \wedge e_{4} \wedge e_{5}+e_{2} \wedge D e_{4} \wedge e_{5}+e_{2} \wedge e_{4} \wedge D e_{5}\right) \\ & +\left(D e_{3} \wedge e_{6} \wedge e_{4}+e_{3} \wedge D e_{6} \wedge e_{4}+e_{3} \wedge e_{6} \wedge D e_{4}\right) \\ & =\left(b_{12} \boldsymbol{e}_{1} \wedge \boldsymbol{e}_{4} \wedge \boldsymbol{e}_{5}+ \left(b_{22}+\frac{\nu}{3}\right) \boldsymbol{e}_{2} \wedge \boldsymbol{e}_{4} \wedge \boldsymbol{e}_{5}- \bar{b}_{23} \boldsymbol{e}_{3} \wedge \boldsymbol{e}_{4} \wedge \boldsymbol{e}_{5}-\bar{l}_{23} \boldsymbol{e}_{6} \wedge \boldsymbol{e}_{4} \wedge \boldsymbol{e}_{5} \right. \\ & +l_{11} \boldsymbol{e}_{2} \wedge \boldsymbol{e}_{1} \wedge \boldsymbol{e}_{5}+l_{31} \boldsymbol{e}_{2} \wedge \boldsymbol{e}_{3} \wedge \boldsymbol{e}_{5}+\left(c_{11}-\frac{\nu}{3}\right) \boldsymbol{e}_{2} \wedge \boldsymbol{e}_{4} \wedge \boldsymbol{e}_{5}-\bar{c}_{13} \boldsymbol{e}_{2} \wedge \boldsymbol{e}_{6} \wedge \boldsymbol{e}_{5} \\ & \left.+l_{12} \boldsymbol{e}_{2} \wedge \boldsymbol{e}_{4} \wedge \boldsymbol{e}_{1}+l_{32} \boldsymbol{e}_{2} \wedge \boldsymbol{e}_{4} \wedge \boldsymbol{e}_{3}+\left(c_{22}-\frac{\nu}{3}\right) \boldsymbol{e}_{3} \wedge \boldsymbol{e}_{6} \wedge \boldsymbol{e}_{4}-\bar{c}_{23} \boldsymbol{e}_{2} \wedge \boldsymbol{e}_{4} \wedge \boldsymbol{e}_{6}\right) \\ & +\left(b_{13} \boldsymbol{e}_{1} \wedge \boldsymbol{e}_{6} \wedge \boldsymbol{e}_{4}+b_{23} \boldsymbol{e}_{2} \wedge \boldsymbol{e}_{6} \wedge \boldsymbol{e}_{4}+\left(b_{33}+\frac{\nu}{3}\right) \boldsymbol{e}_{3} \wedge \boldsymbol{e}_{6} \wedge \boldsymbol{e}_{4}-\bar{l}_{32} \boldsymbol{e}_{5} \wedge \boldsymbol{e}_{6} \wedge \boldsymbol{e}_{4} \right. \\ & \left.+l_{13} \boldsymbol{e}_{3} \wedge \boldsymbol{e}_{1} \wedge \boldsymbol{e}_{4}+l_{23} \boldsymbol{e}_{3} \wedge \boldsymbol{e}_{2} \wedge \boldsymbol{e}_{4}+c_{23} \boldsymbol{e}_{3} \wedge \boldsymbol{e}_{5} \wedge \boldsymbol{e}_{4}+\left(c_{33}-\frac{\nu}{3}\right) \boldsymbol{e}_{3} \wedge \boldsymbol{e}_{6} \wedge \boldsymbol{e}_{4} \right. \\ & \left.+l_{11} \boldsymbol{e}_{3} \wedge \boldsymbol{e}_{6} \wedge \boldsymbol{e}_{1}+l_{21} \boldsymbol{e}_{3} \wedge \boldsymbol{e}_{6} \wedge \boldsymbol{e}_{2}+\left(c_{11}-\frac{\nu}{3}\right) \boldsymbol{e}_{3} \wedge \boldsymbol{e}_{6} \wedge \boldsymbol{e}_{4}-\bar{c}_{12} \boldsymbol{e}_{3} \wedge \boldsymbol{e}_{6} \wedge \boldsymbol{e}_{5}\right) \\ & \xrightarrow{f^{-1}}\left(\begin{array}{ccc} 0 & h\left(b_{13}, c_{13}\right) & 0 \\ * & h\left(b_{23}+\bar{c}_{23}\right) & h\left(b_{22}-c_{33}-\frac{\nu}{3},-b_{33}+c_{33}+\frac{\nu}{3}\right) \\ * & & -h\left(\bar{b}_{23}+c_{23}\right) \end{array}\right) \end{aligned}` `\begin{aligned} & P=\left(F_{1}(1), 0,0,0\right) \\ & \xrightarrow{f} \boldsymbol{e}_{2} \wedge \boldsymbol{e}_{4} \wedge \boldsymbol{e}_{5}+ \boldsymbol{e}_{3} \wedge \boldsymbol{e}_{6} \wedge \boldsymbol{e}_{4} \\ & \xrightarrow{D}\left(D e_{2} \wedge e_{4} \wedge e_{5}+e_{2} \wedge D e_{4} \wedge e_{5}+e_{2} \wedge e_{4} \wedge D e_{5}\right) \\ & +\left(D e_{3} \wedge e_{6} \wedge e_{4}+e_{3} \wedge D e_{6} \wedge e_{4}+e_{3} \wedge e_{6} \wedge D e_{4}\right) \\ & =\left(b_{12} \boldsymbol{e}_{1} \wedge \boldsymbol{e}_{4} \wedge \boldsymbol{e}_{5}+ \left(b_{22}+\frac{\nu}{3}\right) \boldsymbol{e}_{2} \wedge \boldsymbol{e}_{4} \wedge \boldsymbol{e}_{5}- \bar{b}_{23} \boldsymbol{e}_{3} \wedge \boldsymbol{e}_{4} \wedge \boldsymbol{e}_{5}-\bar{l}_{23} \boldsymbol{e}_{6} \wedge \boldsymbol{e}_{4} \wedge \boldsymbol{e}_{5} \right. \\ & \left.+l_{11} \boldsymbol{e}_{2} \wedge \boldsymbol{e}_{1} \wedge \boldsymbol{e}_{5}+l_{31} \boldsymbol{e}_{2} \wedge \boldsymbol{e}_{3} \wedge \boldsymbol{e}_{5}+\left(c_{11}-\frac{\nu}{3}\right) \boldsymbol{e}_{2} \wedge \boldsymbol{e}_{4} \wedge \boldsymbol{e}_{5}-\bar{c}_{13} \boldsymbol{e}_{2} \wedge \boldsymbol{e}_{6} \wedge \boldsymbol{e}_{5} \right. \\ & \left.+l_{12} \boldsymbol{e}_{2} \wedge \boldsymbol{e}_{4} \wedge \boldsymbol{e}_{1}+l_{32} \boldsymbol{e}_{2} \wedge \boldsymbol{e}_{4} \wedge \boldsymbol{e}_{3}+\left(c_{22}-\frac{\nu}{3}\right) \boldsymbol{e}_{3} \wedge \boldsymbol{e}_{6} \wedge \boldsymbol{e}_{4}-\bar{c}_{23} \boldsymbol{e}_{2} \wedge \boldsymbol{e}_{4} \wedge \boldsymbol{e}_{6}\right) \\ & +\left(b_{13} \boldsymbol{e}_{1} \wedge \boldsymbol{e}_{6} \wedge \boldsymbol{e}_{4}+b_{23} \boldsymbol{e}_{2} \wedge \boldsymbol{e}_{6} \wedge \boldsymbol{e}_{4}+\left(b_{33}+\frac{\nu}{3}\right) \boldsymbol{e}_{3} \wedge \boldsymbol{e}_{6} \wedge \boldsymbol{e}_{4}-\bar{l}_{32} \boldsymbol{e}_{5} \wedge \boldsymbol{e}_{6} \wedge \boldsymbol{e}_{4} \right. \\ & \left.+l_{13} \boldsymbol{e}_{3} \wedge \boldsymbol{e}_{1} \wedge \boldsymbol{e}_{4}+l_{23} \boldsymbol{e}_{3} \wedge \boldsymbol{e}_{2} \wedge \boldsymbol{e}_{4}+c_{23} \boldsymbol{e}_{3} \wedge \boldsymbol{e}_{5} \wedge \boldsymbol{e}_{4}+\left(c_{33}-\frac{\nu}{3}\right) \boldsymbol{e}_{3} \wedge \boldsymbol{e}_{6} \wedge \boldsymbol{e}_{4} \right. \\ & \left.+l_{11} e_{3} \wedge e_{6} \wedge e_{1}+l_{21} e_{3} \wedge e_{6} \wedge e_{2}+\left(c_{11}-\frac{\nu}{3}\right) e_{3} \wedge e_{6} \wedge e_{4}-\bar{c}_{12} e_{3} \wedge e_{6} \wedge e_{5}\right) \\ & \xrightarrow{f^{-1}}\left(\begin{array}{ccc} 0 & h\left(b_{13}, c_{13}\right) & 0 \\ * & h\left(b_{23}+\bar{c}_{23}\right) & h\left(b_{22}-c_{33}-\frac{\nu}{3},-b_{33}+c_{33}+\frac{\nu}{3}\right) \\ * & & -h\left(\bar{b}_{23}+c_{23}\right) \end{array}\right) \end{aligned}`	

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0093	19	■0.382	`\begin{aligned} H_{1} H_{1} e_{2} & =H_{1} e_{3}=-e_{2}, \quad \end{aligned}`	$H_1 H_1 e_2 = H_1 e_3 = -e_2,$	$H_1H_1e_2 = H_1e_3 = -e_2, \quad H_1H_1e_3 = -H_1e_2 = -e_3,$ $H_1H_1e_4 = -H_1e_5 = -e_4, \quad H_1H_1e_5 = H_1e_4 = -e_,$ $H_1H_1e_i = 0$ otherwise.
0902.0431_EQ0371	61	■0.388	`\begin{aligned} & \operatorname{tr}(X)=\operatorname{tr}(\alpha X)(\text { Lemma 2.2.1.(2) })=\sum_{i=1}^{3} \xi_{i}, \\ & (X, X)=(\alpha X, \alpha X)(\text { Lemma 2.2.4 })=\sum_{i=1}^{3} \xi_{i}{ }^{2}, \\ & \operatorname{tr}(X, X, X)=\operatorname{tr}(\alpha X, \alpha X, \alpha X)(\text { Lemma 2.2.4 })=\sum_{i=1}^{3} \xi_{i}{ }^{3} . \end{aligned}`	$\operatorname{tr}(X) = \operatorname{tr}(\alpha X)(\text{ Lemma 2.2.1.(2) }) = \sum_{i=1}^{3} \xi_i,$ $(X, X) = (\alpha X, \alpha X)(\text{ Lemma 2.2.4 }) = \sum_{i=1}^{3} \xi_i{}^2,$ $\operatorname{tr}(X, X, X) = \operatorname{tr}(\alpha X, \alpha X, \alpha X)(\text{ Lemma 2.2.4 }) = \sum_{i=1}^{3} \xi_i{}^3.$	$\operatorname{tr}(X) = \operatorname{tr}(\alpha X)\ (\text{Lemma 2.2.1.(2)}) \ = \sum_{i=1}^{3} \xi_i,$ $(X, X) = (\alpha X, \alpha X)\ (\text{Lemma 2.2.4}) \ = \sum_{i=1}^{3} \xi_i{}^2,$ $\operatorname{tr}(X, X, X) = \operatorname{tr}(\alpha X, \alpha X, \alpha X)\ (\text{Lemma 2.2.4}) \ = \sum_{i=1}^{3} \xi_i{}^3.$
0902.0431_EQ0602	100	■0.396	`\left.\left.\begin{array}{rl} \left(\mathfrak{J}^{C} \right)_{\tau \gamma} & =\left\{X \in \mathfrak{J}^{C} \mid \tau \gamma X=X\right\} \\ & =\left\{\left(\begin{array}{ccc} \mu_{1} & m_{3} & \bar{m}_{2} \\ \bar{m}_{3} & \mu_{2} & m_{1} \\ m_{2} & \bar{m}_{1} & \mu_{3} \end{array}\right)+i\left(\begin{array}{ccc} 0 & a_{3} e_{4} & -a_{2} e_{4} \\ -a_{3} e_{4} & 0 & a_{1} e_{4} \\ a_{2} e_{4} & -a_{1} e_{4} & 0 \end{array}\right)\right. \end{array} \right\rvert\, \begin{array}{l} \mu_{i} \in \boldsymbol{R} \\ m_{i}, a_{i} \in \boldsymbol{H} \end{array}\right\}`	$\begin{aligned} (\mathfrak{J}^C)_{\tau\gamma} & = \{X \in \mathfrak{J}^C \mid \tau\gamma X = X\} \\ & = \left\{ \left.\begin{pmatrix} \mu_1 & m_3 & \bar{m}_2 \\ \bar{m}_3 & \mu_2 & m_1 \\ m_2 & \bar{m}_1 & \mu_3 \end{pmatrix} + i \begin{pmatrix} 0 & a_3e_4 & -a_2e_4 \\ -a_3e_4 & 0 & a_1e_4 \\ a_2e_4 & -a_1e_4 & 0 \end{pmatrix} \right\rvert\, \begin{array}{l} \mu_i \in \boldsymbol{R} \\ m_i, a_i \in \boldsymbol{H} \end{array} \right\} \end{aligned}$	$\begin{aligned} (\mathfrak{J}^C)_{\tau\gamma} & = \{X \in \mathfrak{J}^C \mid \tau\gamma X = X\} \\ & = \left\{ \left.\begin{pmatrix} \mu_1 & m_3 & \overline{m}_2 \\ \overline{m}_3 & \mu_2 & m_1 \\ m_2 & \overline{m}_1 & \mu_3 \end{pmatrix} + i \begin{pmatrix} 0 & a_3e_4 & -a_2e_4 \\ -a_3e_4 & 0 & a_1e_4 \\ a_2e_4 & -a_1e_4 & 0 \end{pmatrix} \right\rvert\, \begin{array}{l} \mu_i \in \boldsymbol{R} \\ m_i, a_i \in \boldsymbol{H} \end{array} \right\} \end{aligned}$

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0902.0431_EQ0900	149	■ 0.397	\begin{aligned} P= & (X, Y, \xi, \eta) \\ \stackrel{ \chi}{\longrightarrow} & k\left(g X-\frac{\xi}{2} E \right) J+e_{1} k\left(g(\gamma Y)-\frac{\eta}{2} E \right) J \\ \longrightarrow & e_{1} k(T) k\left(g X-\frac{\xi}{2} E\right) J-k(T) k\left(g(\gamma Y)-\frac{ \eta}{2} E\right) J \\ & +e_{1} k\left(g X-\frac{\xi}{2} E\right) J^{t} k(T)-k\left(g(\gamma Y)-\frac{\eta}{2} E\right) J^{t} k(T) \\ = & k(-T g(\gamma Y)-g(\gamma Y) T+\eta T) J+e_{1} k(T(g X)+(g X) T-\xi T) J \\ = & k(-2 g A \circ g(\gamma Y)+\eta g A) J+e_{1} k(2 g A \circ g X-\xi g A) J \\ = & k\left(-2 g(\gamma A \times Y)-\frac{1}{2}(A, Y) E+\eta g A\right) J \\ & +e_{1} k\left(2 g(\gamma A \times \gamma X)+\frac{1}{2}(\gamma A, X) E-\xi g A\right) J(\text { Lemma } 3.12 .1) \\ = & \chi\left(\begin{array}{cccc} -2 \gamma A \times Y+ \eta A \\ 2 A \times X-\xi \gamma A \\ (A, Y) \end{array} \right)=\chi\left(\left(\begin{array}{cccc} 0 & -2 \gamma A & 0 & A \\ 2 A & 0 & -\gamma A & 0 \\ 0 & A & 0 & 0 \\ -\gamma A & 0 & 0 & 0 \end{array}\right) \left(\begin{array}{c} X \\ Y \\ \xi \\ \eta \end{array} \right)\right) \\ = & \chi(\Phi(0, A,-\gamma A, 0) P) \end{aligned}	$\begin{aligned} P= & (X, Y, \xi, \eta) \\ \stackrel{ \chi}{\longrightarrow} & k\left(g X-\frac{\xi}{2} E \right) J+e_{1} k\left(g(\gamma Y)-\frac{\eta}{2} E \right) J \\ \longrightarrow & e_{1} k(T) k\left(g X-\frac{\xi}{2} E\right) J-k(T) k\left(g(\gamma Y)-\frac{ \eta}{2} E\right) J \\ & +e_{1} k\left(g X-\frac{\xi}{2} E\right) J^{t} k(T)-k\left(g(\gamma Y)-\frac{\eta}{2} E\right) J^{t} k(T) \\ = & k(-T g(\gamma Y)-g(\gamma Y) T+\eta T) J+e_{1} k(T(g X)+(g X) T-\xi T) J \\ = & k(-2 g A \circ g(\gamma Y)+\eta g A) J+e_{1} k(2 g A \circ g X-\xi g A) J \\ = & k\left(-2 g(\gamma A \times Y)-\frac{1}{2}(A, Y) E+\eta g A\right) J \\ & +e_{1} k\left(2 g(\gamma A \times \gamma X)+\frac{1}{2}(\gamma A, X) E-\xi g A\right) J(\text { Lemma } 3.12.1) \\ = & \chi\left(\begin{array}{cccc} -2 \gamma A \times Y+\eta A \\ 2 A \times X-\xi \gamma A \\ (A, Y) \end{array} \right)=\chi\left(\left(\begin{array}{cccc} 0 & -2 \gamma A & 0 & A \\ 2 A & 0 & -\gamma A & 0 \\ 0 & A & 0 & 0 \\ -\gamma A & 0 & 0 & 0 \end{array}\right) \left(\begin{array}{c} X \\ Y \\ \xi \\ \eta \end{array} \right)\right) \\ = & \chi(\Phi(0, A,-\gamma A, 0) P) \end{aligned}$	$\begin{aligned} P= & (X, Y, \xi, \eta) \\ \stackrel{ \chi}{\longrightarrow} & k\left(g X-\frac{\xi}{2} E \right) J+e_{1} k\left(g(\gamma Y)-\frac{\eta}{2} E \right) J \\ \longrightarrow & e_{1} k(T) k\left(g X-\frac{\xi}{2} E\right) J-k(T) k\left(g(\gamma Y)-\frac{ \eta}{2} E\right) J \\ & +e_{1} k\left(g X-\frac{\xi}{2} E\right) J^{t} k(T)-k\left(g(\gamma Y)-\frac{\eta}{2} E\right) J^{t} k(T) \\ = & k(-T g(\gamma Y)-g(\gamma Y) T+\eta T) J+e_{1} k(T(g X)+(g X) T-\xi T) J \\ = & k(-2 g A \circ g(\gamma Y)+\eta g A) J+e_{1} k(2 g A \circ g X-\xi g A) J \\ = & k\left(-2 g(\gamma A \times Y)-\frac{1}{2}(A, Y) E+\eta g A\right) J \\ & +e_{1} k\left(2 g(\gamma A \times \gamma X)+\frac{1}{2}(\gamma A, X) E-\xi g A\right) J(\text { Lemma } 3.12.1) \\ = & \chi\left(\begin{array}{cccc} -2 \gamma A \times Y+\eta A \\ 2 A \times X-\xi \gamma A \\ (A, Y) \\ (-\gamma A, X) \end{array} \right)=\chi\left(\left(\begin{array}{cccc} 0 & -2 \gamma A & 0 & A \\ 2 A & 0 & -\gamma A & 0 \\ 0 & A & 0 & 0 \\ -\gamma A & 0 & 0 & 0 \end{array}\right) \left(\begin{array}{c} X \\ Y \\ \xi \\ \eta \end{array} \right)\right) \\ = & \chi(\Phi(0, A,-\gamma A, 0) P). \end{aligned}$
0902.0431_EQ1080	183	■ 0.403	S_{1} \tau S_{2}-S_{2} \tau S_{1}-\frac{1}{8}\left(S_{1} \tau S_{2}-S_{2} \tau S_{1}\right) \in \mathfrak{s u}(8),	$S_1 \tau S_2-S_2 \tau S_1-\frac{1}{8}\left(S_1 \tau S_2-S_2 \tau S_1\right) \in \mathfrak{su}(8),$	$S_1 \tau S_2-S_2 \tau S_1-\frac{1}{8}\left(S_1 \tau S_2-S_2 \tau S_1\right) \in \mathfrak{su}(8),$
0902.0431_EQ1030	173	■ 0.410	\begin{aligned} & \lambda_{0}+\frac{1}{2} \mu_{1}-\frac{2}{3} \nu=2 \quad 4 \quad 5 \quad 4 \quad 3 \quad 2 \\ & \lambda_{0}-\frac{1}{2} \mu_{1}+\frac{2}{3} \nu=2 \quad 3 \quad 5 \quad 4 \\ & \lambda_{1}+\frac{1}{2} \mu_{1}-\frac{2}{3} \nu=0 \quad 1 \quad 1 \quad 1 \quad 2 \\ & \lambda_{1}-\frac{1}{2} \mu_{1}+\frac{2}{3} \nu=0 \quad 0 \quad 1 \quad 1 \quad 1 \quad 1 \quad 1 \quad 1 \end{aligned}	$\begin{aligned} & \lambda_{0}+\frac{1}{2} \mu_{1}-\frac{2}{3} \nu=2 \quad 4 \quad 5 \quad 4 \quad 3 \quad 2 \\ & \lambda_{0}-\frac{1}{2} \mu_{1}+\frac{2}{3} \nu=2 \quad 3 \quad 5 \quad 4 \\ & \lambda_{1}+\frac{1}{2} \mu_{1}-\frac{2}{3} \nu=0 \quad 1 \quad 1 \quad 1 \quad 2 \\ & \lambda_{1}-\frac{1}{2} \mu_{1}+\frac{2}{3} \nu=0 \quad 0 \quad 1 \quad 1 \quad 1 \quad 1 \quad 1 \quad 1 \end{aligned}$	$\begin{aligned} & \lambda_{0}+\frac{1}{2} \mu_{1}-\frac{2}{3} \nu=2 \quad 4 \quad 5 \quad 4 \quad 3 \quad 2 \quad 1 \quad 2 \\ & \lambda_{0}-\frac{1}{2} \mu_{1}+\frac{2}{3} \nu=2 \quad 3 \quad 5 \quad 4 \quad 3 \quad 2 \quad 1 \quad 3 \\ & \lambda_{1}+\frac{1}{2} \mu_{1}-\frac{2}{3} \nu=0 \quad 1 \quad 1 \quad 1 \quad 1 \quad 1 \quad 1 \quad 0 \\ & \lambda_{1}-\frac{1}{2} \mu_{1}+\frac{2}{3} \nu=0 \quad 0 \quad 1 \quad 1 \quad 1 \quad 1 \quad 1 \quad 1 \end{aligned}$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0492	81	■0.411	`\delta\left(\begin{array}{ccc} \xi_{1} & x_{12} & x_{13} \\ x_{21} & \xi_{2} & x_{23} \\ x_{31} & x_{32} & \xi_{3} \end{array}\right)=\left(\begin{array}{ccc} 0 & \delta_{3} x_{12} & \bar{\delta}_{2} \bar{x}_{13} \\ \bar{\delta}_{3} \bar{x}_{21} & 0 & \delta_{1} x_{23} \\ \delta_{2} x_{31} & \bar{\delta}_{1} \bar{x}_{32} & 0 \end{array}\right) .`	$\delta\left(\begin{array}{ccc} \xi_{1} & x_{12} & x_{13} \\ x_{21} & \xi_{2} & x_{23} \\ x_{31} & x_{32} & \xi_{3} \end{array}\right)=\left(\begin{array}{ccc} 0 & \delta_{3} x_{12} & \bar{\delta}_{2} \bar{x}_{13} \\ \bar{\delta}_{3} \bar{x}_{21} & 0 & \delta_{1} x_{23} \\ \delta_{2} x_{31} & \bar{\delta}_{1} \bar{x}_{32} & 0 \end{array}\right) .$	$\delta\left(\begin{array}{ccc} \xi_{1} & x_{12} & x_{13} \\ x_{21} & \xi_{2} & x_{23} \\ x_{31} & x_{32} & \xi_{3} \end{array}\right)=\left(\begin{array}{ccc} 0 & \delta_{3} x_{12} & \overline{\delta_{2} \overline{x}_{13}} \\ \overline{\delta_{3} \overline{x}_{21}} & 0 & \delta_{1} x_{23} \\ \delta_{2} x_{31} & \overline{\delta_{1} \overline{x}_{32}} & 0 \end{array}\right) .$
0902.0431_EQ1097	186	■0.420	`\begin{aligned} \zeta[(i c E), l(S) I]=\zeta(2 l(i c S) I) \\ \quad=\Theta\left(0,4 \lambda \gamma \chi^{-1}(i c S), 4 \chi^{-1}(i c S), 0,0,0\right) \\ \quad=\Theta \left(0,4 \chi^{-1}(c S),-4 \lambda \gamma \chi^{-1}(c S), 0,0,0\right) \quad(\text { Lemma 5.8.3 }) \\ \quad= \left[\Theta(0,0,0,0,2 c,-2 c), \Theta\left(0,2 \lambda \gamma \chi^{-1} S, 2 \chi^{-1} S, 0,0,0\right)\right] \\ \quad=[\zeta l(i c E), \zeta(l(S) I)] . \end{aligned}`	$\begin{aligned} \zeta[(icE), l(S)I] &= \zeta(2l(icS)I) \\ &= \Theta\left(0, 4\lambda\gamma\chi^{-1}(icS), 4\chi^{-1}(icS), 0, 0, 0\right) \\ &= \Theta\left(0, 4\chi^{-1}(cS), -4\lambda\gamma\chi^{-1}(cS), 0, 0, 0\right) \quad (\text{ Lemma 5.8.3 }) \\ &= \left[\Theta(0, 0, 0, 0, 2c, -2c), \Theta\left(0, 2\lambda\gamma\chi^{-1}S, 2\chi^{-1}S, 0, 0, 0\right)\right] \\ &= [\zeta l(icE), \zeta(l(S)I)]. \end{aligned}$	$\begin{aligned} \zeta[(icE), l(S)I] &= \zeta(2l(icS)I) \\ &= \Theta(0, 4\lambda\gamma\chi^{-1}(icS), 4\chi^{-1}(icS), 0, 0, 0) \\ &= \Theta(0, 4\chi^{-1}(cS), -4\lambda\gamma\chi^{-1}(cS), 0, 0, 0) \quad (\text{Lemma 5.8.3}) \\ &= [\Theta(0, 0, 0, 0, 2c, -2c), \Theta(0, 2\lambda\gamma\chi^{-1}S, 2\chi^{-1}S, 0, 0, 0)] \\ &= [\zeta l(icE), \zeta(l(S)I)]. \end{aligned}$
0902.0431_EQ0694	115	■0.434	`\mathfrak{e}_{7}^{C} \ni f_{r} \Phi f_{r}{ }^{-1}=\left( \begin{array}{cccc} g & r^{-1} l & r^{-2} C & r A \\ r k & h & r^{-1} B & r^{2} D \\ r^{2} c & r a & \nu & r^{3} \lambda \\ r^{-1} b & r^{-2} d & r^{-3} k & \mu \end{array}\right)`	$\mathfrak{e}_7^C \ni f_r \Phi f_r{}^{-1}=\left(\begin{array}{cccc} g & r^{-1} l & r^{-2} C & r A \\ r k & h & r^{-1} B & r^{2} D \\ r^{2} c & r a & \nu & r^{3} \lambda \\ r^{-1} b & r^{-2} d & r^{-3} k & \mu \end{array}\right)$	$\mathfrak{e}_7{}^C \ni f_r \Phi f_r{}^{-1}=\left(\begin{array}{cccc} g & r^{-1} l & r^{-2} C & r A \\ r k & h & r^{-1} B & r^{2} D \\ r^{2} c & r a & \nu & r^{3} \lambda \\ r^{-1} b & r^{-2} d & r^{-3} k & \mu \end{array}\right)$
0902.0431_EQ0642	106	■0.434	`\begin{aligned} & h(a, b)+h\left(a^{\prime}, b^{\prime} \right)=h\left(a+a^{\prime}, b+b^{\prime}\right), \quad h(c a, c b)=c h(a, b), c \in \boldsymbol{C} \\ & h(A, B)+h\left(A^{\prime}, B^{\prime}\right)=h\left(A+A^{ \prime}, B+B^{\prime}\right), \quad h(c A, c B)=h(A, B), c \in C . \end{aligned}`	$\begin{aligned} & h(a, b)+h\left(a^{\prime}, b^{\prime} \right)=h\left(a+a^{\prime}, b+b^{\prime}\right), \quad h(c a, c b)=c h(a, b), c \in \boldsymbol{C} \\ & h(A, B)+h\left(A^{\prime}, B^{\prime}\right)=h\left(A+A^{ \prime}, B+B^{\prime}\right), \quad h(c A, c B)=h(A, B), c \in C . \end{aligned}$	$\begin{aligned} & h(a, b)+h\left(a^{\prime}, b^{\prime} \right)=h\left(a+a^{\prime}, b+b^{\prime}\right), \quad h(c a, c b)=c h(a, b), c \in \boldsymbol{C}, \\ & h(A, B)+h\left(A^{\prime}, B^{\prime}\right)=h\left(A+A^{ \prime}, B+B^{\prime}\right), \quad h(c A, c B)=h(A, B), c \in \boldsymbol{C}. \end{aligned}$
0902.0431_EQ0558	94	■0.435	`\begin{array}{clcccccc} 1 & \longrightarrow & S p i n(9) & \longrightarrow & \left(E_{6}\right)_{E_{1}} & \longrightarrow & S^{9} & \longrightarrow & * \\ & & \downarrow p^{\prime} & & \downarrow p & & \downarrow= & & \\ 1 & \longrightarrow & S O(9) & \longrightarrow & S O(10) & \longrightarrow & S^{9} & \longrightarrow & * \end{array}`	$\begin{array}{clcccccc} 1 & \longrightarrow & Spin(9) & \longrightarrow & \left(E_{6}\right)_{E_{1}} & \longrightarrow & S^{9} & \longrightarrow & * \\ & & \downarrow p^{\prime} & & \downarrow p & & \downarrow= & & \\ 1 & \longrightarrow & SO(9) & \longrightarrow & SO(10) & \longrightarrow & S^{9} & \longrightarrow & * \end{array}$	$\begin{array}{clcccccc} 1 & \longrightarrow & Spin(9) & \longrightarrow & \left(E_{6}\right)_{E_{1}} & \longrightarrow & S^{9} & \longrightarrow & * \\ & & \downarrow p^{\prime} & & \downarrow p & & \downarrow= & & \\ 1 & \longrightarrow & SO(9) & \longrightarrow & SO(10) & \longrightarrow & S^{9} & \longrightarrow & * \end{array}$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0332	53	0.438	`\begin{aligned} \pm\left(\lambda_{k}-\lambda_{l} \right), & \pm\left(\lambda_{k}+\lambda_{l}\right), \quad 0 \leq k<l \leq 3, \\ \pm \lambda_{0}, \quad \pm \lambda_{1}, \quad & \pm \lambda_{2}, \quad \pm \lambda_{3}, \\ \pm \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3}\right), & \pm \frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right), \\ \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right), & \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right), \\ \pm \frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right), & \pm \frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right), \\ \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right), & \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right), \\ \pm \frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right), & \pm \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right) . \end{aligned}`	$$\begin{aligned} \pm\left(\lambda_{k}-\lambda_{l} \right), & \pm\left(\lambda_{k}+\lambda_{l}\right), \quad 0 \leq k<l \leq 3, \\ \pm \lambda_{0}, \quad \pm \lambda_{1}, \quad & \pm \lambda_{2}, \quad \pm \lambda_{3}, \\ \pm \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3}\right), & \pm \frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right), \\ \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right), & \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right), \\ \pm \frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right), & \pm \frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right), \\ \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right), & \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right), \\ \pm \frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right), & \pm \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right) . \end{aligned}$$	$$\begin{aligned} \pm\left(\lambda_{k}-\lambda_{l} \right), & \pm\left(\lambda_{k}+\lambda_{l}\right), \quad 0 \leq k<l \leq 3, \\ \pm \lambda_{0}, \quad \pm \lambda_{1}, \quad & \pm \lambda_{2}, \quad \pm \lambda_{3}, \\ \pm \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3}\right), & \pm \frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right), \\ \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right), & \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right), \\ \pm \frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right), & \pm \frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right), \\ \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right), & \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right), \\ \pm \frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right), & \pm \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right). \end{aligned}$$
0902.0431_EQ1211	203	0.448	`\begin{aligned} \exp (\operatorname{ad} & (Z, 0))(C, D, \boldsymbol{x} \otimes \boldsymbol{a}, \boldsymbol{b} \otimes \boldsymbol{y}, \boldsymbol{c} \otimes \boldsymbol{z}, \boldsymbol{w} \otimes \boldsymbol{d}) \\ = & (\exp (\operatorname{ad}(Z)) C, D,((\exp Z) \boldsymbol{x}) \otimes \boldsymbol{a}, \\ & ((\exp Z) \boldsymbol{b}) \otimes \boldsymbol{y},\left(\left(\exp \left(-{ }^{t} Z\right)\right) \boldsymbol{c} \otimes \boldsymbol{z},\left(\left(\exp \left(-{ }^{t} Z\right) \right) \boldsymbol{w}\right) \otimes \boldsymbol{d} \right) \\ = & (\operatorname{Ad}(\exp Z) C, D,((\exp Z) \boldsymbol{x}) \otimes \boldsymbol{a}, \\ & \left.((\exp Z) \boldsymbol{b}) \otimes \boldsymbol{y},\left({ }^{t}(\exp Z)^{-1} \boldsymbol{c}\right) \otimes \boldsymbol{z},\left({ }^{t}(\exp Z)^{-1} \boldsymbol{w}\right) \otimes \boldsymbol{d}\right) \\ = & \varphi_{1}(\exp Z)(C, D, \boldsymbol{x} \otimes \boldsymbol{a}, \boldsymbol{b} \otimes \boldsymbol{y}, \boldsymbol{c} \otimes \boldsymbol{z}, \boldsymbol{w} \otimes \boldsymbol{d}) . \end{aligned}`	$$\begin{aligned} \exp(\operatorname{ad} & (Z, 0))(C, D, \boldsymbol{x} \otimes \boldsymbol{a}, \boldsymbol{b} \otimes \boldsymbol{y}, \boldsymbol{c} \otimes \boldsymbol{z}, \boldsymbol{w} \otimes \boldsymbol{d}) \\ =&(\exp(\operatorname{ad}(Z))C, D, ((\exp Z)\boldsymbol{x}) \otimes \boldsymbol{a}, \\ & ((\exp Z)\boldsymbol{b}) \otimes \boldsymbol{y},\left(\left(\exp \left(-{}^{t} Z\right)\right) \boldsymbol{c} \otimes \boldsymbol{z},\left(\left(\exp \left(-{}^{t} Z\right)\right) \boldsymbol{w}\right) \otimes \boldsymbol{d}\right) \\ =&(\operatorname{Ad}(\exp Z)C, D, ((\exp Z)\boldsymbol{x}) \otimes \boldsymbol{a}, \\ & ((\exp Z)\boldsymbol{b}) \otimes \boldsymbol{y},\left({}^{t}(\exp Z)^{-1}\boldsymbol{c}\right) \otimes \boldsymbol{z},\left({}^{t}(\exp Z)^{-1}\boldsymbol{w}\right) \otimes \boldsymbol{d}\right) \\ =&\varphi_1(\exp Z)(C, D, \boldsymbol{x} \otimes \boldsymbol{a}, \boldsymbol{b} \otimes \boldsymbol{y}, \boldsymbol{c} \otimes \boldsymbol{z}, \boldsymbol{w} \otimes \boldsymbol{d}). \end{aligned}$$	$$\begin{aligned} \exp(\operatorname{ad} & (Z, 0))(C, D, \boldsymbol{x} \otimes \boldsymbol{a}, \boldsymbol{b} \otimes \boldsymbol{y}, \boldsymbol{c} \otimes \boldsymbol{z}, \boldsymbol{w} \otimes \boldsymbol{d}) \\ = & (\exp(\operatorname{ad}(Z))C, D, ((\exp Z)\boldsymbol{x}) \otimes \boldsymbol{a}, \\ & ((\exp Z)\boldsymbol{b}) \otimes \boldsymbol{y}, ((\exp(-{}^{t}Z))\boldsymbol{c} \otimes \boldsymbol{z}, ((\exp(-{}^{t}Z))\boldsymbol{w}) \otimes \boldsymbol{d}) \\ = & (\operatorname{Ad}(\exp Z)C, D, ((\exp Z)\boldsymbol{x}) \otimes \boldsymbol{a}, \\ & ((\exp Z)\boldsymbol{b}) \otimes \boldsymbol{y}, ({}^{t}(\exp Z)^{-1}\boldsymbol{c}) \otimes \boldsymbol{z}, ({}^{t}(\exp Z)^{-1}\boldsymbol{w}) \otimes \boldsymbol{d}) \\ = & \varphi_1(\exp Z)(C, D, \boldsymbol{x} \otimes \boldsymbol{a}, \boldsymbol{b} \otimes \boldsymbol{y}, \boldsymbol{c} \otimes \boldsymbol{z}, \boldsymbol{w} \otimes \boldsymbol{d}). \end{aligned}$$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ1039	177	0.452	`\begin{aligned} H_{\alpha_{3}} & =\left(0,0,0, \frac{1}{60}, 0,0\right), \\ H_{\alpha_{4}} & =\left(\Phi\left(\frac{1}{90}\left(-E_{1}+2 E_{2}-E_{3} \right)^{\sim}, 0,0,-\frac{1}{120}\right), 0,0,- \frac{1}{120}, 0,0\right), \\ H_{\alpha_{5}} & =\left(\Phi\left(\frac{1}{60}\left(H_{3}-\left(E_{2}-E_{3} \right)^{\sim}\right), 0,0,0\right), 0,0,0,0,0\right), \\ H_{\alpha_{6}} & =\left(\Phi\left(\frac{1}{60} \left(H_{2}-H_{3}\right), 0,0,0\right), 0,0,0,0,0\right), \\ H_{\alpha_{7}} & =\left(\Phi\left(\frac{1}{60} \left(H_{1}-H_{2}\right), 0,0,0\right), 0,0,0,0,0\right), \\ H_{\alpha_{8}} & =\left(\Phi\left(0,0,0, \frac{1}{40} \right), 0,0,-\frac{1}{120}, 0,0\right) . \end{aligned}`	$$\begin{aligned} H_{\alpha_{3}} & =\left(0,0,0, \frac{1}{60}, 0,0\right), \\ H_{\alpha_{4}} & =\left(\Phi\left(\frac{1}{90}\left(-E_{1}+2 E_{2}-E_{3} \right)^{\sim}, 0,0,-\frac{1}{120}\right), 0,0,- \frac{1}{120}, 0,0\right), \\ H_{\alpha_{5}} & =\left(\Phi\left(\frac{1}{60}\left(H_{3}-\left(E_{2}-E_{3} \right)^{\sim}\right), 0,0,0\right), 0,0,0,0,0\right), \\ H_{\alpha_{6}} & =\left(\Phi\left(\frac{1}{60} \left(H_{2}-H_{3}\right), 0,0,0\right), 0,0,0,0,0\right), \\ H_{\alpha_{7}} & =\left(\Phi\left(\frac{1}{60} \left(H_{1}-H_{2}\right), 0,0,0\right), 0,0,0,0,0\right), \\ H_{\alpha_{8}} & =\left(\Phi\left(0,0,0, \frac{1}{40} \right), 0,0,-\frac{1}{120}, 0,0\right) . \end{aligned}$$	$$\begin{aligned} H_{\alpha_{3}} & =\left(0,0,0, \frac{1}{60}, 0,0\right), \\ H_{\alpha_{4}} & =\left(\Phi\left(\frac{1}{90}(-E_{1}+2 E_{2}-E_{3})^{\sim}, 0,0,-\frac{1}{120}\right), 0,0,-\frac{1}{120}, 0,0\right), \\ H_{\alpha_{5}} & =\left(\Phi\left(\frac{1}{60}(H_{3}-(E_{2}-E_{3})^{\sim}), 0,0,0\right), 0,0,0,0,0\right), \\ H_{\alpha_{6}} & =\left(\Phi\left(\frac{1}{60}(H_{2}-H_{3}), 0,0,0\right), 0,0,0,0,0\right), \\ H_{\alpha_{7}} & =\left(\Phi\left(\frac{1}{60}(H_{1}-H_{2}), 0,0,0\right), 0,0,0,0,0\right), \\ H_{\alpha_{8}} & =\left(\Phi\left(0,0,0, \frac{1}{40}\right), 0,0,-\frac{1}{120}, 0,0\right). \end{aligned}$$
0902.0431_EQ0939	156	0.471	`\left.\begin{array}{l} \xrightarrow{\stackrel{f^{-1}}{ \longrightarrow}}\left(\begin{array}{ccc} h \left(b_{11}-c_{11}-\frac{\nu}{3}\right) & -h \left(c_{12}, b_{12}\right) & -h\left(c_{13}, b_{13} \right) \\ -h\left(\bar{b}_{12}, \bar{c}_{12}\right) & 0 & 0 \\ -h\left(\bar{b}_{13}, \bar{c}_{13}\right) & 0 & 0 \end{array}\right) \\ =\left(\begin{array}{ccc} 0 & 0 & 0 \\ 0 & h\left(l_{33}\right) & -h\left(l_{23}, \bar{l}_{32}\right) \\ 0 & -h\left(l_{32}, \bar{l}_{23}\right) & h\left(l_{22}\right) \end{array}\right) \\ 0 \\ -h\left(\bar{l}_{11}\right) \end{array}\right) .`	$$\left.\begin{array}{l} \xrightarrow{\stackrel{f^{-1}}{ \longrightarrow}}\left(\begin{array}{ccc} h \left(b_{11}-c_{11}-\frac{\nu}{3}\right) & -h \left(c_{12}, b_{12}\right) & -h\left(c_{13}, b_{13} \right) \\ -h\left(\bar{b}_{12}, \bar{c}_{12}\right) & 0 & 0 \\ -h\left(\bar{b}_{13}, \bar{c}_{13}\right) & 0 & 0 \end{array}\right) \\ =\left(\begin{array}{ccc} 0 & 0 & 0 \\ 0 & h\left(l_{33}\right) & -h\left(l_{23}, \bar{l}_{32}\right) \\ 0 & -h\left(l_{32}, \bar{l}_{23}\right) & h\left(l_{22}\right) \end{array}\right) \\ 0 \\ -h\left(\bar{l}_{11}\right) \end{array}\right) .$$	$$\xrightarrow{f^{-1}}\left(\begin{array}{c} \left(\begin{array}{ccc} h\left(b_{11}-c_{11}-\frac{\nu}{3}\right) & -h(c_{12}, b_{12}) & -h(c_{13}, b_{13}) \\ -h(\bar{b}_{12}, \bar{c}_{12}) & 0 & 0 \\ -h(\bar{b}_{13}, \bar{c}_{13}) & 0 & 0 \end{array}\right) \\ \left(\begin{array}{ccc} 0 & 0 & 0 \\ 0 & h(l_{33}) & -h(l_{23}, \bar{l}_{32}) \\ 0 & -h(l_{32}, \bar{l}_{23}) & h(l_{22}) \end{array}\right) \\ 0 \\ -h(\bar{l}_{11}) \end{array}\right) = \left(\begin{array}{c} \phi_{\boldsymbol{C}}(B, C) E_{1}+\frac{i \nu e_{1}}{3} E_{1} \\ 2 h(L) \times E_{1} \\ 0 \\ -(\tau h(L), E_{1}) \end{array}\right) = \Phi(\phi_{\boldsymbol{C}}(B, C), h(L), -\tau h(L), -i \nu e_{1}) \left(\begin{array}{c} E_{1} \\ 0 \\ 0 \\ 0 \end{array}\right) .$$

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0902.0431_EQ1196	201	0.477	\begin{aligned} \mathfrak{g}_{01} & =\left\{(C, 0) \in \mathfrak{g}_{0} \mid C \in \mathfrak{s l}(5, C)\right\} \cong \mathfrak{s l}(5, C) \\ \mathfrak{g}_{02} & =\left\{(0, D) \in \mathfrak{g}_{0} \mid D \in \mathfrak{s l}(5, C)\right\} \cong \mathfrak{s l}(5, C) \\ \mathfrak{q} & =\mathfrak{g}_{1} \oplus \mathfrak{g}_{2} \oplus \mathfrak{g}_{-2} \oplus \mathfrak{g}_{-1} . \end{aligned}	$\begin{aligned} \mathfrak{g}_{01} & =\left\{(C, 0) \in \mathfrak{g}_{0} \mid C \in \mathfrak{s l}(5, C)\right\} \cong \mathfrak{s l}(5, C) \\ \mathfrak{g}_{02} & =\left\{(0, D) \in \mathfrak{g}_{0} \mid D \in \mathfrak{s l}(5, C)\right\} \cong \mathfrak{s l}(5, C) \\ \mathfrak{q} & =\mathfrak{g}_{1} \oplus \mathfrak{g}_{2} \oplus \mathfrak{g}_{-2} \oplus \mathfrak{g}_{-1} . \end{aligned}$	$\begin{aligned} \mathfrak{g}_{01} & =\left\{(C, 0) \in \mathfrak{g}_{0} \mid C \in \mathfrak{s l}(5, C)\right\} \cong \mathfrak{s l}(5, C), \\ \mathfrak{g}_{02} & =\left\{(0, D) \in \mathfrak{g}_{0} \mid D \in \mathfrak{s l}(5, C)\right\} \cong \mathfrak{s l}(5, C), \\ \mathfrak{q} & =\mathfrak{g}_{1} \oplus \mathfrak{g}_{2} \oplus \mathfrak{g}_{-2} \oplus \mathfrak{g}_{-1} . \end{aligned}$
0902.0431_EQ1195	201	0.485	\begin{aligned} & (-*(y \wedge *(x \wedge a)), b)=-(x \wedge a, y \wedge b) \\ & \quad=\left(y, a_{1} \right)\left(x \wedge a_{2}, b\right)-\left(y, a_{2} \right)\left(x \wedge a_{1}, b\right)-(x, y)(a, b) . \end{aligned}	$\begin{aligned} & (-*(y \wedge *(x \wedge a)), b)=-(x \wedge a, y \wedge b) \\ & \quad=\left(y, a_{1} \right)\left(x \wedge a_{2}, b\right)-\left(y, a_{2} \right)\left(x \wedge a_{1}, b\right)-(x, y)(a, b) . \end{aligned}$	$\begin{aligned} & (-*(\boldsymbol{y} \wedge *(\boldsymbol{x} \wedge \boldsymbol{a})), \boldsymbol{b})=-(\boldsymbol{x} \wedge \boldsymbol{a}, \boldsymbol{y} \wedge \boldsymbol{b}) \\ & \quad=(\boldsymbol{y}, \boldsymbol{a}_{1})(\boldsymbol{x} \wedge \boldsymbol{a}_{2}, \boldsymbol{b})-(\boldsymbol{y}, \boldsymbol{a}_{2})(\boldsymbol{x} \wedge \boldsymbol{a}_{1}, \boldsymbol{b})-(\boldsymbol{x}, \boldsymbol{y})(\boldsymbol{a}, \boldsymbol{b}) . \end{aligned}$
0902.0431_EQ1104	187	0.490	\varphi(R) R_{1}=\left[R, R_{1}\right], \quad R \in\left(\mathfrak{e}_{8(8)}\right)^{\tilde{\lambda} \gamma}, R_{1} \in\left(\mathfrak{e}_{8(8)}\right)_{-\widetilde{\lambda} \gamma} .	$\varphi(R) R_{1}=\left[R, R_{1}\right], \quad R \in\left(\mathfrak{e}_{8(8)}\right)^{\tilde{\lambda} \gamma}, R_{1} \in\left(\mathfrak{e}_{8(8)}\right)_{-\widetilde{\lambda} \gamma} .$	$\varphi(R) R_{1}=\left[R, R_{1}\right], \quad R \in\left(\mathfrak{e}_{8(8)}\right)^{\tilde{\lambda} \gamma}, R_{1} \in\left(\mathfrak{e}_{8(8)}\right)_{-\widetilde{\lambda} \gamma} .$
0902.0431_EQ1010	168	0.494	\begin{aligned} \mathfrak{e}_{8} & =\left\{R \in \mathfrak{e}_{8}{ }^{C} \mid \tau \tilde{\lambda} R=R \right\} \\ & =\left\{(\Phi, P,-\tau \lambda P, r, s,-\tau s) \in \mathfrak{e}_{8}{ }^{C} \mid \Phi \in \mathfrak{e}_{7}, P \in \mathfrak{P}^{C}, r \in i \boldsymbol{R}, s \in C\right\} . \end{aligned}	$\begin{aligned} \mathfrak{e}_{8} & =\left\{R \in \mathfrak{e}_{8}{}^{C} \mid \tau \tilde{\lambda} R=R \right\} \\ & =\left\{(\Phi, P,-\tau \lambda P, r, s,-\tau s) \in \mathfrak{e}_{8}{}^{C} \mid \Phi \in \mathfrak{e}_{7}, P \in \mathfrak{P}^{C}, r \in i \boldsymbol{R}, s \in C\right\} . \end{aligned}$	$\begin{aligned} \mathfrak{e}_{8} & =\left\{R \in \mathfrak{e}_{8}{}^{C} \mid \tau \tilde{\lambda} R=R \right\} \\ & =\left\{(\Phi, P,-\tau \lambda P, r, s,-\tau s) \in \mathfrak{e}_{8}{}^{C} \mid \Phi \in \mathfrak{e}_{7}, P \in \mathfrak{P}^{C}, r \in i \boldsymbol{R}, s \in C\right\} . \end{aligned}$
0902.0431_EQ0952	158	0.496	\begin{aligned} D & =\left(\begin{array}{cc} B & L \\ -L^{*} & C \end{array}\right)+\frac{\nu}{3}\left(\begin{array}{cc} E & 0 \\ 0 & -E \end{array}\right) \in \mathfrak{s u}(6), \\ \widetilde{M} & =\left(\begin{array}{cc} -N_{2}-N_{1} e_{1} & M_{2}+M_{1} e_{1} \\ M_{2}-M_{1} e_{1} & N_{2}-N_{1} e_{1} \end{array} \right), \quad M_{i}, N_{i} \in M(3, \boldsymbol{C}), \\ M & =M_{1}+i M_{2}, N=N_{1}+i N_{2} . \end{aligned}	$\begin{aligned} D & =\left(\begin{array}{cc} B & L \\ -L^{*} & C \end{array}\right)+\frac{\nu}{3}\left(\begin{array}{cc} E & 0 \\ 0 & -E \end{array}\right) \in \mathfrak{s u}(6), \\ \widetilde{M} & =\left(\begin{array}{cc} -N_{2}-N_{1} e_{1} & M_{2}+M_{1} e_{1} \\ M_{2}-M_{1} e_{1} & N_{2}-N_{1} e_{1} \end{array} \right), \quad M_{i}, N_{i} \in M(3, \boldsymbol{C}), \\ M & =M_{1}+i M_{2}, N=N_{1}+i N_{2} . \end{aligned}$	$\begin{aligned} D & =\left(\begin{array}{cc} B & L \\ -L^{*} & C \end{array}\right)+\frac{\nu}{3}\left(\begin{array}{cc} E & 0 \\ 0 & -E \end{array}\right) \in \mathfrak{s u}(6), \\ \widetilde{M} & =\left(\begin{array}{cc} -N_{2}-N_{1} e_{1} & M_{2}+M_{1} e_{1} \\ M_{2}-M_{1} e_{1} & N_{2}-N_{1} e_{1} \end{array} \right), \quad M_{i}, N_{i} \in M(3, \boldsymbol{C}), \\ M & =M_{1}+i M_{2}, N=N_{1}+i N_{2} . \end{aligned}$
0902.0431_EQ1091 (1)	185	0.503	\begin{aligned} \zeta[l & \left.\left(D_{1}\right), l \left(D_{2}\right)\right]=\zeta l\left[D_{1}, D_{2} \right] \\ & =\Theta\left(\varphi_{*}\left[D_{1}, D_{2} \right], 0,0,0,0,0\right)=\Theta\left(\left[\varphi_{*} D_{1}, \varphi_{*} D_{2}\right], 0,0,0,0,0\right) \\ & =\left[\Theta\left(\varphi_{*} D_{1}, 0,0,0,0,0\right), \Theta\left(\varphi_{*} D_{2}, 0,0,0,0,0\right)\right] \\ & =\left[\zeta l\left(D_{1}\right), \zeta l\left(D_{2}\right)\right] . \end{aligned}	$\begin{aligned} \zeta[l & \left.\left(D_{1}\right), l \left(D_{2}\right)\right]=\zeta l\left[D_{1}, D_{2} \right] \\ & =\Theta\left(\varphi_{*}\left[D_{1}, D_{2} \right], 0,0,0,0,0\right)=\Theta\left(\left[\varphi_{*} D_{1}, \varphi_{*} D_{2}\right], 0,0,0,0,0\right) \\ & =\left[\Theta\left(\varphi_{*} D_{1}, 0,0,0,0,0\right), \Theta\left(\varphi_{*} D_{2}, 0,0,0,0,0\right)\right] \\ & =\left[\zeta l\left(D_{1}\right), \zeta l\left(D_{2}\right)\right] . \end{aligned}$	$\begin{aligned} \zeta[l & \left.\left(D_{1}\right), l \left(D_{2}\right)\right]=\zeta l\left[D_{1}, D_{2} \right] \\ & =\Theta\left(\varphi_{*}\left[D_{1}, D_{2} \right], 0,0,0,0,0\right)=\Theta\left(\left[\varphi_{*} D_{1}, \varphi_{*} D_{2}\right], 0,0,0,0,0\right) \\ & =\left[\Theta\left(\varphi_{*} D_{1}, 0,0,0,0,0\right), \Theta\left(\varphi_{*} D_{2}, 0,0,0,0,0\right)\right] \\ & =\left[\zeta l\left(D_{1}\right), \zeta l\left(D_{2}\right)\right] . \end{aligned}$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ1150	194	0.504	`\begin{aligned} (\boldsymbol{u} \times & *(\boldsymbol{v} \wedge \boldsymbol{w})+\boldsymbol{v} \times *(\boldsymbol{w} \wedge \boldsymbol{u})+ \boldsymbol{w} \times *(\boldsymbol{u} \wedge \boldsymbol{v})) \boldsymbol{x} \\ = & \sum_{j=1}^{9} \left(\boldsymbol{u}_{1} \wedge \cdots \wedge \boldsymbol{u}_{j-1} \wedge \boldsymbol{x} \wedge \boldsymbol{u}_{j+1} \wedge \cdots \wedge \boldsymbol{u}_{9}, \boldsymbol{e}_{1} \wedge \cdots \wedge \boldsymbol{e}_{9}\right) \boldsymbol{u}_{j} \\ & -\left(\boldsymbol{u}_{1} \wedge \cdots \wedge \boldsymbol{u}_{9}, \boldsymbol{e}_{1} \wedge \cdots \wedge \boldsymbol{e}_{9}\right) \boldsymbol{x}=(\mathrm{ii}) \end{aligned}`	$\begin{aligned} (\boldsymbol{u}\times *(\boldsymbol{v} \wedge \boldsymbol{w})+\boldsymbol{v} \times *(\boldsymbol{w} \wedge \boldsymbol{u})+\boldsymbol{w} \times *(\boldsymbol{u} \wedge \boldsymbol{v}))\boldsymbol{x} \\ =&\sum_{j=1}^{9}\left(\boldsymbol{u}_{1} \wedge \cdots \wedge \boldsymbol{u}_{j-1} \wedge \boldsymbol{x} \wedge \boldsymbol{u}_{j+1} \wedge \cdots \wedge \boldsymbol{u}_{9}, \boldsymbol{e}_{1} \wedge \cdots \wedge \boldsymbol{e}_{9}\right) \boldsymbol{u}_{j} \\ & -\left(\boldsymbol{u}_{1} \wedge \cdots \wedge \boldsymbol{u}_{9}, \boldsymbol{e}_{1} \wedge \cdots \wedge \boldsymbol{e}_{9}\right) \boldsymbol{x}=(\mathrm{ii}) \end{aligned}$	$\begin{aligned} &(\boldsymbol{u} \times *(\boldsymbol{v} \wedge \boldsymbol{w})+\boldsymbol{v} \times *(\boldsymbol{w} \wedge \boldsymbol{u})+\boldsymbol{w} \times *(\boldsymbol{u} \wedge \boldsymbol{v}))\boldsymbol{x} \\ &\quad=\sum_{j=1}^{9}(\boldsymbol{u}_{1} \wedge \cdots \wedge \boldsymbol{u}_{j-1} \wedge \boldsymbol{x} \wedge \boldsymbol{u}_{j+1} \wedge \cdots \wedge \boldsymbol{u}_{9}, \boldsymbol{e}_{1} \wedge \cdots \wedge \boldsymbol{e}_{9})\boldsymbol{u}_{j} \\ &\quad-(\boldsymbol{u}_{1} \wedge \cdots \wedge \boldsymbol{u}_{9}, \boldsymbol{e}_{1} \wedge \cdots \wedge \boldsymbol{e}_{9})\boldsymbol{x}=(\mathrm{ii}). \end{aligned}$
0902.0431_EQ0317	51	0.506	`\left(\left[\delta, \delta_{1}\right], \delta_{2} \right)_{4}+\left(\delta_{1},\left[\delta, \delta_{2} \right]\right)_{4}=0, \quad \delta, \delta_{i} \in \mathfrak{f}_{4}^{C} .`	$\left(\left[\delta, \delta_{1}\right], \delta_{2}\right)_{4}+\left(\delta_{1},\left[\delta, \delta_{2}\right]\right)_{4}=0, \quad \delta, \delta_{i} \in \mathfrak{f}_{4}^{C} .$	$\left(\left[\delta, \delta_{1}\right], \delta_{2}\right)_{4}+\left(\delta_{1},\left[\delta, \delta_{2}\right]\right)_{4}=0, \quad \delta, \delta_{i} \in \mathfrak{f}_{4}{}^{C} .$
0902.0431_EQ0593	99	0.507	`\begin{aligned} & 2\langle\varphi(A) M, \varphi(A) N\rangle=\left\langle k_{J}(\varphi(A) M), k_{J}(\varphi(A) N)\right\rangle \quad \text { (Lemma 3.11.1) } \\ & \left.\quad=\left\langle A\left(k_{J}(M)\right)^{t} A, A\left(k_{J}(N)\right)^{t} A\right\rangle=\left\langle k_{J}(M), k_{J}(N)\right\rangle \quad \text { (because } A \in S U(6)\right) \\ & \quad=2\langle M, N\rangle \end{aligned}`	$\begin{aligned} &2\langle\varphi(A) M, \varphi(A) N\rangle=\left\langle k_{J}(\varphi(A) M), k_{J}(\varphi(A) N)\right\rangle \quad \text { (Lemma 3.11.1) } \\ &\quad=\left\langle A\left(k_{J}(M)\right)^{t} A, A\left(k_{J}(N)\right)^{t} A\right\rangle=\left\langle k_{J}(M), k_{J}(N)\right\rangle \quad \text { (because } A \in S U(6)\right) \\ &\quad=2\langle M, N\rangle \end{aligned}$	$\begin{aligned} &2\langle\varphi(A) M, \varphi(A) N\rangle=\left\langle k_{J}(\varphi(A) M), k_{J}(\varphi(A) N)\right\rangle \quad \text { (Lemma 3.11.1) } \\ &\quad=\left\langle A\left(k_{J}(M)\right)^{t} A, A\left(k_{J}(N)\right)^{t} A\right\rangle=\left\langle k_{J}(M), k_{J}(N)\right\rangle \text { (because } A \in S U(6)) \\ &\quad=2\langle M, N\rangle, \end{aligned}$
0902.0431_EQ0764	128	0.507	`\begin{aligned} B_{7}\left(h, h^{\prime}\right) & = \frac{3}{2} B_{6}\left(\sum_{k=0}^{3} \lambda_{k} H_{k}+ \left(\sum_{j=1}^{3} \mu_{j} E_{j}\right)^{\sim}, \sum_{k=0}^{3} \lambda_{k}{ }^{\prime} H_{k}+\left(\sum_{j=1}^{3} \mu_{j}{ }^{\prime} E_{j}\right)^{\sim} \right)+24 \nu \nu^{\prime} \\ & =\frac{3}{2} 12\left(2 \sum_{k=0}^{3} \lambda_{k} \lambda_{k}{ }^{\prime}+ \sum_{j=1}^{3} \mu_{j} \mu_{j}{ }^{\prime}\right)+24 \nu \nu^{\prime}(\text { Theorem 3.6.5 }) \\ & =6\left(6 \sum_{k=0}^{3} \lambda_{k} \lambda_{k}{ }^{\prime}+3 \sum_{j=1}^{3} \mu_{j} \mu_{j}{ }^{\prime}+4 \nu \nu^{ \prime}\right) . \end{aligned}`	$\begin{aligned} B_{7}\left(h, h^{\prime}\right) & = \frac{3}{2} B_{6}\left(\sum_{k=0}^{3} \lambda_{k} H_{k}+ \left(\sum_{j=1}^{3} \mu_{j} E_{j}\right)^{\sim}, \sum_{k=0}^{3} \lambda_{k}{ }^{\prime} H_{k}+\left(\sum_{j=1}^{3} \mu_{j}{ }^{\prime} E_{j}\right)^{\sim} \right)+24 \nu \nu^{\prime} \\ & =\frac{3}{2} 12\left(2 \sum_{k=0}^{3} \lambda_{k} \lambda_{k}{ }^{\prime}+ \sum_{j=1}^{3} \mu_{j} \mu_{j}{ }^{\prime}\right)+24 \nu \nu^{\prime}(\text { Theorem 3.6.5 }) \\ & =6\left(6 \sum_{k=0}^{3} \lambda_{k} \lambda_{k}{ }^{\prime}+3 \sum_{j=1}^{3} \mu_{j} \mu_{j}{ }^{\prime}+4 \nu \nu^{ \prime}\right) . \end{aligned}$	$\begin{aligned} B_{7}(h, h^{\prime}) &= \frac{3}{2} B_{6}\Big(\sum_{k=0}^{3} \lambda_{k} H_{k}+\Big(\sum_{j=1}^{3} \mu_{j} E_{j}\Big)^{\sim}, \sum_{k=0}^{3} \lambda_{k}{ }^{\prime} H_{k}+\Big(\sum_{j=1}^{3} \mu_{j}{ }^{\prime} E_{j}\Big)^{\sim}\Big)+24 \nu \nu^{\prime} \\ &= \frac{3}{2} 12\Big(2 \sum_{k=0}^{3} \lambda_{k} \lambda_{k}{ }^{\prime}+\sum_{j=1}^{3} \mu_{j} \mu_{j}{ }^{\prime}\Big)+24 \nu \nu^{\prime} \text{ (Theorem 3.6.5)} \\ &= 6\Big(6 \sum_{k=0}^{3} \lambda_{k} \lambda_{k}{ }^{\prime}+3 \sum_{j=1}^{3} \mu_{j} \mu_{j}{ }^{\prime}+4 \nu \nu^{\prime}\Big). \end{aligned}$
0902.0431_EQ0051	13	0.507	`\left(D_{2} x\right) y+x\left(D_{3}^{\prime} y\right)= \left(\kappa D_{1}^{\prime}\right)(x y), \quad x, y \in \mathfrak{C},`	$\left(D_{2} x\right) y+x\left(D_{3}^{\prime} y\right)=\left(\kappa D_{1}^{\prime}\right)(x y), \quad x, y \in \mathfrak{C},$	$\left(D_{2} x\right) y+x\left(D_{3}{}^{\prime} y\right)=\left(\kappa D_{1}{}^{\prime}\right)(x y), \quad x, y \in \mathfrak{C},$

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0902.0431_EQ0702 (iii)	116	■0.508	`\begin{aligned} & 3(\phi X, X, X)=3(g(X), X, X)-(\nu+2 \mu)(X, X, X) \\ & \quad=(\mu X \times X+h(X \times X), X)+(g(X), X \times X)-3(\nu+2 \mu) \operatorname{det} X \\ & \quad=3 \mu \operatorname{det} X+3(\nu+\mu) \operatorname{det} X-3(\nu+2 \mu) \operatorname{det} X=0 \end{aligned}`	$\begin{aligned} & 3(\phi X, X, X)=3(g(X), X, X)-(\nu+2 \mu)(X, X, X) \\ & \quad=(\mu X \times X+h(X \times X), X)+(g(X), X \times X)-3(\nu+2 \mu) \operatorname{det} X \\ & \quad=3 \mu \operatorname{det} X+3(\nu+\mu) \operatorname{det} X-3(\nu+2 \mu) \operatorname{det} X=0 \end{aligned}$	$\begin{aligned} & 3(\phi X, X, X)=3(g(X), X, X)-(\nu+2 \mu)(X, X, X) \\ & \quad=(\mu X \times X+h(X \times X), X)+(g(X), X \times X)-3(\nu+2 \mu) \operatorname{det} X \\ & \quad=3 \mu \operatorname{det} X+3(\nu+\mu) \operatorname{det} X-3(\nu+2 \mu) \operatorname{det} X=0 . \end{aligned}$
0902.0431_EQ0903	150	■0.510	`\alpha P=(X, Y, \xi, \eta), \quad X, Y \quad \text { are real diagonal, } \xi>0 .`	$\alpha P=(X, Y, \xi, \eta), \quad X, Y \quad \text { are real diagonal, } \xi>0 .$	$\alpha P=(X, Y, \xi, \eta), \quad X, Y \quad \text { are real diagonal, } \xi>0 .$
0902.0431_EQ1101	187	■0.512	`\begin{gathered} \mathfrak{e}_{8}^{C}=\left(\mathfrak{e}_{8}^{C}\right)_{\tilde{\lambda} \gamma} \oplus\left(\mathfrak{e}_{8}^{C}\right)_{-\widetilde{ \lambda} \gamma}, \\ \left(\mathfrak{e}_{8}^{C} \right)_{\widetilde{\lambda} \gamma}=\left\{\Theta \in \operatorname{Der}\left(\mathfrak{e}_{8}^{C} \right) \mid \widetilde{\lambda} \gamma \Theta=\Theta \widetilde{\lambda} \gamma\right\} \cong\left\{R \in \mathfrak{e}_{8}^{C} \mid \widetilde{\lambda} \gamma R=R \right\}=\left(\mathfrak{e}_{8}^{C}\right)^{\widetilde{ \lambda} \gamma}, \\ \left(\mathfrak{e}_{8}^{C} \right)_{-\widetilde{\lambda} \gamma}=\left\{\Theta \in \operatorname{Der}\left(\mathfrak{e}_{8}^{C} \right) \mid \widetilde{\lambda} \gamma \Theta=-\Theta \widetilde{\lambda} \gamma\right\} \cong\left\{R \in \mathfrak{e}_{8}^{C} \mid \widetilde{\lambda} \gamma R=-R \right\}, \end{gathered}`	$\begin{gathered} \mathfrak{e}_{8}^{C}=\left(\mathfrak{e}_{8}^{C}\right)_{\tilde{\lambda} \gamma} \oplus\left(\mathfrak{e}_{8}^{C}\right)_{-\widetilde{ \lambda} \gamma}, \\ \left(\mathfrak{e}_{8}^{C} \right)_{\widetilde{\lambda} \gamma}=\left\{\Theta \in \operatorname{Der}\left(\mathfrak{e}_{8}^{C} \right) \mid \widetilde{\lambda} \gamma \Theta=\Theta \widetilde{\lambda} \gamma\right\} \cong\left\{R \in \mathfrak{e}_{8}^{C} \mid \widetilde{\lambda} \gamma R=R \right\}=\left(\mathfrak{e}_{8}^{C}\right)^{\widetilde{ \lambda} \gamma}, \\ \left(\mathfrak{e}_{8}^{C} \right)_{-\widetilde{\lambda} \gamma}=\left\{\Theta \in \operatorname{Der}\left(\mathfrak{e}_{8}^{C} \right) \mid \widetilde{\lambda} \gamma \Theta=-\Theta \widetilde{\lambda} \gamma\right\} \cong\left\{R \in \mathfrak{e}_{8}^{C} \mid \widetilde{\lambda} \gamma R=-R \right\}, \end{gathered}$	$\begin{gathered} \mathfrak{e}_{8}^{C}=\left(\mathfrak{e}_{8}^{C}\right)_{\tilde{\lambda} \gamma} \oplus\left(\mathfrak{e}_{8}^{C}\right)_{-\widetilde{ \lambda} \gamma}, \\ \left(\mathfrak{e}_{8}^{C} \right)_{\widetilde{\lambda} \gamma}=\left\{\Theta \in \operatorname{Der}\left(\mathfrak{e}_{8}^{C} \right) \mid \widetilde{\lambda} \gamma \Theta=\Theta \widetilde{\lambda} \gamma\right\} \cong\left\{R \in \mathfrak{e}_{8}^{C} \mid \widetilde{\lambda} \gamma R=R \right\}=\left(\mathfrak{e}_{8}^{C}\right)^{\widetilde{ \lambda} \gamma}, \\ \left(\mathfrak{e}_{8}^{C} \right)_{-\widetilde{\lambda} \gamma}=\left\{\Theta \in \operatorname{Der}\left(\mathfrak{e}_{8}^{C} \right) \mid \widetilde{\lambda} \gamma \Theta=-\Theta \widetilde{\lambda} \gamma\right\} \cong\left\{R \in \mathfrak{e}_{8}^{C} \mid \widetilde{\lambda} \gamma R=-R \right\}, \end{gathered}$

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0902.0431_EQ0278	45	0.514	`\begin{aligned} & (\delta X, X, X)=(\delta X, X \times X) \\ & \quad=\left(\left(\begin{array}{ccc} 0 & D_{3} x_{3} & \overline{D_{2} x_{2}} \\ \overline{D_{3} x_{3}} & 0 & D_{1} x_{1} \\ D_{2} x_{2} & \overline{D_{1} x_{1}} & 0 \end{array}\right),\left(\begin{array}{ccc} \xi_{2} \xi_{3}-x_{1} \overline{x_{1}} & \overline{x_{1} x_{2}}-x_{3} x_{3} & x_{3} x_{1}-\xi_{2} \bar{x}_{2} \\ x_{1} x_{2}-\xi_{3} \bar{x}_{3} & \xi_{3} \xi_{1}-x_{2} \bar{x}_{2} & \overline{x_{2} x_{3}}-\xi_{1} x_{1} \\ \overline{x_{3} x_{1}}-\xi_{2} x_{2} & x_{2} x_{3}-\xi_{1} \bar{x}_{1} & \xi_{1} \xi_{2}-x_{3} \bar{x}_{3} \end{array}\right)\right) \\ & \quad=2\left(D_{1} x_{1}, \overline{x_{2} x_{3}}-\xi_{1} x_{1}\right)+2 \left(D_{2} x_{2}, \overline{x_{3} x_{1}}-\xi_{2} x_{2} \right)+2\left(D_{3} x_{3}, \overline{x_{1} x_{2}}-\xi_{3} x_{3}\right) \\ & \quad=2\left(\left(D_{1} x_{1}, \overline{x_{2} x_{3}}\right)+\left(D_{2} x_{2}, \overline{x_{3} x_{1}}\right)+\left(D_{3} x_{3}, \overline{x_{1} x_{2}}\right)\right) \\ & \quad=2 \left(\left(D_{1} x_{1}, \overline{x_{2} x_{3}}\right)+ \left(\overline{D_{2} x_{2}}, x_{3} x_{1}\right)+\left(\overline{D_{3} x_{3}}, x_{1} x_{2}\right)\right) \end{aligned}`	$(\delta X, X, X) = (\delta X, X \times X)$ $= \left(\begin{pmatrix} 0 & D_3x_3 & \overline{D_2x_2} \\ \overline{D_3x_3} & 0 & D_1x_1 \\ D_2x_2 & \overline{D_1x_1} & 0 \end{pmatrix}, \begin{pmatrix} \xi_2\xi_3 - x_1\overline{x}_1 & \overline{x_1x_2} - \xi_3x_3 & x_3x_1 - \xi_2\bar{x}_2 \\ x_1x_2 - \xi_3\bar{x}_3 & \xi_3\xi_1 - x_2\bar{x}_2 & \overline{x_2x_3} - \xi_1x_1 \\ \overline{x_3x_1} - \xi_2x_2 & x_2x_3 - \xi_1\bar{x}_1 & \xi_1\xi_2 - x_3\bar{x}_3 \end{pmatrix}\right)$ $= 2\left(D_1x_1, \overline{x_2x_3} - \xi_1x_1\right) + 2\left(D_2x_2, \overline{x_3x_1} - \xi_2x_2\right) + 2\left(D_3x_3, \overline{x_1x_2} - \xi_3x_3\right)$ $= 2\left(\left(D_1x_1, \overline{x_2x_3}\right) + \left(D_2x_2, \overline{x_3x_1}\right) + \left(D_3x_3, \overline{x_1x_2}\right)\right)$ $= 2\left(\left(D_1x_1, \overline{x_2x_3}\right) + \left(\overline{D_2x_2}, x_3x_1\right) + \left(\overline{D_3x_3}, x_1x_2\right)\right)$	$(\delta X, X, X) = (\delta X, X \times X)$ $= \left(\begin{pmatrix} 0 & D_3x_3 & \overline{D_2x_2} \\ \overline{D_3x_3} & 0 & D_1x_1 \\ D_2x_2 & \overline{D_1x_1} & 0 \end{pmatrix}, \begin{pmatrix} \xi_2\xi_3 - x_1\overline{x}_1 & \overline{x_1x_2} - \xi_3x_3 & x_3x_1 - \xi_2\overline{x}_2 \\ x_1x_2 - \xi_3\overline{x}_3 & \xi_3\xi_1 - x_2\overline{x}_2 & \overline{x_2x_3} - \xi_1x_1 \\ \overline{x_3x_1} - \xi_2x_2 & x_2x_3 - \xi_1\overline{x}_1 & \xi_1\xi_2 - x_3\overline{x}_3 \end{pmatrix}\right)$ $= 2(D_1x_1, \overline{x_2x_3} - \xi_1x_1) + 2(D_2x_2, \overline{x_3x_1} - \xi_2x_2) + 2(D_3x_3, \overline{x_1x_2} - \xi_3x_3)$ $= 2((D_1x_1, \overline{x_2x_3}) + (D_2x_2, \overline{x_3x_1}) + (D_3x_3, \overline{x_1x_2}))$ $= 2((D_1x_1, \overline{x_2x_3}) + (\overline{D_2x_2}, x_3x_1) + (\overline{D_3x_3}, x_1x_2))$
0902.0431_EQ0502	82	0.516	`\[ \begin{aligned} & =\frac{1}{2}\left(\widetilde{H} \left(T X+X T^{*}\right)-\widetilde{T}\left(H X+X H^{*} \right)\right) \\ & =\frac{1}{4}\left(H T X+X T^{*} H^{*}+H X T^{*}+T X H^{*}-T H X-X H^{*} T^{*}-T X H^{*}-H X T^{*}\right) \end{aligned} \] \end{itemize}`	$= \frac{1}{2}\left(\widetilde{H}\left(TX + XT^*\right) - \widetilde{T}\left(HX + XH^*\right)\right)$ $= \frac{1}{4}\left(HTX + XT^*H^* + HXT^* + TXH^* - THX - XH^*T^* - TXH^* - HXT^*\right)$	$= \frac{1}{2}(\widetilde{H}(TX + XT^*) - \widetilde{T}(HX + XH^*))$ $= \frac{1}{4}(HTX + XT^*H^* + HXT^* + TXH^* - THX - XH^*T^* - TXH^* - HXT^*)$
0902.0431_EQ1038	176	0.516	`\begin{aligned} & H_{\alpha_{1}}=\left(\Phi\left(\frac{1}{120}\left(H_{0}-H_{1}-H_{2}-H_{3}\right)+2 \left(E_{3}-E_{1}\right)^{\sim}, 0,0,0\right), 0,0,0,0,0 \right), \\ & H_{\alpha_{2}}=\left(\Phi\left(\frac{1}{90} \left(2 E_{1}-E_{2}-E_{3}\right)^{\sim}, 0,0,-\frac{1}{120}\right), 0,0,-\frac{1}{120}, 0,0\right), \end{aligned}`	$H_{\alpha_1} = \left(\Phi\left(\frac{1}{120}\left(H_0 - H_1 - H_2 - H_3\right) + 2\left(E_3 - E_1\right)^{\sim}, 0, 0, 0\right), 0, 0, 0, 0, 0\right),$ $H_{\alpha_2} = \left(\Phi\left(\frac{1}{90}\left(2E_1 - E_2 - E_3\right)^{\sim}, 0, 0, -\frac{1}{120}\right), 0, 0, -\frac{1}{120}, 0, 0\right),$	$H_{\alpha_1} = \left(\Phi\left(\frac{1}{120}(H_0 - H_1 - H_2 - H_3) + 2(E_3 - E_1)^{\sim}, 0, 0, 0\right), 0, 0, 0, 0, 0\right),$ $H_{\alpha_2} = \left(\Phi\left(\frac{1}{90}(2E_1 - E_2 - E_3)^{\sim}, 0, 0, -\frac{1}{120}\right), 0, 0, -\frac{1}{120}, 0, 0\right),$
0902.0431_EQ0298	48	0.523	`\delta=D+\widetilde{A}_{1}\left(a_{1}\right)+ \widetilde{A}_{2}\left(a_{2}\right)+\widetilde{A}_{3} \left(a_{3}\right), \quad D \in \mathfrak{d}_{4}^{C}, a_{i} \in \mathfrak{C}^{C},`	$\delta = D + \widetilde{A}_1\left(a_1\right) + \widetilde{A}_2\left(a_2\right) + \widetilde{A}_3\left(a_3\right), \quad D \in \mathfrak{d}_4^C, a_i \in \mathfrak{C}^C,$	$\delta = D + \widetilde{A}_1(a_1) + \widetilde{A}_2(a_2) + \widetilde{A}_3(a_3), \quad D \in {\mathfrak{d}_4}^C, a_i \in \mathfrak{C}^C,$
0902.0431_EQ0458	75	0.525	`\mathfrak{e}_{6}{ }^{C}=\mathfrak{f}_{4}{ }^{C} \oplus \widetilde{\mathfrak{J}}_{0}^{C} .`	$\mathfrak{e}_6{}^C = \mathfrak{f}_4{}^C \oplus \widetilde{\mathfrak{J}}_0^C.$	$\mathfrak{e}_6{}^C = \mathfrak{f}_4{}^C \oplus \widetilde{\mathfrak{J}}_0{}^C.$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0878	145	0.528	\begin{aligned} & \binom{\xi_{1}^{\prime}}{\eta^{\prime}}=\left(\begin{array}{cc} \nu & a \\ -\tau a & -\nu \end{array}\right)\binom{\xi_{1}}{\eta}, \quad\binom{\xi^{\prime}}{\eta_{1}^{\prime}}=\left(\begin{array}{cc} \nu & a \\ -\tau a & -\nu \end{array}\right)\binom{\xi}{\eta_{1}}, \\ & \binom{\eta_{2}^{\prime}}{\xi_{3}^{\prime}}=\left(\begin{array}{cc} \nu & a \\ -\tau a & -\nu \end{array}\right)\binom{\eta_{2}}{\xi_{3}}, \quad\binom{\eta_{3}^{\prime}}{\xi_{2}^{\prime}}=\left(\begin{array}{cc} \nu & a \\ -\tau a & -\nu \end{array}\right)\binom{\eta_{3}}{\xi_{2}}, \\ & \binom{x_{1}^{\prime}}{y_{1}^{\prime}}=\left(\begin{array}{cc} -\nu & \tau a \\ -a & \nu \end{array}\right)\binom{x_{1}}{y_{1}}, \quad\binom{x_{2}^{\prime}}{y_{2}^{\prime}}=\binom{x_{3}^{\prime}}{y_{3}^{\prime}}=\binom{0}{0} . \end{aligned}	$\begin{aligned} & \binom{\xi_{1}^{\prime}}{\eta^{\prime}}=\left(\begin{array}{cc} \nu & a \\ -\tau a & -\nu \end{array}\right)\binom{\xi_{1}}{\eta}, \quad\binom{\xi^{\prime}}{\eta_{1}^{\prime}}=\left(\begin{array}{cc} \nu & a \\ -\tau a & -\nu \end{array}\right)\binom{\xi}{\eta_{1}}, \\ & \binom{\eta_{2}^{\prime}}{\xi_{3}^{\prime}}=\left(\begin{array}{cc} \nu & a \\ -\tau a & -\nu \end{array}\right)\binom{\eta_{2}}{\xi_{3}}, \quad\binom{\eta_{3}^{\prime}}{\xi_{2}^{\prime}}=\left(\begin{array}{cc} \nu & a \\ -\tau a & -\nu \end{array}\right)\binom{\eta_{3}}{\xi_{2}}, \\ & \binom{x_{1}^{\prime}}{y_{1}^{\prime}}=\left(\begin{array}{cc} -\nu & \tau a \\ -a & \nu \end{array}\right)\binom{x_{1}}{y_{1}}, \quad\binom{x_{2}^{\prime}}{y_{2}^{\prime}}=\binom{x_{3}^{\prime}}{y_{3}^{\prime}}=\binom{0}{0} . \end{aligned}$	$\begin{aligned} & \binom{\xi_{1}^{\prime}}{\eta^{\prime}}=\left(\begin{array}{cc} \nu & a \\ -\tau a & -\nu \end{array}\right)\binom{\xi_{1}}{\eta}, \quad\binom{\xi^{\prime}}{\eta_{1}^{\prime}}=\left(\begin{array}{cc} \nu & a \\ -\tau a & -\nu \end{array}\right)\binom{\xi}{\eta_{1}}, \\ & \binom{\eta_{2}^{\prime}}{\xi_{3}^{\prime}}=\left(\begin{array}{cc} \nu & a \\ -\tau a & -\nu \end{array}\right)\binom{\eta_{2}}{\xi_{3}}, \quad\binom{\eta_{3}^{\prime}}{\xi_{2}^{\prime}}=\left(\begin{array}{cc} \nu & a \\ -\tau a & -\nu \end{array}\right)\binom{\eta_{3}}{\xi_{2}}, \\ & \binom{x_{1}^{\prime}}{y_{1}^{\prime}}=\left(\begin{array}{cc} -\nu & \tau a \\ -a & \nu \end{array}\right)\binom{x_{1}}{y_{1}}, \quad\binom{x_{2}^{\prime}}{y_{2}^{\prime}}=\binom{x_{3}^{\prime}}{y_{3}^{\prime}}=\binom{0}{0} . \end{aligned}$
0902.0431_EQ0945	157	0.528	\begin{aligned} \overline{f^{-1}(D(f P))} & =\overline{ \Phi\left(\phi_{\boldsymbol{C}}(B, C), h(L),-\tau h(L),-i \nu e_{1}\right) P} \\ & =\Phi\left(\overline{ \phi_{\boldsymbol{C}}(B, C)}, \overline{h(L)},-\tau \overline{h(L)},-\overline{i \nu e_{1}}\right) \bar{P} \\ & =\Phi\left(\phi_{\boldsymbol{C}}(\bar{C}, \bar{B}), h\left(\bar{L}^{*}\right),-\tau h\left(\bar{L}^{*}\right),-i \nu e_{1}\right) \bar{P} \\ & =f^{-1}\left(\left(\left(\overline{\operatorname{Ad} J_{3}} D\right)(f \bar{P})\right)\right. . \end{aligned}	$\begin{aligned} \overline{f^{-1}(D(f P))} & =\overline{ \Phi\left(\phi_{\boldsymbol{C}}(B, C), h(L),-\tau h(L),-i \nu e_{1}\right) P} \\ & =\Phi\left(\overline{ \phi_{\boldsymbol{C}}(B, C)}, \overline{h(L)},-\tau \overline{h(L)},-\overline{i \nu e_{1}}\right) \bar{P} \\ & =\Phi\left(\phi_{\boldsymbol{C}}(\bar{C}, \bar{B}), h\left(\bar{L}^{*}\right),-\tau h\left(\bar{L}^{*}\right),-i \nu e_{1}\right) \bar{P} \\ & =f^{-1}\left(\left(\left(\overline{\operatorname{Ad} J_{3}} D\right)(f \bar{P})\right)\right. . \end{aligned}$	$\begin{aligned} \overline{f^{-1}(D(f P))} & =\overline{ \Phi\left(\phi_{\boldsymbol{C}}(B, C), h(L),-\tau h(L),-i \nu e_{1}\right) P} \\ & =\Phi\left(\overline{ \phi_{\boldsymbol{C}}(B, C)}, \overline{h(L)},-\tau \overline{h(L)},-\overline{i \nu e_{1}}\right) \bar{P} \\ & =\Phi\left(\phi_{\boldsymbol{C}}(\bar{C}, \bar{B}), h\left(\bar{L}^{*}\right),-\tau h\left(\bar{L}^{*}\right),-i \nu e_{1}\right) \bar{P} \\ & =f^{-1}\left(\left(\left(\overline{\operatorname{Ad} J_{3}} D\right)(f \bar{P})\right)\right. . \end{aligned}$
0902.0431_EQ1082	184	0.533	\begin{aligned} = & \left(k\left(g X_{1}-\frac{ \xi_{1}}{2} E\right)+i k\left(g\left(\gamma Y_{1} \right)-\frac{\eta_{1}}{2} E\right)\right)\left(k \left(g X_{2}-\frac{\xi_{2}}{2} E\right)\right. . \\ & \left.-i k\left(g\left(\gamma Y_{2}\right)-\frac{ \eta_{2}}{2} E\right)\right) J^{2} \\ = & -k\left(\left(g X_{1}-\frac{\xi_{1}}{2} E\right)\left(g X_{2}-\frac{ \xi_{2}}{2} E\right)+\left(g\left(\gamma Y_{1}\right)- \frac{\eta_{1}}{2} E\right)\left(g\left(\gamma Y_{2} \right)-\frac{\eta_{2}}{2} E\right)\right) \\ & -i k\left(\left(g\left(\gamma Y_{1}\right)-\frac{\eta_{1}}{2} E\right)\left(g X_{2}-\frac{\xi_{2}}{2} E\right)-\left(g X_{1}-\frac{\xi_{1}}{2} E\right)\left(g\left(\gamma Y_{2}\right)-\frac{\eta_{2}}{2} E\right)\right) . \end{aligned}	$\begin{aligned} = & \left(k\left(g X_{1}-\frac{ \xi_{1}}{2} E\right)+i k\left(g\left(\gamma Y_{1} \right)-\frac{\eta_{1}}{2} E\right)\right)\left(k \left(g X_{2}-\frac{\xi_{2}}{2} E\right)\right. . \\ & \left.-i k\left(g\left(\gamma Y_{2}\right)-\frac{ \eta_{2}}{2} E\right)\right) J^{2} \\ = & -k\left(\left(g X_{1}-\frac{\xi_{1}}{2} E\right)\left(g X_{2}-\frac{ \xi_{2}}{2} E\right)+\left(g\left(\gamma Y_{1}\right)- \frac{\eta_{1}}{2} E\right)\left(g\left(\gamma Y_{2} \right)-\frac{\eta_{2}}{2} E\right)\right) \\ & -i k\left(\left(g\left(\gamma Y_{1}\right)-\frac{\eta_{1}}{2} E\right)\left(g X_{2}-\frac{\xi_{2}}{2} E\right)-\left(g X_{1}-\frac{\xi_{1}}{2} E\right)\left(g\left(\gamma Y_{2}\right)-\frac{\eta_{2}}{2} E\right)\right) . \end{aligned}$	$\begin{aligned} = & \left(k\left(g X_{1}-\frac{ \xi_{1}}{2} E\right)+i k\left(g\left(\gamma Y_{1} \right)-\frac{\eta_{1}}{2} E\right)\right)\left(k \left(g X_{2}-\frac{\xi_{2}}{2} E\right)\right. . \\ & \left.-i k\left(g\left(\gamma Y_{2}\right)-\frac{ \eta_{2}}{2} E\right)\right) J^{2} \\ = & -k\left(\left(g X_{1}-\frac{\xi_{1}}{2} E\right)\left(g X_{2}-\frac{ \xi_{2}}{2} E\right)+\left(g\left(\gamma Y_{1}\right)- \frac{\eta_{1}}{2} E\right)\left(g\left(\gamma Y_{2} \right)-\frac{\eta_{2}}{2} E\right)\right) \\ & -i k\left(\left(g\left(\gamma Y_{1}\right)-\frac{\eta_{1}}{2} E\right)\left(g X_{2}-\frac{\xi_{2}}{2} E\right)-\left(g X_{1}-\frac{\xi_{1}}{2} E\right)\left(g\left(\gamma Y_{2}\right)-\frac{\eta_{2}}{2} E\right)\right) . \end{aligned}$

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0902.0431_EQ0989	165	0.535	`\begin{aligned} & \left.=\left(\begin{array}{c} {\left[\Phi, \Phi_{1}\right]+P \times Q_{1}-P_{1} \times Q} \\ \Phi P_{1}-\Phi_{1} P+r P_{1}-r_{1} P+s Q_{1}-s_{1} Q \\ \Phi Q_{1}-\Phi_{1} Q-r Q_{1}+r_{1} Q+t P_{1}-t_{1} P \\ -\frac{1}{8}\left\{P, Q_{1}\right\}+\frac{1}{8}\left\{P_{1}, Q\right\}+s t_{1}-s_{1} t \\ \frac{1}{4}\left\{P, P_{1}\right\}+2 r s_{1}-2 r_{1} s \\ -\frac{1}{4}\left\{Q, Q_{1}\right\}-2 r t_{1}+2 r_{1} t \end{array} \right),\left(\begin{array}{c} \Phi_{2} \\ P_{2} \\ Q_{2} \\ r_{2} \\ s_{2} \\ t_{2} \end{array}\right)\right)_{8} \\ & =\cdots\left(\text { using }\left(\left[\Phi, \Phi_{1}\right], \Phi_{2}\right)_{7}+\left(\Phi_{1}, \left[\Phi, \Phi_{2}\right]\right)_{7}=0\right. \text { (Lemma 4.5.1.(1)), } \\ & =-(\Phi, P \times Q)_{7}= \{\Phi P, Q\}(\text { Lemma 4.5.1.(2)) etc.) } \cdots \end{aligned}`	$= \left(\begin{pmatrix} [\Phi, \Phi_1] + P \times Q_1 - P_1 \times Q \\ \Phi P_1 - \Phi_1 P + rP_1 - r_1 P + sQ_1 - s_1 Q \\ \Phi Q_1 - \Phi_1 Q - rQ_1 + r_1 Q + tP_1 - t_1 P \\ -\frac{1}{8}\{P, Q_1\} + \frac{1}{8}\{P_1, Q\} + st_1 - s_1 t \\ \frac{1}{4}\{P, P_1\} + 2rs_1 - 2r_1 s \\ -\frac{1}{4}\{Q, Q_1\} - 2rt_1 + 2r_1 t \end{pmatrix}, \begin{pmatrix} \Phi_2 \\ P_2 \\ Q_2 \\ r_2 \\ s_2 \\ t_2 \end{pmatrix}\right)_8$ $= \cdots (\text{ using } ([\Phi, \Phi_1], \Phi_2)_7 + (\Phi_1, [\Phi, \Phi_2])_7 = 0$ (Lemma 4.5.1.(1)), $= -(\Phi, P \times Q)_7 = \{\Phi P, Q\}($ Lemma 4.5.1.(2)) etc.) $\cdots$	$= \left(\begin{pmatrix} [\Phi, \Phi_1] + P \times Q_1 - P_1 \times Q \\ \Phi P_1 - \Phi_1 P + rP_1 - r_1 P + sQ_1 - s_1 Q \\ \Phi Q_1 - \Phi_1 Q - rQ_1 + r_1 Q + tP_1 - t_1 P \\ -\frac{1}{8}\{P, Q_1\} + \frac{1}{8}\{P_1, Q\} + st_1 - s_1 t \\ \frac{1}{4}\{P, P_1\} + 2rs_1 - 2r_1 s \\ -\frac{1}{4}\{Q, Q_1\} - 2rt_1 + 2r_1 t \end{pmatrix}, \begin{pmatrix} \Phi_2 \\ P_2 \\ Q_2 \\ r_2 \\ s_2 \\ t_2 \end{pmatrix}\right)_8$ $= \cdots (\text{using } ([\Phi, \Phi_1], \Phi_2)_7 + (\Phi_1, [\Phi, \Phi_2])_7 = 0 \text{ (Lemma 4.5.1.(1))},$ $(\Phi, P \times Q)_7 = \{\Phi P, Q\} \text{ (Lemma 4.5.1.(2)) etc.)} \cdots$ $= -(R_1, [R, R_2])_8.$

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0902.0431_EQ0696	115	0.535	\begin{array}{cc} \Phi_{-3}=\left(\begin{array}{cccc} 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \\ 0 & 0 & \kappa & 0 \end{array}\right), & \Phi_{3}=\left(\begin{array}{cccc} 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & \lambda \\ 0 & 0 & 0 & 0 \end{array}\right), \\ \Phi_{-2}=\left(\begin{array}{cccc} 0 & 0 & C & 0 \\ 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \\ 0 & d & 0 & 0 \end{array}\right), & \Phi_{2}=\left(\begin{array}{cccc} 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & D \\ c & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \end{array}\right), \\ \Phi_{-1}=\left(\begin{array}{cccc} 0 & l & 0 & 0 \\ 0 & 0 & B & 0 \\ 0 & 0 & 0 & 0 \\ b & 0 & 0 & 0 \end{array}\right), & \Phi_{1}=\left(\begin{array}{cccc} 0 & 0 & 0 & A \\ k & 0 & 0 & 0 \\ 0 & a & 0 & 0 \\ 0 & 0 & 0 & 0 \end{array}\right), \\ \Phi_{0}=\left(\begin{array}{cccc} g & 0 & 0 & 0 \\ 0 & h & 0 & 0 \\ 0 & 0 & \nu & 0 \\ 0 & 0 & 0 & \mu \end{array}\right) . \end{array}	$\Phi_{-3}=\begin{pmatrix} 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \\ 0 & 0 & \kappa & 0 \end{pmatrix}, \quad \Phi_{3}=\begin{pmatrix} 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & \lambda \\ 0 & 0 & 0 & 0 \end{pmatrix},$ $\Phi_{-2}=\begin{pmatrix} 0 & 0 & C & 0 \\ 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \\ 0 & d & 0 & 0 \end{pmatrix}, \quad \Phi_{2}=\begin{pmatrix} 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & D \\ c & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \end{pmatrix},$ $\Phi_{-1}=\begin{pmatrix} 0 & l & 0 & 0 \\ 0 & 0 & B & 0 \\ 0 & 0 & 0 & 0 \\ b & 0 & 0 & 0 \end{pmatrix}, \quad \Phi_{1}=\begin{pmatrix} 0 & 0 & 0 & A \\ k & 0 & 0 & 0 \\ 0 & a & 0 & 0 \\ 0 & 0 & 0 & 0 \end{pmatrix},$ $\Phi_{0}=\begin{pmatrix} g & 0 & 0 & 0 \\ 0 & h & 0 & 0 \\ 0 & 0 & \nu & 0 \\ 0 & 0 & 0 & \mu \end{pmatrix}.$	$\Phi_{-3}=\begin{pmatrix} 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \\ 0 & 0 & \kappa & 0 \end{pmatrix}, \quad \Phi_{3}=\begin{pmatrix} 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & \lambda \\ 0 & 0 & 0 & 0 \end{pmatrix},$ $\Phi_{-2}=\begin{pmatrix} 0 & 0 & C & 0 \\ 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \\ 0 & d & 0 & 0 \end{pmatrix}, \quad \Phi_{2}=\begin{pmatrix} 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & D \\ c & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \end{pmatrix},$ $\Phi_{-1}=\begin{pmatrix} 0 & l & 0 & 0 \\ 0 & 0 & B & 0 \\ 0 & 0 & 0 & 0 \\ b & 0 & 0 & 0 \end{pmatrix}, \quad \Phi_{1}=\begin{pmatrix} 0 & 0 & 0 & A \\ k & 0 & 0 & 0 \\ 0 & a & 0 & 0 \\ 0 & 0 & 0 & 0 \end{pmatrix},$ $\Phi_{0}=\begin{pmatrix} g & 0 & 0 & 0 \\ 0 & h & 0 & 0 \\ 0 & 0 & \nu & 0 \\ 0 & 0 & 0 & \mu \end{pmatrix}.$
0902.0431_EQ1193	201	0.542	\begin{aligned} (*(*(a \wedge c) \wedge b), d)=(a \wedge c, b \wedge d) \\ =(a, b)(c, d)-\left(a_{1} \wedge c_{1}, b\right)\left(a_{2} \wedge c_{2}, d\right)+\left(a_{1} \wedge c_{2}, b\right)\left(a_{2} \wedge c_{1}, d\right) \\ \quad+\left(a_{2} \wedge c_{1}, b\right)\left(a_{1} \wedge c_{2}, d\right)-\left(a_{2} \wedge c_{2}, b \right)\left(a_{1} \wedge c_{1}, d\right)+(c, b)(a, d) . \end{aligned}	$\begin{aligned} (*(*(a \wedge c) \wedge b), d) &= (a \wedge c, b \wedge d) \\ &= (a, b)(c, d)-\left(a_{1} \wedge c_{1}, b\right)\left(a_{2} \wedge c_{2}, d\right)+\left(a_{1} \wedge c_{2}, b\right)\left(a_{2} \wedge c_{1}, d\right) \\ &+\left(a_{2} \wedge c_{1}, b\right)\left(a_{1} \wedge c_{2}, d\right)-\left(a_{2} \wedge c_{2}, b\right)\left(a_{1} \wedge c_{1}, d\right)+(c, b)(a, d). \end{aligned}$	$\begin{aligned} (*(*(\boldsymbol{a} \wedge \boldsymbol{c}) \wedge \boldsymbol{b}), \boldsymbol{d}) &= (\boldsymbol{a} \wedge \boldsymbol{c}, \boldsymbol{b} \wedge \boldsymbol{d}) \\ &= (\boldsymbol{a}, \boldsymbol{b})(\boldsymbol{c}, \boldsymbol{d})-(\boldsymbol{a}_{1} \wedge \boldsymbol{c}_{1}, \boldsymbol{b})(\boldsymbol{a}_{2} \wedge \boldsymbol{c}_{2}, \boldsymbol{d})+(\boldsymbol{a}_{1} \wedge \boldsymbol{c}_{2}, \boldsymbol{b})(\boldsymbol{a}_{2} \wedge \boldsymbol{c}_{1}, \boldsymbol{d}) \\ &\quad+(\boldsymbol{a}_{2} \wedge \boldsymbol{c}_{1}, \boldsymbol{b})(\boldsymbol{a}_{1} \wedge \boldsymbol{c}_{2}, \boldsymbol{d})-(\boldsymbol{a}_{2} \wedge \boldsymbol{c}_{2}, \boldsymbol{b})(\boldsymbol{a}_{1} \wedge \boldsymbol{c}_{1}, \boldsymbol{d})+(\boldsymbol{c}, \boldsymbol{b})(\boldsymbol{a}, \boldsymbol{d}). \end{aligned}$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0221	36	0.542	`\begin{aligned} (X, Y) & =\sum_{i=1}^{3}\left(\xi_{i} \eta_{i}+2\left(x_{i}, y_{i}\right)\right), \\ \operatorname{tr}(X, Y, Z) & =\sum_{i=1}^{3}\left(\xi_{i} \eta_{i} \zeta_{i}+R\left(x_{i} y_{i+1} z_{i+2}+x_{i} z_{i+1} y_{i+2}\right)\right. \\ & + \xi_{i}\left(\left(y_{i+1}, z_{i+1}\right)+\left(y_{i+2}, z_{i+2}\right)\right)+\eta_{i}\left(\left(z_{i+1}, x_{i+1}\right)+\left(z_{i+2}, x_{i+2}\right)\right) \\ & \left.+\zeta_{i}\left(\left(x_{i+1}, y_{i+1}\right)+\left(x_{i+2}, y_{i+2}\right)\right)\right), \end{aligned}`	$$\begin{aligned} (X, Y) & =\sum_{i=1}^{3}\left(\xi_{i} \eta_{i}+2\left(x_{i}, y_{i}\right)\right), \\ \operatorname{tr}(X, Y, Z) & =\sum_{i=1}^{3}\left(\xi_{i} \eta_{i} \zeta_{i}+R\left(x_{i} y_{i+1} z_{i+2}+x_{i} z_{i+1} y_{i+2}\right)\right. \\ & + \xi_{i}\left(\left(y_{i+1}, z_{i+1}\right)+\left(y_{i+2}, z_{i+2}\right)\right)+\eta_{i}\left(\left(z_{i+1}, x_{i+1}\right)+\left(z_{i+2}, x_{i+2}\right)\right) \\ & \left.+\zeta_{i}\left(\left(x_{i+1}, y_{i+1}\right)+\left(x_{i+2}, y_{i+2}\right)\right)\right), \end{aligned}$$	$$\begin{aligned} (X, Y) & =\sum_{i=1}^{3}\left(\xi_{i} \eta_{i}+2\left(x_{i}, y_{i}\right)\right), \\ \operatorname{tr}(X, Y, Z) & =\sum_{i=1}^{3}\left(\xi_{i} \eta_{i} \zeta_{i}+R\left(x_{i} y_{i+1} z_{i+2}+x_{i} z_{i+1} y_{i+2}\right)\right. \\ & + \xi_{i}\left(\left(y_{i+1}, z_{i+1}\right)+\left(y_{i+2}, z_{i+2}\right)\right)+\eta_{i}\left(\left(z_{i+1}, x_{i+1}\right)+\left(z_{i+2}, x_{i+2}\right)\right) \\ & \left.+\zeta_{i}\left(\left(x_{i+1}, y_{i+1}\right)+\left(x_{i+2}, y_{i+2}\right)\right)\right), \end{aligned}$$
0902.0431_EQ0960	159	0.542	`\begin{aligned} & \beta\left(P_{\boldsymbol{C}}+(M+N) \right)=P_{\boldsymbol{C}}+Q(M+N)=P_{\boldsymbol{C}}+(Q M+Q N) \\ & =\psi(Q, E)\left(P_{\boldsymbol{C}}+(M+N) \right), \quad P_{\boldsymbol{C}}+(M+N) \in \mathfrak{P}^{C} \end{aligned}`	$$\begin{aligned} & \beta\left(P_{\boldsymbol{C}}+(M+N) \right)=P_{\boldsymbol{C}}+Q(M+N)=P_{\boldsymbol{C}}+(Q M+Q N) \\ & =\psi(Q, E)\left(P_{\boldsymbol{C}}+(M+N) \right), \quad P_{\boldsymbol{C}}+(M+N) \in \mathfrak{P}^{C} \end{aligned}$$	$$\begin{aligned} & \beta\left(P_{\boldsymbol{C}}+(M+N) \right)=P_{\boldsymbol{C}}+Q(M+N)=P_{\boldsymbol{C}}+(Q M+Q N) \\ & =\psi(Q, E)\left(P_{\boldsymbol{C}}+(M+N) \right), \quad P_{\boldsymbol{C}}+(M+N) \in \mathfrak{P}^{C} \end{aligned}$$
0902.0431_EQ0005	6	0.542	`\begin{array}{cr} \overline{x_{0}+\sum_{i=1}^{7} x_{i} e_{i}}=x_{0}-\sum_{i=1}^{7} x_{i} e_{i}, & \left( \sum_{i=0}^{7} x_{i} e_{i}, \sum_{i=0}^{7} y_{i} e_{i} \right)=\sum_{i=0}^{7} x_{i} y_{i} \\ |x|=\sqrt{(x, x)}, & R\left(x_{0}+\sum_{i=1}^{7} x_{i} e_{i}\right)=x_{0} . \end{array}`	$$\begin{array}{cr} \overline{x_{0}+\sum_{i=1}^{7} x_{i} e_{i}}=x_{0}-\sum_{i=1}^{7} x_{i} e_{i}, & \left(\sum_{i=0}^{7} x_{i} e_{i}, \sum_{i=0}^{7} y_{i} e_{i} \right)=\sum_{i=0}^{7} x_{i} y_{i} \\ |x|=\sqrt{(x, x)}, & R\left(x_{0}+\sum_{i=1}^{7} x_{i} e_{i}\right)=x_{0} . \end{array}$$	$$\begin{array}{cr} \overline{x_{0}+\sum_{i=1}^{7} x_{i} e_{i}}=x_{0}-\sum_{i=1}^{7} x_{i} e_{i}, & \left(\sum_{i=0}^{7} x_{i} e_{i}, \sum_{i=0}^{7} y_{i} e_{i} \right)=\sum_{i=0}^{7} x_{i} y_{i} \\ |x|=\sqrt{(x, x)}, & R\left(x_{0}+\sum_{i=1}^{7} x_{i} e_{i}\right)=x_{0} . \end{array}$$
0902.0431_EQ0097	19	0.544	`\begin{array}{ll} \pm\left(\lambda_{1}-\lambda_{2}\right) & : \pm\left(G_{24}+G_{35}\right)+i\left(-G_{25}+G_{34} \right), \\ \pm\left(\lambda_{1}-\lambda_{3}\right) & : \pm\left(G_{26}+G_{37}\right)+i\left(-G_{27}+G_{36} \right), \\ \pm\left(\lambda_{2}-\lambda_{3}\right) & : \pm\left(G_{46}+G_{57}\right)+i\left(-G_{47}+G_{56} \right) . \end{array}`	$$\begin{array}{ll} \pm\left(\lambda_{1}-\lambda_{2}\right) & : \pm\left(G_{24}+G_{35}\right)+i\left(-G_{25}+G_{34} \right), \\ \pm\left(\lambda_{1}-\lambda_{3}\right) & : \pm\left(G_{26}+G_{37}\right)+i\left(-G_{27}+G_{36} \right), \\ \pm\left(\lambda_{2}-\lambda_{3}\right) & : \pm\left(G_{46}+G_{57}\right)+i\left(-G_{47}+G_{56} \right) . \end{array}$$	$$\begin{array}{ll} \pm\left(\lambda_{1}-\lambda_{2}\right) & : \pm\left(G_{24}+G_{35}\right)+i\left(-G_{25}+G_{34} \right), \\ \pm\left(\lambda_{1}-\lambda_{3}\right) & : \pm\left(G_{26}+G_{37}\right)+i\left(-G_{27}+G_{36} \right), \\ \pm\left(\lambda_{2}-\lambda_{3}\right) & : \pm\left(G_{46}+G_{57}\right)+i\left(-G_{47}+G_{56} \right) . \end{array}$$
0902.0431_EQ0949	158	0.546	`\begin{aligned} & \mu\left(\begin{array}{ll} M_{11} & M_{12} \\ M_{21} & M_{22} \end{array}\right) \\ & \quad= \left(\frac{\left(M_{21}-M_{12}\right) e_{1}}{2}+i \frac{M_{21}+M_{12}}{2}, \frac{\left(M_{22}+M_{11}\right) e_{1}}{2}+i \frac{M_{22}-M_{11}}{2}\right) \end{aligned}`	$$\begin{aligned} & \mu\left(\begin{array}{ll} M_{11} & M_{12} \\ M_{21} & M_{22} \end{array}\right) \\ & \quad= \left(\frac{\left(M_{21}-M_{12}\right) e_{1}}{2}+i \frac{M_{21}+M_{12}}{2}, \frac{\left(M_{22}+M_{11}\right) e_{1}}{2}+i \frac{M_{22}-M_{11}}{2}\right) \end{aligned}$$	$$\begin{aligned} & \mu\left(\begin{array}{ll} M_{11} & M_{12} \\ M_{21} & M_{22} \end{array}\right) \\ & \quad= \left(\frac{\left(M_{21}-M_{12}\right) e_{1}}{2}+i \frac{M_{21}+M_{12}}{2}, \frac{\left(M_{22}+M_{11}\right) e_{1}}{2}+i \frac{M_{22}-M_{11}}{2}\right) \end{aligned}$$
0902.0431_EQ0297	47	0.546	`x \xrightarrow{G_{i 0}} x_{i} e_{0}-x_{0} e_{i} \xrightarrow{G_{j 0}(j \neq i)} x_{i} e_{j} \xrightarrow{x_{j}{ }^{-1} G_{0 j}} e_{0}=1 .`	$$x \xrightarrow{G_{i 0}} x_{i} e_{0}-x_{0} e_{i} \xrightarrow{G_{j 0}(j \neq i)} x_{i} e_{j} \xrightarrow{x_{j}{ }^{-1} G_{0 j}} e_{0}=1 .$$	$$x \xrightarrow{G_{i 0}} x_{i} e_{0}-x_{0} e_{i} \xrightarrow{G_{j 0}(j \neq i)} x_{i} e_{j} \xrightarrow{x_{j}{ }^{-1} G_{0 j}} e_{0}=1 .$$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0524	87	0.546	`\begin{aligned} & \left(\alpha_{i}, \alpha_{i}\right)= \frac{1}{12}, \quad i=1,2,3,4,5,6 \\ & \left(\alpha_{1}, \alpha_{2}\right)=\left(\alpha_{2}, \alpha_{3}\right)= \left(\alpha_{3}, \alpha_{4}\right)=\left(\alpha_{3}, \alpha_{5}\right)=\left(\alpha_{5}, \alpha_{6}\right)=- \frac{1}{24} \\ & \left(\alpha_{i}, \alpha_{j}\right)=0, \quad \text { otherwise, } \\ & (-\mu,-\mu)=\frac{1}{12}, \quad(-\mu,-\mu)=\frac{1}{12}, \quad\left(-\mu, \alpha_{4}\right)=-\frac{1}{24}, \quad \left(-\mu, \alpha_{i}\right)=0, \quad i=1,2,3,5,6, \end{aligned}`	$\begin{aligned} & \left(\alpha_{i}, \alpha_{i}\right)= \frac{1}{12}, \quad i=1,2,3,4,5,6 \\ & \left(\alpha_{1}, \alpha_{2}\right)=\left(\alpha_{2}, \alpha_{3}\right)= \left(\alpha_{3}, \alpha_{4}\right)=\left(\alpha_{3}, \alpha_{5}\right)=\left(\alpha_{5}, \alpha_{6}\right)=- \frac{1}{24} \\ & \left(\alpha_{i}, \alpha_{j}\right)=0, \quad \text { otherwise, } \\ & (-\mu,-\mu)=\frac{1}{12}, \quad(-\mu,-\mu)=\frac{1}{12}, \quad\left(-\mu, \alpha_{4}\right)=-\frac{1}{24}, \quad \left(-\mu, \alpha_{i}\right)=0, \quad i=1,2,3,5,6, \end{aligned}$	$\begin{aligned} & \left(\alpha_{i}, \alpha_{i}\right)= \frac{1}{12}, \quad i=1,2,3,4,5,6, \\ & \left(\alpha_{1}, \alpha_{2}\right)=\left(\alpha_{2}, \alpha_{3}\right)= \left(\alpha_{3}, \alpha_{4}\right)=\left(\alpha_{3}, \alpha_{5}\right)=\left(\alpha_{5}, \alpha_{6}\right)=- \frac{1}{24}, \\ & \left(\alpha_{i}, \alpha_{j}\right)=0, \quad \text { otherwise, } \\ & (-\mu,-\mu)=\frac{1}{12}, \quad(-\mu,-\mu)=\frac{1}{12}, \quad\left(-\mu, \alpha_{4}\right)=-\frac{1}{24}, \quad \left(-\mu, \alpha_{i}\right)=0, \quad i=1,2,3,5,6, \end{aligned}$
0902.0431_EQ0920	152	0.547	`f\left(\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right),\left(\begin{array}{ccc} \eta_{1} & y_{3} & \bar{y}_{2} \\ \bar{y}_{3} & \eta_{2} & y_{1} \\ y_{2} & \bar{y}_{1} & \eta_{3} \end{array}\right), \xi, \eta\right)= \sum_{i<j<k} x_{i j k} \boldsymbol{e}_{i} \wedge \boldsymbol{e}_{j} \wedge \boldsymbol{e}_{k}`	$f\left(\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right),\left(\begin{array}{ccc} \eta_{1} & y_{3} & \bar{y}_{2} \\ \bar{y}_{3} & \eta_{2} & y_{1} \\ y_{2} & \bar{y}_{1} & \eta_{3} \end{array}\right), \xi, \eta\right)= \sum_{i<j<k} x_{i j k} \boldsymbol{e}_{i} \wedge \boldsymbol{e}_{j} \wedge \boldsymbol{e}_{k}$	$f\left(\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right),\left(\begin{array}{ccc} \eta_{1} & y_{3} & \bar{y}_{2} \\ \bar{y}_{3} & \eta_{2} & y_{1} \\ y_{2} & \bar{y}_{1} & \eta_{3} \end{array}\right), \xi, \eta\right)= \sum_{i<j<k} x_{i j k} \boldsymbol{e}_{i} \wedge \boldsymbol{e}_{j} \wedge \boldsymbol{e}_{k}$
0902.0431_EQ0833	139	0.551	`\begin{aligned} \left(\mathfrak{e}_{7}\right)^{\kappa, \mu}= & \left\{\Phi \in \mathfrak{e}_{7} \mid \kappa \Phi=\Phi \kappa, \mu \Phi=\Phi \mu\right\} \\ = & \left\{\begin{array}{l|l} \Phi(\phi \cdot A,-\tau A, \nu) \in \mathfrak{e}_{7} & \begin{array}{l} \phi \in \left(\mathfrak{e}_{6}\right)^{\sigma}, A \in \left(\mathfrak{J}^{C}\right)_{\sigma},\left(E_{1}, A\right)=0, \\ \nu=-\frac{3}{2}\left(\phi E_{1}, E_{1}\right) \end{array} \end{array}\right\} . \end{aligned}`	$\begin{aligned} \left(\mathfrak{e}_{7}\right)^{\kappa, \mu}= & \left\{\Phi \in \mathfrak{e}_{7} \mid \kappa \Phi=\Phi \kappa, \mu \Phi=\Phi \mu\right\} \\ = & \left\{\begin{array}{l|l} \Phi(\phi \cdot A,-\tau A, \nu) \in \mathfrak{e}_{7} & \begin{array}{l} \phi \in \left(\mathfrak{e}_{6}\right)^{\sigma}, A \in \left(\mathfrak{J}^{C}\right)_{\sigma},\left(E_{1}, A\right)=0, \\ \nu=-\frac{3}{2}\left(\phi E_{1}, E_{1}\right) \end{array} \end{array}\right\} . \end{aligned}$	$\begin{aligned} \left(\mathfrak{e}_{7}\right)^{\kappa, \mu}= & \left\{\Phi \in \mathfrak{e}_{7} \mid \kappa \Phi=\Phi \kappa, \mu \Phi=\Phi \mu\right\} \\ = & \left\{\begin{array}{l|l} \Phi(\phi . A,-\tau A, \nu) \in \mathfrak{e}_{7} & \begin{array}{l} \phi \in \left(\mathfrak{e}_{6}\right)^{\sigma}, A \in \left(\mathfrak{J}^{C}\right)_{\sigma},\left(E_{1}, A\right)=0, \\ \nu=-\frac{3}{2}\left(\phi E_{1}, E_{1}\right) \end{array} \end{array}\right\} . \end{aligned}$
0902.0431_EQ1036	176	0.553	`B_{8}\left(\tilde{h}, \widetilde{h}^{\prime}\right)=60 \sum_{k=0}^{3} \lambda_{k} \lambda_{k}^{\prime}+30 \sum_{j=1}^{3} \mu_{j} \mu_{j}^{\prime}+40 \nu \nu^{ \prime}+120 r r^{\prime},`	$B_{8}\left(\tilde{h}, \widetilde{h}^{\prime}\right)=60 \sum_{k=0}^{3} \lambda_{k} \lambda_{k}^{\prime}+30 \sum_{j=1}^{3} \mu_{j} \mu_{j}^{\prime}+40 \nu \nu^{ \prime}+120 r r^{\prime},$	$B_{8}\left(\tilde{h}, \widetilde{h}^{\prime}\right)=60 \sum_{k=0}^{3} \lambda_{k} \lambda_{k}^{\prime}+30 \sum_{j=1}^{3} \mu_{j} \mu_{j}^{\prime}+40 \nu \nu^{ \prime}+120 r r^{\prime},$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0953	158	0.553	`\begin{aligned} & \psi_{*}(D)(\mu \widetilde{M}) \\ & = \Phi\left(\phi_{\boldsymbol{C}}(B, C), h(L),-\tau h(L),-i \nu e_{1}\right)(M, N) \\ & =\left(\begin{array}{cccc} \phi_{\boldsymbol{C}}(B, C)+\frac{1}{3} i \nu e_{1} & -2 \tau h(L) & 0 & h(L) \\ 2 h(L) & \tau \phi_{C}(B, C) \tau-\frac{1}{3} i \nu e_{1} & -\tau h(L) & 0 \\ 0 & h(L) & -i \nu e_{1} & 0 \\ -\tau h(L) & 0 & 0 & i \nu e_{1} \end{array}\right)\left(\begin{array}{c} M \\ N \\ 0 \\ 0 \end{array}\right) \\ & =\left(\begin{array}{cc} \phi_{\boldsymbol{C}}(B, C) M+\frac{1}{3} i \nu e_{1} M-2 \tau h(L) \times N \\ 2 h(l) \times M+\tau \phi_{\boldsymbol{C}}(B, C) \tau N-\frac{1}{3} i \nu e_{1} N \\ (h(L), N) \\ -(\tau h(L), M) \end{array}\right) \\ & =\left(\begin{array}{c} -M h(B, C)+N \tau h(L)+\frac{1}{3} i \nu e_{1} M \\ -M h(L)-N \tau h(B, C)-\frac{1}{3} i \nu e_{1} N \\ 0 \\ 0 \end{array}\right) \end{aligned}`	$\begin{aligned} & \psi_{*}(D)(\mu \widetilde{M}) \\ & = \Phi\left(\phi_{\boldsymbol{C}}(B, C), h(L),-\tau h(L),-i \nu e_{1}\right)(M, N) \\ & =\left(\begin{array}{cccc} \phi_{\boldsymbol{C}}(B, C)+\frac{1}{3} i \nu e_{1} & -2 \tau h(L) & 0 & h(L) \\ 2 h(L) & \tau \phi_{C}(B, C) \tau-\frac{1}{3} i \nu e_{1} & -\tau h(L) & 0 \\ 0 & h(L) & -i \nu e_{1} & 0 \\ -\tau h(L) & 0 & 0 & i \nu e_{1} \end{array}\right)\left(\begin{array}{c} M \\ N \\ 0 \\ 0 \end{array}\right) \\ & =\left(\begin{array}{cc} \phi_{\boldsymbol{C}}(B, C) M+\frac{1}{3} i \nu e_{1} M-2 \tau h(L) \times N \\ 2 h(l) \times M+\tau \phi_{\boldsymbol{C}}(B, C) \tau N-\frac{1}{3} i \nu e_{1} N \\ (h(L), N) \\ -(\tau h(L), M) \end{array}\right) \\ & =\left(\begin{array}{c} -M h(B, C)+N \tau h(L)+\frac{1}{3} i \nu e_{1} M \\ -M h(L)-N \tau h(B, C)-\frac{1}{3} i \nu e_{1} N \\ 0 \\ 0 \end{array}\right) \end{aligned}$	$\begin{aligned} & \psi_{*}(D)(\mu \widetilde{M}) \\ & = \Phi(\phi_{\boldsymbol{C}}(B, C), h(L),-\tau h(L),-i \nu e_{1})(M, N) \\ & =\left(\begin{array}{cccc} \phi_{\boldsymbol{C}}(B, C)+\frac{1}{3} i \nu e_{1} & -2 \tau h(L) & 0 & h(L) \\ 2 h(L) & \tau \phi_{C}(B, C) \tau-\frac{1}{3} i \nu e_{1} & -\tau h(L) & 0 \\ 0 & h(L) & -i \nu e_{1} & 0 \\ -\tau h(L) & 0 & 0 & i \nu e_{1} \end{array}\right)\left(\begin{array}{c} M \\ N \\ 0 \\ 0 \end{array}\right) \\ & =\left(\begin{array}{cc} \phi_{\boldsymbol{C}}(B, C) M+\frac{1}{3} i \nu e_{1} M-2 \tau h(L) \times N \\ 2 h(l) \times M+\tau \phi_{\boldsymbol{C}}(B, C) \tau N-\frac{1}{3} i \nu e_{1} N \\ (h(L), N) \\ -(\tau h(L), M) \end{array}\right) \\ & =\left(\begin{array}{c} -M h(B, C)+N \tau h(L)+\frac{1}{3} i \nu e_{1} M \\ -M h(L)-N \tau h(B, C)-\frac{1}{3} i \nu e_{1} N \\ 0 \\ 0 \end{array}\right) \end{aligned}$
0902.0431_EQ0440	72	0.554	`F_{4(4)}=\left(F_{4}{ }^{C}\right)^{\tau \gamma}, \quad F_{4(-20)}=\left(F_{4}{ }^{C}\right)^{\tau \sigma} .`	$F_{4(4)}=\left(F_4{}^C\right)^{\tau\gamma}, \quad F_{4(-20)}=\left(F_4{}^C\right)^{\tau\sigma}.$	$F_{4(4)}=(F_4{}^C)^{\tau\gamma}, \quad F_{4(-20)}=(F_4{}^C)^{\tau\sigma}.$
0902.0431_EQ1174	197	0.554	`\begin{gathered} \mathfrak{g}_{0}=\mathfrak{s l}(5, C) \oplus \mathfrak{s l}(5, C), \\ \mathfrak{g}_{1}=C^{5} \otimes \Lambda^{2}\left(C^{5}\right)=\mathfrak{g}_{-1}, \quad \mathfrak{g}_{2}=\Lambda^{2}\left(C^{5}\right) \otimes C^{5}=\mathfrak{g}_{-2}, \end{gathered}`	$\begin{gathered} \mathfrak{g}_{0}=\mathfrak{s l}(5, C) \oplus \mathfrak{s l}(5, C), \\ \mathfrak{g}_{1}=C^{5} \otimes \Lambda^{2}\left(C^{5}\right)=\mathfrak{g}_{-1}, \quad \mathfrak{g}_{2}=\Lambda^{2}\left(C^{5}\right) \otimes C^{5}=\mathfrak{g}_{-2}, \end{gathered}$	$\begin{gathered} \mathfrak{g}_{0}=\mathfrak{s l}(5, C) \oplus \mathfrak{s l}(5, C), \\ \mathfrak{g}_{1}=C^{5} \otimes \Lambda^{2}(C^{5})=\mathfrak{g}_{-1}, \quad \mathfrak{g}_{2}=\Lambda^{2}(C^{5}) \otimes C^{5}=\mathfrak{g}_{-2}, \end{gathered}$
0902.0431_EQ0037	11	0.555	`\begin{array}{ll} 1 \rightarrow\left(\begin{array}{lll} 1 & 2 & 3 \\ 1 & 2 & 3 \end{array}\right), \quad \kappa \rightarrow\left(\begin{array}{lll} 1 & 2 & 3 \\ 2 & 1 & 3 \end{array}\right), \quad \pi \rightarrow\left(\begin{array}{lll} 1 & 2 & 3 \\ 3 & 2 & 1 \end{array}\right), \\ \nu \rightarrow\left(\begin{array}{lll} 1 & 2 & 3 \\ 2 & 3 & 1 \end{array}\right), \quad \nu^{2} \rightarrow\left(\begin{array}{lll} 1 & 2 & 3 \\ 3 & 1 & 2 \end{array}\right), \quad \nu \pi \rightarrow\left(\begin{array}{lll} 1 & 2 & 3 \\ 1 & 3 & 2 \end{array}\right) \end{array}`	$\begin{array}{ll} 1 \rightarrow\left(\begin{array}{lll} 1 & 2 & 3 \\ 1 & 2 & 3 \end{array}\right), \quad \kappa \rightarrow\left(\begin{array}{lll} 1 & 2 & 3 \\ 2 & 1 & 3 \end{array}\right), \quad \pi \rightarrow\left(\begin{array}{lll} 1 & 2 & 3 \\ 3 & 2 & 1 \end{array}\right), \\ \nu \rightarrow\left(\begin{array}{lll} 1 & 2 & 3 \\ 2 & 3 & 1 \end{array}\right), \quad \nu^{2} \rightarrow\left(\begin{array}{lll} 1 & 2 & 3 \\ 3 & 1 & 2 \end{array}\right), \quad \nu \pi \rightarrow\left(\begin{array}{lll} 1 & 2 & 3 \\ 1 & 3 & 2 \end{array}\right) \end{array}$	$\begin{array}{ll} 1 \rightarrow\left(\begin{array}{lll} 1 & 2 & 3 \\ 1 & 2 & 3 \end{array}\right), \quad \kappa \rightarrow\left(\begin{array}{lll} 1 & 2 & 3 \\ 2 & 1 & 3 \end{array}\right), \quad \pi \rightarrow\left(\begin{array}{lll} 1 & 2 & 3 \\ 3 & 2 & 1 \end{array}\right), \\ \nu \rightarrow\left(\begin{array}{lll} 1 & 2 & 3 \\ 2 & 3 & 1 \end{array}\right), \quad \nu^{2} \rightarrow\left(\begin{array}{lll} 1 & 2 & 3 \\ 3 & 1 & 2 \end{array}\right), \quad \nu \pi \rightarrow\left(\begin{array}{lll} 1 & 2 & 3 \\ 1 & 3 & 2 \end{array}\right) \end{array}$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0329	52	0.556	\begin{aligned} \lambda_{k}-\lambda_{l} & :\left(G_{k l}+G_{4+k 4+l}\right)-i\left(G_{k 4+l}+G_{l 4+k}\right), \\ -\lambda_{k}+\lambda_{l} & : i\left(G_{k l}+G_{4+k 4+l}\right)-\left(G_{k 4+l}+G_{l 4+k}\right), \\ \lambda_{k}+\lambda_{l} & :\left(G_{k l}-G_{4+k 4+l}\right)+i\left(G_{k 4+l}-G_{l 4+k}\right), \\ -\lambda_{k}-\lambda_{l} & :\left(G_{k l}-G_{4+k 4+l}\right)+\left(G_{k 4+l}-G_{l 4+k}\right) . \end{aligned}	$$\begin{aligned} \lambda_{k}-\lambda_{l} & :\left(G_{k l}+G_{4+k 4+l}\right)-i\left(G_{k 4+l}+G_{l 4+k}\right), \\ -\lambda_{k}+\lambda_{l} & : i\left(G_{k l}+G_{4+k 4+l}\right)-\left(G_{k 4+l}+G_{l 4+k}\right), \\ \lambda_{k}+\lambda_{l} & :\left(G_{k l}-G_{4+k 4+l}\right)+i\left(G_{k 4+l}-G_{l 4+k}\right), \\ -\lambda_{k}-\lambda_{l} & :\left(G_{k l}-G_{4+k 4+l}\right)+\left(G_{k 4+l}-G_{l 4+k}\right) . \end{aligned}$$	$$\begin{aligned} \lambda_{k}-\lambda_{l} & :\left(G_{k l}+G_{4+k 4+l}\right)-i\left(G_{k 4+l}+G_{l 4+k}\right), \\ -\lambda_{k}+\lambda_{l} & : i\left(G_{k l}+G_{4+k 4+l}\right)-\left(G_{k 4+l}+G_{l 4+k}\right), \\ \lambda_{k}+\lambda_{l} & :\left(G_{k l}-G_{4+k 4+l}\right)+i\left(G_{k 4+l}-G_{l 4+k}\right), \\ -\lambda_{k}-\lambda_{l} & : i\left(G_{k l}-G_{4+k 4+l}\right)+\left(G_{k 4+l}-G_{l 4+k}\right). \end{aligned}$$
0902.0431_EQ1183	199	0.556	\begin{aligned} &(\boldsymbol{x} \wedge *(*\boldsymbol{a} \wedge \boldsymbol{y})+*(\boldsymbol{y} \wedge *(\boldsymbol{a} \wedge \boldsymbol{x}))-(\boldsymbol{x}, \boldsymbol{y}) \boldsymbol{a}, \boldsymbol{b}) \\ & \quad=(* \boldsymbol{b} \wedge \boldsymbol{x}, * \boldsymbol{a} \wedge \boldsymbol{y})+(\boldsymbol{x} \wedge \boldsymbol{a}, \boldsymbol{y} \wedge \boldsymbol{b})-(\boldsymbol{x}, \boldsymbol{y})(\boldsymbol{a}, \boldsymbol{b})=0, \\ &(*(\boldsymbol{a} \wedge *(\boldsymbol{b} \wedge \boldsymbol{x}))-*(*\boldsymbol{b} \wedge *(*\boldsymbol{a} \wedge \boldsymbol{x}))-(\boldsymbol{a}, \boldsymbol{b})\boldsymbol{x}, \boldsymbol{y}) \\ & \quad=(\boldsymbol{x} \wedge \boldsymbol{b}, \boldsymbol{y} \wedge \boldsymbol{a})+(*\boldsymbol{a} \wedge \boldsymbol{x}, *\boldsymbol{b} \wedge \boldsymbol{y})-(\boldsymbol{x}, \boldsymbol{y})(\boldsymbol{a}, \boldsymbol{b})=0. \end{aligned}	$$\begin{aligned} &(\boldsymbol{x} \wedge *(*\boldsymbol{a} \wedge \boldsymbol{y})+*(\boldsymbol{y} \wedge *(\boldsymbol{a} \wedge \boldsymbol{x}))-(\boldsymbol{x}, \boldsymbol{y})\boldsymbol{a}, \boldsymbol{b}) \\ & \quad=(* \boldsymbol{b} \wedge \boldsymbol{x}, * \boldsymbol{a} \wedge \boldsymbol{y})+(\boldsymbol{x} \wedge \boldsymbol{a}, \boldsymbol{y} \wedge \boldsymbol{b})-(\boldsymbol{x}, \boldsymbol{y})(\boldsymbol{a}, \boldsymbol{b})=0, \\ &(*(\boldsymbol{a} \wedge *(\boldsymbol{b} \wedge \boldsymbol{x}))-*(*\boldsymbol{b} \wedge *(*\boldsymbol{a} \wedge \boldsymbol{x}))-(\boldsymbol{a}, \boldsymbol{b})\boldsymbol{x}, \boldsymbol{y}) \\ & \quad=(\boldsymbol{x} \wedge \boldsymbol{b}, \boldsymbol{y} \wedge \boldsymbol{a})+(*\boldsymbol{a} \wedge \boldsymbol{x}, *\boldsymbol{b} \wedge \boldsymbol{y})-(\boldsymbol{x}, \boldsymbol{y})(\boldsymbol{a}, \boldsymbol{b})=0. \end{aligned}$$	$$\begin{aligned} &(\boldsymbol{x} \wedge *(*\boldsymbol{a} \wedge \boldsymbol{y})+*(\boldsymbol{y} \wedge *(\boldsymbol{a} \wedge \boldsymbol{x}))-(\boldsymbol{x}, \boldsymbol{y})\boldsymbol{a}, \boldsymbol{b}) \\ & \quad=(* \boldsymbol{b} \wedge \boldsymbol{x}, * \boldsymbol{a} \wedge \boldsymbol{y})+(\boldsymbol{x} \wedge \boldsymbol{a}, \boldsymbol{y} \wedge \boldsymbol{b})-(\boldsymbol{x}, \boldsymbol{y})(\boldsymbol{a}, \boldsymbol{b})=0, \\ &(*(\boldsymbol{a} \wedge *(\boldsymbol{b} \wedge \boldsymbol{x}))-*(*\boldsymbol{b} \wedge *(*\boldsymbol{a} \wedge \boldsymbol{x}))-(\boldsymbol{a}, \boldsymbol{b})\boldsymbol{x}, \boldsymbol{y}) \\ & \quad=(\boldsymbol{x} \wedge \boldsymbol{b}, \boldsymbol{y} \wedge \boldsymbol{a})+(*\boldsymbol{a} \wedge \boldsymbol{x}, *\boldsymbol{b} \wedge \boldsymbol{y})-(\boldsymbol{x}, \boldsymbol{y})(\boldsymbol{a}, \boldsymbol{b})=0. \end{aligned}$$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0370	61	0.557	`\begin{aligned} & \eta_{1}(t)^{2}+\eta_{2}(t)^{2}+ \eta_{3}(t)^{2} \\ & =\xi_{1}{ }^{2}+\left(\frac{ \xi_{2}+\xi_{3}}{2}+\frac{\xi_{2}-\xi_{3}}{2} \cos 2 t+ \left|x_{1}\right| \sin 2 t\right)^{2} \\ & \quad+\left(\frac{\xi_{2}+\xi_{3}}{2}-\frac{\xi_{2}-\xi_{3}}{2} \cos 2 t-\left|x_{1}\right| \sin 2 t\right)^{2} \ \ & =\xi_{1}{ }^{2}+2\left(\frac{\xi_{2}+\xi_{3}}{2} \right)^{2}+2\left(\frac{\xi_{2}-\xi_{3}}{2} \cos 2 t+ \left|x_{1}\right| \sin 2 t\right)^{2} \\ & =\xi_{1}{ }^{2}+2\left(\frac{\xi_{2}+\xi_{3}}{2}\right)^{2}+2\left(\left(\frac{\xi_{2}-\xi_{3}}{2}\right)^{2}+\left|x_{1} \right|^{2}\right) \sin ^{2}\left(2 t+t_{0}\right)\left(\text { for some } t_{0} \in \boldsymbol{R}\right) \\ & \leq{\xi_{1}}^{2}+2\left(\frac{\xi_{2}+\xi_{3}}{2} \right)^{2}+2\left(\left(\frac{\xi_{2}-\xi_{3}}{2} \right)^{2}+\left|x_{1}\right|^{2}\right) \\ & ={ \xi_{1}}^{2}+{\xi_{2}}^{2}+{\xi_{3}}^{2}+2\left|x_{1} \right|^{2} \end{aligned}`	$\eta_1(t)^2+\eta_2(t)^2+\eta_3(t)^2$ $= {\xi_1}^2+\left(\frac{\xi_2+\xi_3}{2}+\frac{\xi_2-\xi_3}{2}\cos 2t+\|x_1\|\sin 2t\right)^2$ $+\left(\frac{\xi_2+\xi_3}{2}-\frac{\xi_2-\xi_3}{2}\cos 2t-\|x_1\|\sin 2t\right)^2$ $= {\xi_1}^2+2\left(\frac{\xi_2+\xi_3}{2}\right)^2+2\left(\frac{\xi_2-\xi_3}{2}\cos 2t+\|x_1\|\sin 2t\right)^2$ $= {\xi_1}^2+2\left(\frac{\xi_2+\xi_3}{2}\right)^2+2\left(\left(\frac{\xi_2-\xi_3}{2}\right)^2+\|x_1\|^2\right)\sin^2(2t+t_0)$ (for some $t_0\in\boldsymbol{R}$) $\leq {\xi_1}^2+2\left(\frac{\xi_2+\xi_3}{2}\right)^2+2\left(\left(\frac{\xi_2-\xi_3}{2}\right)^2+\|x_1\|^2\right)$ $= {\xi_1}^2+{\xi_2}^2+{\xi_3}^2+2\|x_1\|^2$	$\eta_1(t)^2+\eta_2(t)^2+\eta_3(t)^2$ $= {\xi_1}^2+\left(\frac{\xi_2+\xi_3}{2}+\frac{\xi_2-\xi_3}{2}\cos 2t+\|x_1\|\sin 2t\right)^2$ $+\left(\frac{\xi_2+\xi_3}{2}-\frac{\xi_2-\xi_3}{2}\cos 2t-\|x_1\|\sin 2t\right)^2$ $= {\xi_1}^2+2\left(\frac{\xi_2+\xi_3}{2}\right)^2+2\left(\frac{\xi_2-\xi_3}{2}\cos 2t+\|x_1\|\sin 2t\right)^2$ $= {\xi_1}^2+2\left(\frac{\xi_2+\xi_3}{2}\right)^2+2\left(\left(\frac{\xi_2-\xi_3}{2}\right)^2+\|x_1\|^2\right)\sin^2(2t+t_0)$ (for some $t_0\in\boldsymbol{R}$) $\leq {\xi_1}^2+2\left(\frac{\xi_2+\xi_3}{2}\right)^2+2\left(\left(\frac{\xi_2-\xi_3}{2}\right)^2+\|x_1\|^2\right)$ $= {\xi_1}^2+{\xi_2}^2+{\xi_3}^2+2\|x_1\|^2$
0902.0431_EQ0674 (i)	112	0.558	`2(P \times R) Q-(P \times Q) R-(R \times Q) P+\frac{3}{8} \{Q, R\} P-\frac{3}{8}\{P, Q\} R=0 .`	$2(P\times R)Q-(P\times Q)R-(R\times Q)P+\frac{3}{8}\{Q,R\}P-\frac{3}{8}\{P,Q\}R=0.$	$2(P\times R)Q-(P\times Q)R-(R\times Q)P+\frac{3}{8}\{Q,R\}P-\frac{3}{8}\{P,Q\}R=0.$
0902.0431_EQ1188	200	0.562	`\begin{aligned} (a \times *(b \wedge x)) v & +(b \times *(a \wedge x)) v=(x, w) *(a \wedge b)-\frac{1}{5}(*(a \wedge b), x) v \\ = & (x \times *(a \wedge b)) v . \end{aligned}`	$(a\times *(b\wedge x))v+(b\times *(a\wedge x))v=(x,w)*(a\wedge b)-\frac{1}{5}(*(a\wedge b),x)v$ $=(x\times *(a\wedge b))v.$	$(\boldsymbol{a}\times *(\boldsymbol{b}\wedge\boldsymbol{x}))\boldsymbol{v}+(\boldsymbol{b}\times *(\boldsymbol{a}\wedge\boldsymbol{x}))\boldsymbol{v}=(\boldsymbol{x},\boldsymbol{w})*(\boldsymbol{a}\wedge\boldsymbol{b})-\frac{1}{5}(*(\boldsymbol{a}\wedge\boldsymbol{b}),\boldsymbol{x})\boldsymbol{v}$ $=(\boldsymbol{x}\times *(\boldsymbol{a}\wedge\boldsymbol{b}))\boldsymbol{v}.$

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0902.0431_EQ1095	186	0.566	\begin{aligned} \zeta[l & \left.\left(S_{1}\right) I, l\left(S_{2}\right) I\right]=\zeta l\left(S_{1} \tau S_{2}-S_{2} \tau S_{1}\right) \\ = & \zeta\left(l \left(S_{1} \tau S_{2}-S_{2} \tau S_{1}-\frac{1}{8} \operatorname{tr}\left(S_{1} \tau S_{2}-S_{2} \tau S_{1}\right) E\right)\right. \\ & \left.\quad+l\left(\frac{1}{8} \operatorname{tr}\left(S_{1} \tau S_{2}-S_{2} \tau S_{1}\right) E\right)\right) \\ = & \Theta\left(\varphi_{*}\left(S_{1} \tau S_{2}-S_{2} \tau S_{1}-\frac{1}{8} \operatorname{tr}\left(S_{1} \tau S_{2}-S_{2} \tau S_{1}\right) E\right), 0,0,0\right. \\ & \left.\quad-\frac{i}{4} \operatorname{tr}\left(S_{1} \tau S_{2}-S_{2} \tau S_{1}\right), \frac{i}{4} \operatorname{tr}\left(S_{1} \tau S_{2}-S_{2} \tau S_{1}\right)\right) \\ = & \Theta\left(4\left(\lambda \gamma \chi^{-1} S_{1} \times \chi^{-1} S_{2}-\lambda \gamma \chi^{-1} S_{2} \times \chi^{-1} S_{1}\right), 0,0,0 \right. \\ & \left.\quad\left\{\chi^{-1} S_{1}, \chi^{-1} S_{2}\right\}-\left\{\chi^{-1} S_{1}, \chi^{-1} S_{2} \right\}\right)(\text { Lemma 5.8.3). } \end{aligned}	$\zeta[l\,(S_1)\,I, l\,(S_2)\,I] = \zeta l\,(S_1\tau S_2 - S_2\tau S_1)$ $=\zeta\left(l\left(S_1\tau S_2 - S_2\tau S_1 - \frac{1}{8}\operatorname{tr}(S_1\tau S_2 - S_2\tau S_1)\,E\right)\right.$ $\left.+l\left(\frac{1}{8}\operatorname{tr}(S_1\tau S_2 - S_2\tau S_1)\,E\right)\right)$ $=\Theta\left(\varphi_*\left(S_1\tau S_2 - S_2\tau S_1 - \frac{1}{8}\operatorname{tr}(S_1\tau S_2 - S_2\tau S_1)\,E\right), 0,0,0\right.$ $\left.-\frac{i}{4}\operatorname{tr}(S_1\tau S_2 - S_2\tau S_1), \frac{i}{4}\operatorname{tr}(S_1\tau S_2 - S_2\tau S_1)\right)$ $=\Theta\left(4\left(\lambda\gamma\chi^{-1}S_1 \times \chi^{-1}S_2 - \lambda\gamma\chi^{-1}S_2 \times \chi^{-1}S_1\right), 0,0,0\right.$ $\left.\{\chi^{-1}S_1, \chi^{-1}S_2\} - \{\chi^{-1}S_1, \chi^{-1}S_2\}\right)$ (Lemma 5.8.3).	$\zeta[l(S_1)I, l(S_2)I] = \zeta l(S_1\tau S_2 - S_2\tau S_1)$ $= \zeta\Big(l\Big(S_1\tau S_2 - S_2\tau S_1 - \frac{1}{8}\mathrm{tr}(S_1\tau S_2 - S_2\tau S_1)E\Big)$ $+l\Big(\frac{1}{8}\mathrm{tr}(S_1\tau S_2 - S_2\tau S_1)E\Big)\Big)$ $= \Theta\Big(\varphi_*\Big(S_1\tau S_2 - S_2\tau S_1 - \frac{1}{8}\mathrm{tr}(S_1\tau S_2 - S_2\tau S_1)E\Big), 0, 0, 0,$ $-\frac{i}{4}\mathrm{tr}(S_1\tau S_2 - S_2\tau S_1), \frac{i}{4}\mathrm{tr}(S_1\tau S_2 - S_2\tau S_1)\Big)$ $= \Theta(4(\lambda\gamma\chi^{-1}S_1 \times \chi^{-1}S_2 - \lambda\gamma\chi^{-1}S_2 \times \chi^{-1}S_1), 0, 0, 0,$ $\{\chi^{-1}S_1, \chi^{-1}S_2\} - \{\chi^{-1}S_1, \chi^{-1}S_2\})$ (Lemma 5.8.3).
0902.0431_EQ1179	199	0.568	\begin{aligned} (*(\boldsymbol{a} & \wedge *(* \boldsymbol{b} \wedge \boldsymbol{x}))+*(\boldsymbol{b} \wedge *(* \boldsymbol{a} \wedge \boldsymbol{x}))+ \boldsymbol{x} \wedge *(\boldsymbol{a} \wedge \boldsymbol{b}), \boldsymbol{c}) \\ \quad & =(* \boldsymbol{b} \wedge \boldsymbol{x}, \boldsymbol{c} \wedge \boldsymbol{a})+(* \boldsymbol{a} \wedge \boldsymbol{x}, \boldsymbol{b} \wedge \boldsymbol{c})+(* \boldsymbol{c} \wedge \boldsymbol{x}, \boldsymbol{a} \wedge \boldsymbol{b}) \\ \quad & =(* \boldsymbol{x}, * \boldsymbol{b} \wedge *(\boldsymbol{c} \wedge \boldsymbol{a})+* \boldsymbol{a} \wedge *(\boldsymbol{b} \wedge \boldsymbol{c})+* \boldsymbol{c} \wedge *(\boldsymbol{a} \wedge \boldsymbol{b}))=0 . \end{aligned}	$(*(\boldsymbol{a} \wedge *(*\boldsymbol{b} \wedge \boldsymbol{x})) + *(\boldsymbol{b} \wedge *(*\boldsymbol{a} \wedge \boldsymbol{x})) + \boldsymbol{x} \wedge *(\boldsymbol{a} \wedge \boldsymbol{b}), \boldsymbol{c})$ $= (*\boldsymbol{b} \wedge \boldsymbol{x}, \boldsymbol{c} \wedge \boldsymbol{a}) + (*\boldsymbol{a} \wedge \boldsymbol{x}, \boldsymbol{b} \wedge \boldsymbol{c}) + (*\boldsymbol{c} \wedge \boldsymbol{x}, \boldsymbol{a} \wedge \boldsymbol{b})$ $= (*\boldsymbol{x}, *\boldsymbol{b} \wedge *(\boldsymbol{c} \wedge \boldsymbol{a}) + *\boldsymbol{a} \wedge *(\boldsymbol{b} \wedge \boldsymbol{c}) + *\boldsymbol{c} \wedge *(\boldsymbol{a} \wedge \boldsymbol{b})) = 0.$	$(*(\boldsymbol{a} \wedge *(*\boldsymbol{b} \wedge \boldsymbol{x})) + *(\boldsymbol{b} \wedge *(*\boldsymbol{a} \wedge \boldsymbol{x})) + \boldsymbol{x} \wedge *(\boldsymbol{a} \wedge \boldsymbol{b}), \boldsymbol{c})$ $= (*\boldsymbol{b} \wedge \boldsymbol{x}, \boldsymbol{c} \wedge \boldsymbol{a}) + (*\boldsymbol{a} \wedge \boldsymbol{x}, \boldsymbol{b} \wedge \boldsymbol{c}) + (*\boldsymbol{c} \wedge \boldsymbol{x}, \boldsymbol{a} \wedge \boldsymbol{b})$ $= (*\boldsymbol{x}, *\boldsymbol{b} \wedge *(\boldsymbol{c} \wedge \boldsymbol{a}) + *\boldsymbol{a} \wedge *(\boldsymbol{b} \wedge \boldsymbol{c}) + *\boldsymbol{c} \wedge *(\boldsymbol{a} \wedge \boldsymbol{b})) = 0.$
0902.0431_EQ0454	74	0.570	=(\delta X, Y)-(\widetilde{T} X, Y)=((\delta-\widetilde{T}) X, Y) \quad X, Y \in \mathfrak{J}^{C} .	$= (\delta X, Y) - (\widetilde{T}X, Y) = ((\delta - \widetilde{T})X, Y) \quad X, Y \in \mathfrak{J}^C.$	$= (\delta X, Y) - (\widetilde{T}X, Y) = ((\delta - \widetilde{T})X, Y) \quad X, Y \in \mathfrak{J}^C.$
0902.0431_EQ1000	166	0.572	\begin{aligned} & \lambda(\Phi, P, Q, r, s, t)=\left(\lambda \Phi \lambda^{-1}, \lambda P, \lambda Q, r, s, t \right) \\ & \lambda^{\prime}(\Phi, P, Q, r, s, t)=(\Phi, Q,-P,-r,-t,-s), \end{aligned}	$\lambda(\Phi, P, Q, r, s, t) = \left(\lambda\Phi\lambda^{-1}, \lambda P, \lambda Q, r, s, t\right)$ $\lambda'(\Phi, P, Q, r, s, t) = (\Phi, Q, -P, -r, -t, -s),$	$\lambda(\Phi, P, Q, r, s, t) = (\lambda\Phi\lambda^{-1}, \lambda P, \lambda Q, r, s, t),$ $\lambda'(\Phi, P, Q, r, s, t) = (\Phi, Q, -P, -r, -t, -s),$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0067	15	0.573	a+\left(\begin{array}{l} m_{1} \\ m_{2} \\ m_{3} \end{array}\right) .	$a+\left(\begin{array}{l} m_{1} \\ m_{2} \\ m_{3} \end{array}\right) .$	$a+\left(\begin{array}{l} m_{1} \\ m_{2} \\ m_{3} \end{array}\right) .$
0902.0431_EQ1027	171	0.577	\begin{array}{lllllllll} \lambda_{0}+\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=2 & 4 & 6 & 5 & 3 & 2 & 1 & 3 \\ \lambda_{1}+\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 & 1 & 2 & 2 & 1 & 1 & 1 & 1 \end{array}	$\begin{array}{lllllllll} \lambda_{0}+\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=2 & 4 & 6 & 5 & 3 & 2 & 1 & 3 \\ \lambda_{1}+\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 & 1 & 2 & 2 & 1 & 1 & 1 & 1 \end{array}$	$\begin{array}{lllllllll} \lambda_{0}+\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=2 & 4 & 6 & 5 & 3 & 2 & 1 & 3 \\ \lambda_{1}+\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 & 1 & 2 & 2 & 1 & 1 & 1 & 1 \end{array}$
0902.0431_EQ1047	178	0.578	\begin{aligned} & -\left(\beta_{12} P, \beta_{2} P, \beta_{32} P, b_{1} P, b_{2} P, b_{3} P\right) \\ & \quad=\left[\left(\beta_{12} P, \beta_{2} P, \beta_{32} P, b_{1} P, b_{2} P, b_{3} P\right),(0,0,0,1,0,0)\right] \\ & \quad=\left(0,-\beta_{2} P, \beta_{32} P, 0,-2 b_{2} P, 2 b_{3} P\right) \end{aligned}	$\begin{aligned} & -\left(\beta_{12} P, \beta_{2} P, \beta_{32} P, b_{1} P, b_{2} P, b_{3} P\right) \\ & \quad=\left[\left(\beta_{12} P, \beta_{2} P, \beta_{32} P, b_{1} P, b_{2} P, b_{3} P\right),(0,0,0,1,0,0)\right] \\ & \quad=\left(0,-\beta_{2} P, \beta_{32} P, 0,-2 b_{2} P, 2 b_{3} P\right) \end{aligned}$	$\begin{aligned} & -\left(\beta_{12} P, \beta_{2} P, \beta_{32} P, b_{1} P, b_{2} P, b_{3} P\right) \\ & \quad=\left[\left(\beta_{12} P, \beta_{2} P, \beta_{32} P, b_{1} P, b_{2} P, b_{3} P\right),(0,0,0,1,0,0)\right] \\ & \quad=\left(0,-\beta_{2} P, \beta_{32} P, 0,-2 b_{2} P, 2 b_{3} P\right) \end{aligned}$
0902.0431_EQ0075	16	0.579	\begin{aligned} S_{1} & =2 G_{12}-G_{47}-G_{56}, \quad S_{2}=2 G_{13}-G_{46}+G_{57}, \\ S_{3} & =2 G_{14}+G_{27}+G_{36}, \quad S_{4}=2 G_{15}+G_{26}-G_{37}, \\ S_{5} & =2 G_{16}-G_{25}-G_{34}, \quad S_{6}=2 G_{17}-G_{24}+G_{35}, \end{aligned}	$\begin{aligned} S_{1} & =2 G_{12}-G_{47}-G_{56}, \quad S_{2}=2 G_{13}-G_{46}+G_{57}, \\ S_{3} & =2 G_{14}+G_{27}+G_{36}, \quad S_{4}=2 G_{15}+G_{26}-G_{37}, \\ S_{5} & =2 G_{16}-G_{25}-G_{34}, \quad S_{6}=2 G_{17}-G_{24}+G_{35}, \end{aligned}$	$\begin{aligned} S_{1} & =2 G_{12}-G_{47}-G_{56}, \quad S_{2}=2 G_{13}-G_{46}+G_{57}, \\ S_{3} & =2 G_{14}+G_{27}+G_{36}, \quad S_{4}=2 G_{15}+G_{26}-G_{37}, \\ S_{5} & =2 G_{16}-G_{25}-G_{34}, \quad S_{6}=2 G_{17}-G_{24}+G_{35}, \end{aligned}$
0902.0431_EQ1176	198	0.582	\begin{aligned} (*(* \boldsymbol{a} \wedge *(\boldsymbol{b} \wedge \boldsymbol{c})), \boldsymbol{x})=(\boldsymbol{a}, *(\boldsymbol{b} \wedge \boldsymbol{c}) \wedge \boldsymbol{x}) \\ & = \left(\boldsymbol{a}_{1}, *(\boldsymbol{b} \wedge \boldsymbol{c})\right)\left(\boldsymbol{a}_{2}, \boldsymbol{x}\right)-\left(\boldsymbol{a}_{2}, *(\boldsymbol{b} \wedge \boldsymbol{c})\right)\left(\boldsymbol{a}_{1}, \boldsymbol{x}\right) \\ & = \left(\boldsymbol{a}_{1} \wedge \boldsymbol{b} \wedge \boldsymbol{c}, \boldsymbol{e}_{1} \wedge \cdots \wedge \boldsymbol{e}_{5}\right)\left(\boldsymbol{a}_{2}, \boldsymbol{x}\right)-\left(\boldsymbol{a}_{2} \wedge \boldsymbol{b} \wedge \boldsymbol{c}, \boldsymbol{e}_{1} \wedge \cdots \wedge \boldsymbol{e}_{5}\right)\left(\boldsymbol{a}_{1}, \boldsymbol{x}\right), \end{aligned}	$\begin{aligned} (*(* \boldsymbol{a} \wedge *(\boldsymbol{b} \wedge \boldsymbol{c})), \boldsymbol{x})=(\boldsymbol{a}, *(\boldsymbol{b} \wedge \boldsymbol{c}) \wedge \boldsymbol{x}) \\ & = \left(\boldsymbol{a}_{1}, *(\boldsymbol{b} \wedge \boldsymbol{c})\right)\left(\boldsymbol{a}_{2}, \boldsymbol{x}\right)-\left(\boldsymbol{a}_{2}, *(\boldsymbol{b} \wedge \boldsymbol{c})\right)\left(\boldsymbol{a}_{1}, \boldsymbol{x}\right) \\ & = \left(\boldsymbol{a}_{1} \wedge \boldsymbol{b} \wedge \boldsymbol{c}, \boldsymbol{e}_{1} \wedge \cdots \wedge \boldsymbol{e}_{5}\right)\left(\boldsymbol{a}_{2}, \boldsymbol{x}\right)-\left(\boldsymbol{a}_{2} \wedge \boldsymbol{b} \wedge \boldsymbol{c}, \boldsymbol{e}_{1} \wedge \cdots \wedge \boldsymbol{e}_{5}\right)\left(\boldsymbol{a}_{1}, \boldsymbol{x}\right), \end{aligned}$	$\begin{aligned} (*(* \boldsymbol{a} \wedge *(\boldsymbol{b} \wedge \boldsymbol{c})), \boldsymbol{x})=(\boldsymbol{a}, *(\boldsymbol{b} \wedge \boldsymbol{c}) \wedge \boldsymbol{x}) \\ & = \left(\boldsymbol{a}_{1}, *(\boldsymbol{b} \wedge \boldsymbol{c})\right)\left(\boldsymbol{a}_{2}, \boldsymbol{x}\right)-\left(\boldsymbol{a}_{2}, *(\boldsymbol{b} \wedge \boldsymbol{c})\right)\left(\boldsymbol{a}_{1}, \boldsymbol{x}\right) \\ & = \left(\boldsymbol{a}_{1} \wedge \boldsymbol{b} \wedge \boldsymbol{c}, \boldsymbol{e}_{1} \wedge \cdots \wedge \boldsymbol{e}_{5}\right)\left(\boldsymbol{a}_{2}, \boldsymbol{x}\right)-\left(\boldsymbol{a}_{2} \wedge \boldsymbol{b} \wedge \boldsymbol{c}, \boldsymbol{e}_{1} \wedge \cdots \wedge \boldsymbol{e}_{5}\right)\left(\boldsymbol{a}_{1}, \boldsymbol{x}\right), \end{aligned}$
0902.0431_EQ0728 (b)	120	0.589	\begin{aligned} & W \ni \Phi(0, X, 0,0)(0,0,0,1)=(X, 0,0,0) \\ & W \ni \Phi\left(0, E_{2}, 0,0\right) \left(E_{3}, 0,0,0\right)=\left(0, E_{1}, 0,0\right) \\ & W \ni \Phi\left(0, E_{1}, 0,0\right)\left(0, E_{1}, 0,0 \right)=(0,0,1,0) \\ & W \ni \Phi(0,0, Y, 0)(0,0,1,0)=(0, Y, 0,0) \end{aligned}	$\begin{aligned} & W \ni \Phi(0, X, 0,0)(0,0,0,1)=(X, 0,0,0) \\ & W \ni \Phi\left(0, E_{2}, 0,0\right) \left(E_{3}, 0,0,0\right)=\left(0, E_{1}, 0,0\right) \\ & W \ni \Phi\left(0, E_{1}, 0,0\right)\left(0, E_{1}, 0,0 \right)=(0,0,1,0) \\ & W \ni \Phi(0,0, Y, 0)(0,0,1,0)=(0, Y, 0,0) \end{aligned}$	$\begin{aligned} & W \ni \Phi(0, X, 0,0)(0,0,0,1)=(X, 0,0,0), \\ & W \ni \Phi\left(0, E_{2}, 0,0\right) \left(E_{3}, 0,0,0\right)=\left(0, E_{1}, 0,0\right), \\ & W \ni \Phi\left(0, E_{1}, 0,0\right)\left(0, E_{1}, 0,0 \right)=(0,0,1,0), \\ & W \ni \Phi(0,0, Y, 0)(0,0,1,0)=(0, Y, 0,0). \end{aligned}$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0688	114	0.589	`\begin{aligned} {\left[\Phi_{1}, \Phi_{2}\right] P } & =\Phi_{1} \Phi_{2} P-\Phi_{2} \Phi_{1} P \\ & =\cdots( \text { using the formula of } A \vee B \text { (Lemma 3.4.1) etc.) } \cdots \\ & =\Phi P \end{aligned}`	$\begin{aligned} {\left[\Phi_{1}, \Phi_{2}\right] P } & =\Phi_{1} \Phi_{2} P-\Phi_{2} \Phi_{1} P \\ & =\cdots(\text { using the formula of } A \vee B \text { (Lemma 3.4.1) etc.) } \cdots \\ & =\Phi P \end{aligned}$	$\begin{aligned} {\left[\Phi_{1}, \Phi_{2}\right] P } & =\Phi_{1} \Phi_{2} P-\Phi_{2} \Phi_{1} P \\ & =\cdots(\text { using the formula of } A \vee B \text { (Lemma 3.4.1) etc.) } \cdots \\ & =\Phi P \end{aligned}$
0902.0431_EQ0350	57	0.589	`\begin{aligned} & R\left(\left(\alpha_{1} x_{1}\right) \left(\alpha_{2} x_{2}\right)\left(\alpha_{3} x_{3} \right)\right)=R\left(\left(\overline{\alpha_{3}\left(\overline{x_{1} x_{2}}\right)}\right) \alpha_{3} x_{3}\right) \\ & \quad=\left(\alpha_{3}\left(\overline{x_{1} x_{2}}\right), \alpha_{3} x_{3}\right)= \left(\overline{x_{1} x_{2}}, x_{3}\right)=R\left(x_{1} x_{2} x_{3}\right) \end{aligned}`	$\begin{aligned} & R\left(\left(\alpha_{1} x_{1}\right) \left(\alpha_{2} x_{2}\right)\left(\alpha_{3} x_{3} \right)\right)=R\left(\left(\overline{\alpha_{3}\left(\overline{x_{1} x_{2}}\right)}\right) \alpha_{3} x_{3}\right) \\ & \quad=\left(\alpha_{3}\left(\overline{x_{1} x_{2}}\right), \alpha_{3} x_{3}\right)= \left(\overline{x_{1} x_{2}}, x_{3}\right)=R\left(x_{1} x_{2} x_{3}\right) \end{aligned}$	$\begin{aligned} & R\left(\left(\alpha_{1} x_{1}\right) \left(\alpha_{2} x_{2}\right)\left(\alpha_{3} x_{3} \right)\right)=R\left(\left(\overline{\alpha_{3}\left(\overline{x_{1} x_{2}}\right)}\right) \alpha_{3} x_{3}\right) \\ & \quad=\left(\alpha_{3}\left(\overline{x_{1} x_{2}}\right), \alpha_{3} x_{3}\right)= \left(\overline{x_{1} x_{2}}, x_{3}\right)=R\left(x_{1} x_{2} x_{3}\right), \end{aligned}$
0902.0431_EQ0870	144	0.590	`\begin{array}{clcccccc} 1 & \longrightarrow & \operatorname{Spin}(11) & \longrightarrow & \left(E_{7} \right)^{\kappa, \mu} & \longrightarrow & S^{11} & \longrightarrow & * \\ & & \downarrow p^{\prime} & & \downarrow p & & \downarrow= & & \\ 1 & \longrightarrow & SO(11) & \longrightarrow & SO(12) & \longrightarrow & S^{11} & \longrightarrow & * \end{array}`	$\begin{array}{clcccccc} 1 & \longrightarrow & \operatorname{Spin}(11) & \longrightarrow & \left(E_{7} \right)^{\kappa, \mu} & \longrightarrow & S^{11} & \longrightarrow & * \\ & & \downarrow p^{\prime} & & \downarrow p & & \downarrow= & & \\ 1 & \longrightarrow & SO(11) & \longrightarrow & SO(12) & \longrightarrow & S^{11} & \longrightarrow & * \end{array}$	$\begin{array}{clcccccc} 1 & \longrightarrow & \operatorname{Spin}(11) & \longrightarrow & \left(E_{7} \right)^{\kappa, \mu} & \longrightarrow & S^{11} & \longrightarrow & * \\ & & \downarrow p^{\prime} & & \downarrow p & & \downarrow= & & \\ 1 & \longrightarrow & SO(11) & \longrightarrow & SO(12) & \longrightarrow & S^{11} & \longrightarrow & * \end{array}$
0902.0431_EQ0324	52	0.591	`\begin{aligned} & \widetilde{A}_{1}(1) \widetilde{A}_{1}(1) E_{2}=-\frac{1}{2} \widetilde{A}_{1}(1) F_{1}(1)=-\frac{1}{2} \left(E_{2}-E_{3}\right), \\ & \widetilde{A}_{1}(1) \widetilde{A}_{1}(1) E_{3}=\frac{1}{2} \widetilde{A}_{1}(1) F_{1}(1)=\frac{1}{2} \left(E_{2}-E_{3}\right), \\ & \widetilde{A}_{1}(1) \widetilde{A}_{1}(1) F_{1}(1)=\widetilde{A}_{1}(1) \left(E_{2}-E_{3}\right)=-F_{1}(1), \\ & \widetilde{A}_{1}(1) \widetilde{A}_{1}(1) F_{2} \left(e_{i}\right)=\frac{1}{2} \widetilde{A}_{1}(1) F_{3}\left(e_{i}\right)=-\frac{1}{4} F_{2}\left(e_{i} \right), \\ & \widetilde{A}_{1}(1) \widetilde{A}_{1}(1) F_{3}\left(e_{i}\right)=-\frac{1}{2} \widetilde{A}_{1}(1) F_{3}\left(\overline{e_{i}}\right)=-\frac{1}{4} F_{3} \left(e_{i}\right), \\ & \text { the others }=0 . \end{aligned}`	$\begin{aligned} & \widetilde{A}_{1}(1) \widetilde{A}_{1}(1) E_{2}=-\frac{1}{2} \widetilde{A}_{1}(1) F_{1}(1)=-\frac{1}{2} \left(E_{2}-E_{3}\right), \\ & \widetilde{A}_{1}(1) \widetilde{A}_{1}(1) E_{3}=\frac{1}{2} \widetilde{A}_{1}(1) F_{1}(1)=\frac{1}{2} \left(E_{2}-E_{3}\right), \\ & \widetilde{A}_{1}(1) \widetilde{A}_{1}(1) F_{1}(1)=\widetilde{A}_{1}(1) \left(E_{2}-E_{3}\right)=-F_{1}(1), \\ & \widetilde{A}_{1}(1) \widetilde{A}_{1}(1) F_{2} \left(e_{i}\right)=\frac{1}{2} \widetilde{A}_{1}(1) F_{3}\left(e_{i}\right)=-\frac{1}{4} F_{2}\left(e_{i} \right), \\ & \widetilde{A}_{1}(1) \widetilde{A}_{1}(1) F_{3}\left(e_{i}\right)=-\frac{1}{2} \widetilde{A}_{1}(1) F_{3}\left(\overline{e_{i}}\right)=-\frac{1}{4} F_{3} \left(e_{i}\right), \\ & \text { the others }=0 . \end{aligned}$	$\begin{aligned} & \widetilde{A}_{1}(1) \widetilde{A}_{1}(1) E_{2}=-\frac{1}{2} \widetilde{A}_{1}(1) F_{1}(1)=-\frac{1}{2}(E_{2}-E_{3}), \\ & \widetilde{A}_{1}(1) \widetilde{A}_{1}(1) E_{3}=\frac{1}{2} \widetilde{A}_{1}(1) F_{1}(1)=\frac{1}{2}(E_{2}-E_{3}), \\ & \widetilde{A}_{1}(1) \widetilde{A}_{1}(1) F_{1}(1)=\widetilde{A}_{1}(1)(E_{2}-E_{3})=-F_{1}(1), \\ & \widetilde{A}_{1}(1) \widetilde{A}_{1}(1) F_{2}(e_{i})=\frac{1}{2} \widetilde{A}_{1}(1) F_{3}(\overline{e_{i}})=-\frac{1}{4} F_{2}(e_{i}), \\ & \widetilde{A}_{1}(1) \widetilde{A}_{1}(1) F_{3}(e_{i})=-\frac{1}{2} \widetilde{A}_{1}(1) F_{3}(\overline{e_{i}})=-\frac{1}{4} F_{3}(e_{i}), \\ & \text { the others }=0. \end{aligned}$

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0902.0431_EQ1083	184	0.593	`\begin{aligned} S_{1} \tau S_{2} & -S_{2} \tau S_{1} \\ = & -k\left(g X_{1} g X_{2}-g X_{2} g X_{1}+g\left(\gamma Y_{1}\right) g\left(\gamma Y_{2}\right)-g\left(\gamma Y_{2}\right) g\left(\gamma Y_{1}\right)\right) \\ & -i k \left(g\left(\gamma Y_{1}\right) g X_{2}-g\left(\gamma Y_{2}\right) g X_{1}-g X_{1} g\left(\gamma Y_{2}\right)+g X_{2} g\left(\gamma Y_{1}\right)\right) \\ & \left.-\eta_{1} g X_{2}+\eta_{2} g X_{1}+\xi_{1} g\left(\gamma Y_{2}\right)-\xi_{2} g\left(\gamma Y_{1}\right)\right)+\frac{i}{2}\left(\xi_{1} \eta_{2}-\eta_{2} \xi_{1}\right) E \\ = & k\left(-\left[g X_{1}, g X_{2}\right]-\left[g\left(\gamma Y_{1}\right), g\left(\gamma Y_{2}\right)\right]\right) \\ & +i k\left(g\left(2 \gamma X_{1} \times Y_{2}-2 \gamma X_{2} \times Y_{1}+\eta_{1} X_{2}-\eta_{2} X_{1}-\xi_{1} \gamma Y_{2}+\xi_{2} \gamma Y_{1}\right)\right) \\ & +\frac{i}{2}\left(\left(X_{1}, Y_{2}\right)-\left(X_{2}, Y_{1}\right)+\xi_{1} \eta_{2}-\xi_{2} \eta_{1}\right)\right) E(\text { Lemma 3.12.1 }) \end{aligned}`	$\begin{aligned} S_{1} \tau S_{2} & -S_{2} \tau S_{1} \\ = & -k\left(g X_{1} g X_{2}-g X_{2} g X_{1}+g\left(\gamma Y_{1}\right) g\left(\gamma Y_{2}\right)-g\left(\gamma Y_{2}\right) g\left(\gamma Y_{1}\right)\right) \\ & -i k\left(g\left(\gamma Y_{1}\right) g X_{2}-g\left(\gamma Y_{2}\right) g X_{1}-g X_{1} g\left(\gamma Y_{2}\right)+g X_{2} g\left(\gamma Y_{1}\right)\right) \\ & \left.-\eta_{1} g X_{2}+\eta_{2} g X_{1}+\xi_{1} g\left(\gamma Y_{2}\right)-\xi_{2} g\left(\gamma Y_{1}\right)\right)+\frac{i}{2}\left(\xi_{1} \eta_{2}-\eta_{2} \xi_{1}\right) E \\ = & k\left(-\left[g X_{1}, g X_{2}\right]-\left[g\left(\gamma Y_{1}\right), g\left(\gamma Y_{2}\right)\right]\right) \\ & +i k\left(g\left(2 \gamma X_{1} \times Y_{2}-2 \gamma X_{2} \times Y_{1}+\eta_{1} X_{2}-\eta_{2} X_{1}-\xi_{1} \gamma Y_{2}+\xi_{2} \gamma Y_{1}\right)\right) \\ & +\frac{i}{2}\left(\left(X_{1}, Y_{2}\right)-\left(X_{2}, Y_{1}\right)+\xi_{1} \eta_{2}-\xi_{2} \eta_{1}\right)\right) E(\text { Lemma 3.12.1 }) \end{aligned}$
0902.0431_EQ0678	112	0.595	`\left(\begin{array}{c} X \\ \frac{1}{\eta}(X \times X) \\ \frac{1}{\eta^{2}} \operatorname{det} X \\ \eta \end{array}\right), \quad\left(\begin{array}{c} \frac{1}{\xi}(Y \times Y) \\ Y \\ \xi \\ \frac{1}{\xi^{2}} \operatorname{det} Y \end{array}\right), \quad \dot{1}= \left(\begin{array}{l} 0 \\ 0 \\ 1 \\ 0 \end{array} \right), \quad 1=\left(\begin{array}{l} 0 \\ 0 \\ 0 \\ 1 \end{array}\right)`	$\left(\begin{array}{c} X \\ \frac{1}{\eta}(X \times X) \\ \frac{1}{\eta^{2}} \operatorname{det} X \\ \eta \end{array}\right), \quad\left(\begin{array}{c} \frac{1}{\xi}(Y \times Y) \\ Y \\ \xi \\ \frac{1}{\xi^{2}} \operatorname{det} Y \end{array}\right), \quad \dot{1}= \left(\begin{array}{l} 0 \\ 0 \\ 1 \\ 0 \end{array} \right), \quad 1=\left(\begin{array}{l} 0 \\ 0 \\ 0 \\ 1 \end{array}\right)$	$\left(\begin{array}{c} X \\ \frac{1}{\eta}(X \times X) \\ \frac{1}{\eta^{2}} \operatorname{det} X \\ \eta \end{array}\right), \quad\left(\begin{array}{c} \frac{1}{\xi}(Y \times Y) \\ Y \\ \xi \\ \frac{1}{\xi^{2}} \operatorname{det} Y \end{array}\right), \quad \dot{1}= \left(\begin{array}{l} 0 \\ 0 \\ 1 \\ 0 \end{array} \right), \quad 1=\left(\begin{array}{l} 0 \\ 0 \\ 0 \\ 1 \end{array}\right)$

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0902.0431_EQ0938	155	0.595	`\[\begin{aligned} & P=\left(E_{1}, 0,0,0\right) \\ & \xrightarrow{f} e_{1} \wedge e_{5} \wedge e_{6} \\ & \xrightarrow{D} D e_{1} \wedge e_{5} \wedge e_{6}+e_{1} \wedge D e_{5} \wedge e_{6}+e_{1} \wedge e_{5} \wedge D e_{6} \\ & =\left(b_{11}+\frac{\nu}{3}\right) e_{1} \wedge e_{5} \wedge e_{6}-\bar{b}_{12} e_{2} \wedge e_{5} \wedge e_{6}-\bar{b}_{13} e_{3} \wedge e_{5} \wedge e_{6}-\bar{l}_{11} e_{4} \wedge e_{5} \wedge e_{6} \\ & +l_{22} e_{1} \wedge e_{2} \wedge e_{6}+l_{32} e_{1} \wedge e_{3} \wedge e_{6}+c_{12} e_{1} \wedge e_{4} \wedge e_{6}+\left(c_{22}-\frac{\nu}{3}\right) e_{1} \wedge e_{5} \wedge e_{6} \\ & +l_{23} e_{1} \wedge e_{5} \wedge e_{2}+l_{33} e_{1} \wedge e_{5} \wedge e_{3}+c_{13} e_{1} \wedge e_{5} \wedge e_{4}+\left(c_{33}-\frac{\nu}{3}\right) e_{1} \wedge e_{5} \wedge e_{6} \end{aligned} \] \end{itemize}`	$P=(E_1,0,0,0)$ $\xrightarrow{f} e_1\wedge e_5\wedge e_6$ $\xrightarrow{D} De_1\wedge e_5\wedge e_6+e_1\wedge De_5\wedge e_6+e_1\wedge e_5\wedge De_6$ $=\left(b_{11}+\frac{\nu}{3}\right)e_1\wedge e_5\wedge e_6-\bar{b}_{12}e_2\wedge e_5\wedge e_6-\bar{b}_{13}e_3\wedge e_5\wedge e_6-\bar{l}_{11}e_4\wedge e_5\wedge e_6$ $+l_{22}e_1\wedge e_2\wedge e_6+l_{32}e_1\wedge e_3\wedge e_6+c_{12}e_1\wedge e_4\wedge e_6+\left(c_{22}-\frac{\nu}{3}\right)e_1\wedge e_5\wedge e_6$ $+l_{23}e_1\wedge e_5\wedge e_2+l_{33}e_1\wedge e_5\wedge e_3+c_{13}e_1\wedge e_5\wedge e_4+\left(c_{33}-\frac{\nu}{3}\right)e_1\wedge e_5\wedge e_6$	$P=(E_1,0,0,0)$ $\xrightarrow{f} \boldsymbol{e}_1\wedge\boldsymbol{e}_5\wedge\boldsymbol{e}_6$ $\xrightarrow{D} D\boldsymbol{e}_1\wedge\boldsymbol{e}_5\wedge\boldsymbol{e}_6+\boldsymbol{e}_1\wedge D\boldsymbol{e}_5\wedge\boldsymbol{e}_6+\boldsymbol{e}_1\wedge\boldsymbol{e}_5\wedge D\boldsymbol{e}_6$ $=\left(b_{11}+\frac{\nu}{3}\right)\boldsymbol{e}_1\wedge\boldsymbol{e}_5\wedge\boldsymbol{e}_6-\bar{b}_{12}\boldsymbol{e}_2\wedge\boldsymbol{e}_5\wedge\boldsymbol{e}_6-\bar{b}_{13}\boldsymbol{e}_3\wedge\boldsymbol{e}_5\wedge\boldsymbol{e}_6-\bar{l}_{11}\boldsymbol{e}_4\wedge\boldsymbol{e}_5\wedge\boldsymbol{e}_6$ $+l_{22}\boldsymbol{e}_1\wedge\boldsymbol{e}_2\wedge\boldsymbol{e}_6+l_{32}\boldsymbol{e}_1\wedge\boldsymbol{e}_3\wedge\boldsymbol{e}_6+c_{12}\boldsymbol{e}_1\wedge\boldsymbol{e}_4\wedge\boldsymbol{e}_6+\left(c_{22}-\frac{\nu}{3}\right)\boldsymbol{e}_1\wedge\boldsymbol{e}_5\wedge\boldsymbol{e}_6$ $+l_{23}\boldsymbol{e}_1\wedge\boldsymbol{e}_5\wedge\boldsymbol{e}_2+l_{33}\boldsymbol{e}_1\wedge\boldsymbol{e}_5\wedge\boldsymbol{e}_3+c_{13}\boldsymbol{e}_1\wedge\boldsymbol{e}_5\wedge\boldsymbol{e}_4+\left(c_{33}-\frac{\nu}{3}\right)\boldsymbol{e}_1\wedge\boldsymbol{e}_5\wedge\boldsymbol{e}_6$
0902.0431_EQ0767	129	0.599	`\begin{aligned} & \left(\alpha_{i}, \alpha_{i}\right)= \frac{1}{18}, \quad i=1,2,3,4,5,6,7 \\ & \left(\alpha_{1}, \alpha_{2}\right)=\left(\alpha_{2}, \alpha_{3}\right)=\left(\alpha_{3}, \alpha_{4}\right)= \left(\alpha_{4}, \alpha_{5}\right)=\left(\alpha_{4}, \alpha_{7}\right)=\left(\alpha_{5}, \alpha_{6}\right)=- \frac{1}{36} \\ & \left(\alpha_{i}, \alpha_{j}\right)=0, \quad \text { otherwise } \\ & (-\mu,-\mu)=\frac{1}{18},\quad\left(-\mu, \alpha_{6}\right)=-\frac{1}{36}, \quad \left(-\mu, \alpha_{i}\right)=0, \quad i=1,2,3,5,7 \end{aligned}`	$(\alpha_i,\alpha_i)=\frac{1}{18},\quad i=1,2,3,4,5,6,7$ $(\alpha_1,\alpha_2)=(\alpha_2,\alpha_3)=(\alpha_3,\alpha_4)=(\alpha_4,\alpha_5)=(\alpha_4,\alpha_7)=(\alpha_5,\alpha_6)=-\frac{1}{36}$ $(\alpha_i,\alpha_j)=0,\quad$ otherwise $(-\mu,-\mu)=\frac{1}{18},\quad(-\mu,\alpha_6)=-\frac{1}{36},\quad(-\mu,\alpha_i)=0,\quad i=1,2,3,5,7$	$(\alpha_i,\alpha_i)=\frac{1}{18},\quad i=1,2,3,4,5,6,7,$ $(\alpha_1,\alpha_2)=(\alpha_2,\alpha_3)=(\alpha_3,\alpha_4)=(\alpha_4,\alpha_5)=(\alpha_4,\alpha_7)=(\alpha_5,\alpha_6)=-\frac{1}{36},$ $(\alpha_i,\alpha_j)=0,\quad$ otherwise, $(-\mu,-\mu)=\frac{1}{18},\quad(-\mu,\alpha_6)=-\frac{1}{36},\quad(-\mu,\alpha_i)=0,\quad i=1,2,3,5,7,$
0902.0431_EQ0507	83	0.599	`\begin{aligned} & {\left[h_{\delta}, h_{\delta^{\prime}}} \right]=0,} \\ & {\left[h_{\delta}, \widetilde{H}^{ \prime}\right]=\widetilde{h_{\delta} H^{\prime}}(\text { Lemma 3.6.3.(1) })=\widetilde{0}=0,} \\ & {\left[\widetilde{H}, \widetilde{H}^{\prime}\right]=\frac{1}{2} \left[H, H^{\prime}\right]^{\sim}(\text { Lemma 3.6.3.(2) })=0 .} \end{aligned}`	$[h_\delta,h_{\delta'}]=0,$ $\left[h_\delta,\widetilde{H}'\right]=\widetilde{h_\delta H'}(\text{ Lemma 3.6.3.(1) })=\widetilde{0}=0,$ $\left[\widetilde{H},\widetilde{H}'\right]=\frac{1}{2}[H,H']^{\sim}(\text{ Lemma 3.6.3.(2) })=0.$	$[h_\delta,h_{\delta'}]=0,$ $[h_\delta,\widetilde{H}']=\widetilde{h_\delta H'}\ (\text{Lemma 3.6.3.(1)})\ =\widetilde{0}=0,$ $[\widetilde{H},\widetilde{H}']=\frac{1}{2}[H,H']^{\sim}\ (\text{Lemma 3.6.3.(2)})\ =0.$
0902.0431_EQ0651	108	0.605	`\begin{array}{r} \varphi(P, A, B)(X+M)=h(A, B) X h(A, B)^{*}+P M \tau h(A, B)^{*}, \\ X+M \in\left( \mathfrak{J}_{\boldsymbol{C}}\right)^{C} \oplus M(3, \boldsymbol{C})^{C}=\mathfrak{J}^{C} . \end{array}`	$\varphi(P,A,B)(X+M)=h(A,B)Xh(A,B)^*+PM\tau h(A,B)^*,$ $X+M\in(\mathfrak{J}_{\boldsymbol{C}})^C\oplus M(3,\boldsymbol{C})^C=\mathfrak{J}^C.$	$\varphi(P,A,B)(X+M)=h(A,B)Xh(A,B)^*+PM\tau h(A,B)^*,$ $X+M\in(\mathfrak{J}_{\boldsymbol{C}})^C\oplus M(3,\boldsymbol{C})^C=\mathfrak{J}^C.$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0671	111	0.606	`P \times Q=\Phi(\phi, A, B, \nu),\left\{\begin{array}{l} \phi=-\frac{1}{2}(X \vee W+Z \vee Y) \\ A=-\frac{1}{4}(2 Y \times W-\xi Z-\zeta X) \\ B=\frac{1}{4}(2 X \times Z-\eta W-\omega Y) \\ \nu=\frac{1}{8}((X, W)+(Z, Y)-3(\xi \omega+\zeta \eta)) . \end{array}\right.`	$P \times Q=\Phi(\phi, A, B, \nu),\left\{\begin{array}{l} \phi=-\frac{1}{2}(X \vee W+Z \vee Y) \\ A=-\frac{1}{4}(2 Y \times W-\xi Z-\zeta X) \\ B=\frac{1}{4}(2 X \times Z-\eta W-\omega Y) \\ \nu=\frac{1}{8}((X, W)+(Z, Y)-3(\xi \omega+\zeta \eta)) . \end{array}\right.$	$P \times Q=\Phi(\phi, A, B, \nu),\left\{\begin{array}{l} \phi=-\frac{1}{2}(X \vee W+Z \vee Y) \\ A=-\frac{1}{4}(2 Y \times W-\xi Z-\zeta X) \\ B=\frac{1}{4}(2 X \times Z-\eta W-\omega Y) \\ \nu=\frac{1}{8}((X, W)+(Z, Y)-3(\xi \omega+\zeta \eta)) . \end{array}\right.$
0902.0431_EQ0924	153	0.608	`f(h(a) P)=a(f P), \quad a \in C, P \in\left( \mathfrak{P}_{C}\right)^{C} .`	$f(h(a) P)=a(f P), \quad a \in C, P \in\left(\mathfrak{P}_{C}\right)^{C} .$	$f(h(a) P)=a(f P), \quad a \in C, P \in\left(\mathfrak{P}_{C}\right)^{C} .$
0902.0431_EQ1103	187	0.608	`\mathfrak{e}_{8(8)}=\left(\mathfrak{e}_{8(8)} \right)^{\widetilde{\lambda} \gamma} \oplus\left( \mathfrak{e}_{8(8)}\right)_{-\widetilde{\lambda} \gamma} .`	$\mathfrak{e}_{8(8)}=\left(\mathfrak{e}_{8(8)} \right)^{\widetilde{\lambda} \gamma} \oplus\left(\mathfrak{e}_{8(8)}\right)_{-\widetilde{\lambda} \gamma} .$	$\mathfrak{e}_{8(8)}=\left(\mathfrak{e}_{8(8)} \right)^{\widetilde{\lambda} \gamma} \oplus\left(\mathfrak{e}_{8(8)}\right)_{-\widetilde{\lambda} \gamma} .$
0902.0431_EQ0648	107	0.608	`\begin{aligned} & \varphi((A, B), \epsilon) \varphi((C, D), 1) X \\ & \quad=\varphi((A, B), \epsilon)\left(h(C, D) X h(C, D)^{*}\right) \\ & \quad=h(A, B) \overline{h(C, D) X h(C, D)^{*}} h(A, B)^{*} \\ & \quad=h(A, B) h(\bar{D}, \bar{C}) \bar{X} h(\bar{D}, \bar{C})^{*} h(A, B)^{*}(\text { Lemma 3.13.3.(3) }) \\ & \quad=h(A \bar{D}, B \bar{C}) \bar{X} h(A \bar{D}, B \bar{C})^{*}=\varphi((A \bar{D}, B \bar{C}), \epsilon) X \\ & \quad=\varphi((A, B) \epsilon(C, D), \epsilon) X, \quad X \in\left(\mathfrak{J}_{C}\right)^{C} \end{aligned}`	$\begin{aligned} & \varphi((A, B), \epsilon) \varphi((C, D), 1) X \\ & \quad=\varphi((A, B), \epsilon)\left(h(C, D) X h(C, D)^{*}\right) \\ & \quad=h(A, B) \overline{h(C, D) X h(C, D)^{*}} h(A, B)^{*} \\ & \quad=h(A, B) h(\bar{D}, \bar{C}) \bar{X} h(\bar{D}, \bar{C})^{*} h(A, B)^{*}(\text { Lemma 3.13.3.(3) }) \\ & \quad=h(A \bar{D}, B \bar{C}) \bar{X} h(A \bar{D}, B \bar{C})^{*}=\varphi((A \bar{D}, B \bar{C}), \epsilon) X \\ & \quad=\varphi((A, B) \epsilon(C, D), \epsilon) X, \quad X \in\left(\mathfrak{J}_{C}\right)^{C} \end{aligned}$	$\begin{aligned} & \varphi((A, B), \epsilon) \varphi((C, D), 1) X \\ & \quad=\varphi((A, B), \epsilon)\left(h(C, D) X h(C, D)^{*}\right) \\ & \quad=h(A, B) \overline{h(C, D) X h(C, D)^{*}} h(A, B)^{*} \\ & \quad=h(A, B) h(\bar{D}, \bar{C}) \bar{X} h(\bar{D}, \bar{C})^{*} h(A, B)^{*}(\text { Lemma 3.13.3.(3) }) \\ & \quad=h(A \bar{D}, B \bar{C}) \bar{X} h(A \bar{D}, B \bar{C})^{*}=\varphi((A \bar{D}, B \bar{C}), \epsilon) X \\ & \quad=\varphi((A, B) \epsilon(C, D), \epsilon) X, \quad X \in\left(\mathfrak{J}_{C}\right)^{C} \end{aligned}$
0902.0431_EQ0337	54	0.622	`\begin{aligned} \kappa \pi H= & \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}-\lambda_{2}+\lambda_{3}\right) H_{0}+\frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right) H_{1} \\ & +\frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right) H_{2}+\frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right) H_{3} \end{aligned}`	$\begin{aligned} \kappa \pi H= & \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}-\lambda_{2}+\lambda_{3}\right) H_{0}+\frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right) H_{1} \\ & +\frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right) H_{2}+\frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right) H_{3} \end{aligned}$	$\begin{aligned} \kappa \pi H= & \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}-\lambda_{2}+\lambda_{3}\right) H_{0}+\frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right) H_{1} \\ & +\frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right) H_{2}+\frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right) H_{3} \end{aligned}$
0902.0431_EQ0863	143	0.623	`\begin{aligned} V^{12} & =\left\{P \in \mathfrak{P}^{C} \mid \kappa P=P, \mu \tau \lambda P=P\right\} \\ & =\left\{\left.\left(\left(\begin{array}{ccc} 0 & 0 & 0 \\ 0 & \xi & x \\ 0 & \bar{x} & -\tau \xi \end{array}\right), \left(\begin{array}{ccc} \eta & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{array}\right), 0, \tau \eta\right) \right\rvert\, x \in \mathfrak{C}, \xi, \eta \in C\right\} \end{aligned}`	$\begin{aligned} V^{12} & =\left\{P \in \mathfrak{P}^{C} \mid \kappa P=P, \mu \tau \lambda P=P\right\} \\ & =\left\{\left.\left(\left(\begin{array}{ccc} 0 & 0 & 0 \\ 0 & \xi & x \\ 0 & \bar{x} & -\tau \xi \end{array}\right), \left(\begin{array}{ccc} \eta & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{array}\right), 0, \tau \eta\right) \right\rvert\, x \in \mathfrak{C}, \xi, \eta \in C\right\} \end{aligned}$	$\begin{aligned} V^{12} & =\left\{P \in \mathfrak{P}^{C} \mid \kappa P=P, \mu \tau \lambda P=P\right\} \\ & =\left\{\left.\left(\left(\begin{array}{ccc} 0 & 0 & 0 \\ 0 & \xi & x \\ 0 & \bar{x} & -\tau \xi \end{array}\right), \left(\begin{array}{ccc} \eta & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{array}\right), 0, \tau \eta\right) \right\rvert\, x \in \mathfrak{C}, \xi, \eta \in C\right\} \end{aligned}$

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0902.0431_EQ1155	195	0.623	`\mathfrak{e}_{8}{ }^{C}=\mathfrak{s l}(9, C) \oplus \mathfrak{q}, \quad \mathfrak{q}=\Lambda^{3}\left(C^{9} \right) \oplus \Lambda^{3}\left(C^{9}\right) .`	$\mathfrak{e}_8{}^C = \mathfrak{sl}(9, C) \oplus \mathfrak{q}, \quad \mathfrak{q} = \Lambda^3\left(C^9\right) \oplus \Lambda^3\left(C^9\right).$	$\mathfrak{e}_8{}^C = \mathfrak{sl}(9, C) \oplus \mathfrak{q}, \quad \mathfrak{q} = \Lambda^3(C^9) \oplus \Lambda^3(C^9).$
0902.0431_EQ0319	51	0.625	`B_{4}\left(\delta_{1}, \delta_{2}\right)=9\left( \delta_{1}, \delta_{2}\right)_{4}=3 \operatorname{tr} \left(\delta_{1} \delta_{2}\right), \quad \delta_{1}, \delta_{2} \in \mathfrak{f}_{4}^{C} .`	$B_4\left(\delta_1, \delta_2\right) = 9\left(\delta_1, \delta_2\right)_4 = 3 \operatorname{tr}\left(\delta_1 \delta_2\right), \quad \delta_1, \delta_2 \in \mathfrak{f}_4^C.$	$B_4(\delta_1, \delta_2) = 9(\delta_1, \delta_2)_4 = 3\mathrm{tr}(\delta_1\delta_2), \quad \delta_1, \delta_2 \in \mathfrak{f}_4{}^C.$
0902.0431_EQ0677	112	0.625	`\begin{aligned} \mathfrak{M}^{C} & =\left\{P \in \mathfrak{P}^{C} \mid P \times P=0, P \neq 0\right\} \\ & =\left\{\begin{array}{l|l} P=(X, Y, \xi, \eta) \in \mathfrak{P}^{C} & X \vee Y=0,(X, Y)=3 \xi \eta, \\ P \neq 0 & X \times X=\eta Y, Y \times Y=\xi X \end{array} \right\} . \end{aligned}`	$\begin{aligned} \mathfrak{M}^C & =\left\{P \in \mathfrak{P}^C \mid P \times P=0, P \neq 0\right\} \\ & =\left\{\begin{array}{l\|l} P=(X, Y, \xi, \eta) \in \mathfrak{P}^C & X \vee Y=0,(X, Y)=3 \xi \eta, \\ P \neq 0 & X \times X=\eta Y, Y \times Y=\xi X \end{array} \right\} . \end{aligned}$	$\begin{aligned} \mathfrak{M}^C & =\left\{P \in \mathfrak{P}^C \mid P \times P=0, P \neq 0\right\} \\ & =\left\{\begin{array}{l\|l} P=(X, Y, \xi, \eta) \in \mathfrak{P}^C & X \vee Y=0,(X, Y)=3 \xi \eta, \\ P \neq 0 & X \times X=\eta Y, Y \times Y=\xi X \end{array} \right\} . \end{aligned}$
0902.0431_EQ0472	78	0.629	`\begin{aligned} = & \phi\left(\frac{1}{2}(B, X) A+ \frac{1}{6}(A, B) X-2 B \times(A \times X)\right)-(A \vee B) \phi X \text { (Lemma 3.4.1) } \\ = & \frac{1}{2}(B, X) \phi A+\frac{1}{6}(A, B) \phi X-2 \phi^{\prime} B \times(A \times X)-2 B \times(\phi A \times X) \\ & -2 B \times(A \times \phi X)-\frac{1}{2}(B, \phi X) A-\frac{1}{6}(A, B) \phi X+2 B \times(A \times \phi X) \text { (Lemma 3.4.3) } \\ = & \frac{1}{2}(B, X) \phi A+ \frac{1}{6}(\phi A, B) X-2 B \times(\phi A \times X) \\ & +\frac{1}{2}\left(\phi^{\prime} B, X\right) A+\frac{1}{6} \left(A, \phi^{\prime} B\right) X-2 \phi^{\prime} B \times(A \times X) \\ = & (\phi A \vee B) X+\left(A \vee \phi^{\prime} B\right) X, \quad X \in \mathfrak{J}^{C} . \end{aligned}`	$\begin{aligned} =&\phi\left(\frac{1}{2}(B, X) A+\frac{1}{6}(A, B) X-2 B \times(A \times X)\right)-(A \vee B) \phi X \text{ (Lemma 3.4.1)} \\ =&\frac{1}{2}(B, X) \phi A+\frac{1}{6}(A, B) \phi X-2 \phi^{\prime} B \times(A \times X)-2 B \times(\phi A \times X) \\ & -2 B \times(A \times \phi X)-\frac{1}{2}(B, \phi X) A-\frac{1}{6}(A, B) \phi X+2 B \times(A \times \phi X) \text{ (Lemma 3.4.3)} \\ =&\frac{1}{2}(B, X) \phi A+\frac{1}{6}(\phi A, B) X-2 B \times(\phi A \times X) \\ & +\frac{1}{2}\left(\phi^{\prime} B, X\right) A+\frac{1}{6}\left(A, \phi^{\prime} B\right) X-2 \phi^{\prime} B \times(A \times X) \\ =&(\phi A \vee B) X+\left(A \vee \phi^{\prime} B\right) X, \quad X \in \mathfrak{J}^{C}. \end{aligned}$	$\begin{aligned} &= \phi\Big(\frac{1}{2}(B, X)A + \frac{1}{6}(A, B)X - 2B \times (A \times X)\Big) - (A \vee B)\phi X \text{ (Lemma 3.4.1)} \\ &= \frac{1}{2}(B, X)\phi A + \frac{1}{6}(A, B)\phi X - 2\phi' B \times (A \times X) - 2B \times (\phi A \times X) \\ &\quad -2B \times (A \times \phi X) - \frac{1}{2}(B, \phi X)A - \frac{1}{6}(A, B)\phi X + 2B \times (A \times \phi X) \text{ (Lemma 3.4.3)} \\ &= \frac{1}{2}(B, X)\phi A + \frac{1}{6}(\phi A, B)X - 2B \times (\phi A \times X) \\ &\quad + \frac{1}{2}(\phi' B, X)A + \frac{1}{6}(A, \phi' B)X - 2\phi' B \times (A \times X) \\ &= (\phi A \vee B)X + (A \vee \phi' B)X, \quad X \in \mathfrak{J}^C. \end{aligned}$
0902.0431_EQ0244 (5 Rightarrow4)	40	0.631	`\begin{aligned} & (\operatorname{det}(\alpha X)) \alpha X=(\alpha X \times \alpha X) \times(\alpha X \times \alpha X) \quad(\text { Lemma 2.1.1. } \\ & =\alpha((X \times X) \times(X \times X))=(\operatorname{det} X) \alpha X \quad(\text { Lemma 2.1.1. } \end{aligned}`	$\begin{aligned} &(\operatorname{det}(\alpha X)) \alpha X=(\alpha X \times \alpha X) \times(\alpha X \times \alpha X) \quad(\text { Lemma 2.1.1. } \\ &=\alpha((X \times X) \times(X \times X))=(\operatorname{det} X) \alpha X \quad(\text { Lemma 2.1.1. } \end{aligned}$	$\begin{aligned} &(\det(\alpha X))\alpha X = (\alpha X \times \alpha X) \times (\alpha X \times \alpha X) \quad \text{(Lemma 2.1.1.} \\ &\quad = \alpha((X \times X) \times (X \times X)) = (\det X)\alpha X \quad \text{(Lemma 2.1.1.} \end{aligned}$
0902.0431_EQ1093	185	0.633	`\begin{aligned} & {[\zeta l(D), \zeta(l(S) I)]} \\ & \quad=\left[\Theta\left(\varphi_{*} D, 0,0,0,0,0\right), \Theta\left(0,2 \lambda \gamma \chi^{-1} S, 2 \chi^{-1} S, 0,0,0\right)\right] \\ & \quad=\Theta\left(0,2\left(\varphi_{*} D\right) \lambda \gamma \chi^{-1} S, 2 \left(\varphi_{*} D\right) \chi^{-1} S, 0,0,0\right) \end{aligned}`	$\begin{aligned} &[\zeta l(D), \zeta(l(S) I)] \\ &\quad=\left[\Theta\left(\varphi_{*} D, 0,0,0,0,0\right), \Theta\left(0,2 \lambda \gamma \chi^{-1} S, 2 \chi^{-1} S, 0,0,0\right)\right] \\ &\quad=\Theta\left(0,2\left(\varphi_{*} D\right) \lambda \gamma \chi^{-1} S, 2 \left(\varphi_{*} D\right) \chi^{-1} S, 0,0,0\right) \end{aligned}$	$\begin{aligned} &[\zeta l(D), \zeta(l(S) I)] \\ &\quad=\left[\Theta\left(\varphi_{*} D, 0,0,0,0,0\right), \Theta\left(0,2 \lambda \gamma \chi^{-1} S, 2 \chi^{-1} S, 0,0,0\right)\right] \\ &\quad=\Theta\left(0,2\left(\varphi_{*} D\right) \lambda \gamma \chi^{-1} S, 2 \left(\varphi_{*} D\right) \chi^{-1} S, 0,0,0\right). \end{aligned}$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0436	72	0.637	\begin{aligned} \mathfrak{J}\left(3, \mathfrak{C}^{\prime}\right) & =\left\{X \in M\left(3, \mathfrak{C}^{\prime}\right) \mid X^{*}=X\right\}, \\ \mathfrak{J}(1,2, \mathfrak{C}) & =\left\{X \in M(3, \mathfrak{C}) \mid I_{1} X^{*} I_{1}=X\right\}, \end{aligned}	$\mathfrak{J}\left(3, \mathfrak{C}^{\prime}\right) = \left\{X \in M\left(3, \mathfrak{C}^{\prime}\right) \mid X^{*}=X\right\},$ $\mathfrak{J}(1,2, \mathfrak{C}) = \left\{X \in M(3, \mathfrak{C}) \mid I_{1} X^{*} I_{1}=X\right\},$	$\mathfrak{J}(3, \mathfrak{C}') = \{X \in M(3, \mathfrak{C}') \mid X^* = X\},$ $\mathfrak{J}(1,2, \mathfrak{C}) = \{X \in M(3, \mathfrak{C}) \mid I_1 X^* I_1 = X\},$
0902.0431_EQ1067	181	0.642	\begin{aligned} \left(E_{8}\right)^{\widetilde{\lambda} \gamma} & =\left\{\alpha \in E_{8} \mid \widetilde{\lambda} \gamma \alpha=\alpha \widetilde{\lambda} \gamma \right\} \\ & =\left\{\alpha \in E_{8} \mid \tau \gamma \alpha=\alpha \tau \gamma\right\}=\left(E_{8}\right)^{\tau \gamma} . \end{aligned}	$\left(E_8\right)^{\widetilde{\lambda}\gamma} = \left\{\alpha \in E_8 \mid \widetilde{\lambda}\gamma\alpha = \alpha\widetilde{\lambda}\gamma\right\}$ $= \{\alpha \in E_8 \mid \tau\gamma\alpha = \alpha\tau\gamma\} = \left(E_8\right)^{\tau\gamma}.$	$\left(E_8\right)^{\widetilde{\lambda}\gamma} = \{\alpha \in E_8 \mid \widetilde{\lambda}\gamma\alpha = \alpha\widetilde{\lambda}\gamma\}$ $= \{\alpha \in E_8 \mid \tau\gamma\alpha = \alpha\tau\gamma\} = (E_8)^{\tau\gamma}.$
0902.0431_EQ0811	135	0.647	\begin{aligned} & \left(0, \omega^{\prime} X, 0,0 \right)=-\lambda\left(\omega^{\prime} X, 0,0,0\right)=-\lambda \alpha(X, 0,0,0) \\ & \quad=-\alpha \lambda(X, 0,0,0)=\alpha(0, X, 0,0)=\left(0, \omega^{\prime-1} X, 0,0\right) \end{aligned}	$\left(0, \omega' X, 0, 0\right) = -\lambda\left(\omega' X, 0, 0, 0\right) = -\lambda\alpha(X, 0, 0, 0)$ $= -\alpha\lambda(X, 0, 0, 0) = \alpha(0, X, 0, 0) = \left(0, \omega'^{-1} X, 0, 0\right)$	$\left(0, \omega' X, 0, 0\right) = -\lambda\left(\omega' X, 0, 0, 0\right) = -\lambda\alpha(X, 0, 0, 0)$ $= -\alpha\lambda(X, 0, 0, 0) = \alpha(0, X, 0, 0) = \left(0, \omega'^{-1} X, 0, 0\right),$
0902.0431_EQ0477	79	0.651	\begin{aligned} & =\left(\left(\left[\delta, \delta_{1} \right]+\left[\widetilde{T}, \widetilde{T}_{1}\right] \right)+\left(\widetilde{\delta T_{1}}-\widetilde{ \delta_{1} T}\right), \delta_{2}+\widetilde{T}_{2} \right)_{6} \quad(\text { Theorem 3.2.2 }) \\ & =\left(\left[\delta, \delta_{1}\right], \delta_{2}\right)_{4}+ \left(\left[\widetilde{T}, \widetilde{T}_{1}\right], \delta_{2}\right)_{4}+\left(\delta T_{1}-\delta_{1} T, T_{2}\right) \\ & =-\left(\delta_{1},\left[\delta, \delta_{2}\right]\right)_{4}-\left(\delta_{1} T, T_{2}\right)-\left(T_{1}, \delta_{2} T\right) \quad(\text { Lemma } 2.5 .2) \\ & =-\left(\delta_{1},\left[\delta, \delta_{2} \right]\right)_{4}-\left(\delta_{1} T, T_{2}\right)- \left(T_{1}, \delta T_{2}\right)+\left(T_{1}, \delta_{2} T\right) \\ & =-\left(\delta_{1}+\widetilde{T}_{1},[\delta, \delta_{2}]+\left[\widetilde{T}, \widetilde{T}_{2}\right]\right)+\left(\widetilde{\delta T_{2}}-\widetilde{\delta_{2} T}\right)_{6} \\ & =-\left(\delta_{1}+\widetilde{T}_{1},\left[\delta+\widetilde{T}, \delta_{2}+\widetilde{T}_{2}\right]\right)_{6} \\ & =-\left(\phi_{1},[\phi, \phi_{2}]\right)_{6} \end{aligned}	$= \left(\left(\left[\delta, \delta_1\right] + \left[\widetilde{T}, \widetilde{T}_1\right]\right) + \left(\widetilde{\delta T_1} - \widetilde{\delta_1 T}\right), \delta_2 + \widetilde{T}_2\right)_6$ (Theorem 3.2.2) $= \left(\left[\delta, \delta_1\right], \delta_2\right)_4 + \left(\left[\widetilde{T}, \widetilde{T}_1\right], \delta_2\right)_4 + \left(\delta T_1 - \delta_1 T, T_2\right)$ $= -\left(\delta_1, [\delta, \delta_2]\right)_4 + \left(\delta_2 T, T_1\right) + \left(\delta T_1, T_2\right) - \left(\delta_1 T, T_2\right)$ (Lemma 2.5.2) $= -\left(\delta_1, [\delta, \delta_2]\right)_4 - \left(\delta_1 T, T_2\right) - \left(T_1, \delta T_2\right) + \left(T_1, \delta_2 T\right)$ $= -\left(\delta_1 + \widetilde{T}_1, [\delta, \delta_2] + \left[\widetilde{T}, \widetilde{T}_2\right]\right) + \left(\widetilde{\delta T_2} - \widetilde{\delta_2 T}\right)\right)_6$ $= -\left(\delta_1 + \widetilde{T}_1, \left[\delta + \widetilde{T}, \delta_2 + \widetilde{T}_2\right]\right)_6$ $= -\left(\phi_1, [\phi, \phi_2]\right)_6$	$= \left(\left([\delta, \delta_1] + [\widetilde{T}, \widetilde{T}_1]\right) + (\widetilde{\delta T_1} - \widetilde{\delta_1 T}), \delta_2 + \widetilde{T}_2\right)_6$ (Theorem 3.2.2) $= \left([\delta, \delta_1], \delta_2\right)_4 + \left([\widetilde{T}, \widetilde{T}_1], \delta_2\right)_4 + (\delta T_1 - \delta_1 T, T_2)$ $= -(\delta_1, [\delta, \delta_2])_4 + (\delta_2 T, T_1) + (\delta T_1, T_2) - (\delta_1 T, T_2)$ (Lemma 2.5.2) $= -(\delta_1, [\delta, \delta_2])_4 - (\delta_1 T, T_2) - (T_1, \delta T_2) + (T_1, \delta_2 T)$ $= -(\delta_1 + \widetilde{T}_1, [\delta, \delta_2] + [\widetilde{T}, \widetilde{T}_2]) + (\widetilde{\delta T_2} - \widetilde{\delta_2 T}))_6$ $= -(\delta_1 + \widetilde{T}_1, [\delta + \widetilde{T}, \delta_2 + \widetilde{T}_2])_6$ $= -(\phi_1, [\phi, \phi_2])_6.$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0522	86	0.651	`\begin{aligned} & H_{\alpha_{1}}=\frac{1}{24} \left(H_{0}-H_{1}\right), \quad H_{\alpha_{2}}= \frac{1}{24}\left(H_{1}-H_{2}\right), \quad H_{ \alpha_{3}}=\frac{1}{24}\left(H_{2}-H_{3}\right), \\ & H_{\alpha_{4}}=\frac{1}{24}\left(H_{3}+\left(E_{2}-E_{3} \right)^{\sim}\right), \\ & H_{\alpha_{5}}= \frac{1}{48}\left(\left(-H_{0}-H_{1}-H_{2}+H_{3} \right)+2\left(E_{3}-E_{1}\right)^{\sim} \right), \\ & H_{\alpha_{6}}=\frac{1}{48}\left(\left(H_{0}+H_{1}+H_{2}+H_{3}\right)+2\left(E_{1}-E_{2} \right)^{\sim}\right) . \end{aligned}`	$\begin{aligned} & H_{\alpha_{1}}=\frac{1}{24} \left(H_{0}-H_{1}\right), \quad H_{\alpha_{2}}= \frac{1}{24}\left(H_{1}-H_{2}\right), \quad H_{ \alpha_{3}}=\frac{1}{24}\left(H_{2}-H_{3}\right), \\ & H_{\alpha_{4}}=\frac{1}{24}\left(H_{3}+\left(E_{2}-E_{3} \right)^{\sim}\right), \\ & H_{\alpha_{5}}= \frac{1}{48}\left(\left(-H_{0}-H_{1}-H_{2}+H_{3} \right)+2\left(E_{3}-E_{1}\right)^{\sim} \right), \\ & H_{\alpha_{6}}=\frac{1}{48}\left(\left(H_{0}+H_{1}+H_{2}+H_{3}\right)+2\left(E_{1}-E_{2} \right)^{\sim}\right) . \end{aligned}$	$\begin{aligned} & H_{\alpha_{1}}=\frac{1}{24} \left(H_{0}-H_{1}\right), \quad H_{\alpha_{2}}= \frac{1}{24}\left(H_{1}-H_{2}\right), \quad H_{ \alpha_{3}}=\frac{1}{24}\left(H_{2}-H_{3}\right), \\ & H_{\alpha_{4}}=\frac{1}{24}\left(H_{3}+\left(E_{2}-E_{3} \right)^{\sim}\right), \\ & H_{\alpha_{5}}= \frac{1}{48}\left(\left(-H_{0}-H_{1}-H_{2}+H_{3} \right)+2\left(E_{3}-E_{1}\right)^{\sim} \right), \\ & H_{\alpha_{6}}=\frac{1}{48}\left(\left(H_{0}+H_{1}+H_{2}+H_{3}\right)+2\left(E_{1}-E_{2} \right)^{\sim}\right) . \end{aligned}$
0902.0431_EQ0024	9	0.655	`\begin{aligned} {\left[F_{i 0}, F_{0 k}\right] x } & =\left(F_{i 0} F_{0 k}-F_{0 k} F_{i 0}\right) x=- \frac{1}{4} e_{i}\left(e_{k} x\right)+\frac{1}{4} e_{k} \left(e_{i} x\right) \\ & =\frac{1}{2} e_{k}\left(e_{i} x \right)=F_{i k} x, \end{aligned}`	$\begin{aligned} {\left[F_{i 0}, F_{0 k}\right] x } & =\left(F_{i 0} F_{0 k}-F_{0 k} F_{i 0}\right) x=- \frac{1}{4} e_{i}\left(e_{k} x\right)+\frac{1}{4} e_{k} \left(e_{i} x\right) \\ & =\frac{1}{2} e_{k}\left(e_{i} x \right)=F_{i k} x, \end{aligned}$	$\begin{aligned} {\left[F_{i 0}, F_{0 k}\right] x } & =\left(F_{i 0} F_{0 k}-F_{0 k} F_{i 0}\right) x=- \frac{1}{4} e_{i}\left(e_{k} x\right)+\frac{1}{4} e_{k} \left(e_{i} x\right) \\ & =\frac{1}{2} e_{k}\left(e_{i} x \right)=F_{i k} x, \end{aligned}$
0902.0431_EQ0021	9	0.656	`\begin{aligned} & {\left[\kappa D_{1}, \kappa D_{2} \right] x=\left(\kappa D_{1}\right)\left(\kappa D_{2} x \right)-\left(\kappa D_{2}\right)\left(\kappa D_{1} x \right)=\overline{D_{1}\left(\overline{\kappa D_{2} x} \right)}-\overline{D_{2}\left(\overline{\kappa D_{1} x} \right)}} \\ & \quad=\overline{D_{1} D_{2} \bar{x}}- \overline{D_{2} D_{1} \bar{x}}=\kappa\left(D_{1} D_{2}-D_{2} D_{1}\right) x=\kappa\left[D_{1}, D_{2} \right] x, \quad x \in \mathfrak{C} \end{aligned}`	$\begin{aligned} {\left[\kappa D_{1}, \kappa D_{2} \right] x} & =\left(\kappa D_{1}\right)\left(\kappa D_{2} x \right)-\left(\kappa D_{2}\right)\left(\kappa D_{1} x \right)=\overline{D_{1}\left(\overline{\kappa D_{2} x} \right)}-\overline{D_{2}\left(\overline{\kappa D_{1} x} \right)} \\ & =\overline{D_{1} D_{2} \bar{x}}-\overline{D_{2} D_{1} \bar{x}}=\kappa\left(D_{1} D_{2}-D_{2} D_{1}\right) x=\kappa\left[D_{1}, D_{2}\right] x, \quad x \in \mathfrak{C} \end{aligned}$	$\begin{aligned} {\left[\kappa D_{1}, \kappa D_{2} \right] x} & =\left(\kappa D_{1}\right)\left(\kappa D_{2} x \right)-\left(\kappa D_{2}\right)\left(\kappa D_{1} x \right)=\overline{D_{1}\left(\overline{\kappa D_{2} x} \right)}-\overline{D_{2}\left(\overline{\kappa D_{1} x} \right)} \\ & =\overline{D_{1} D_{2} \bar{x}}-\overline{D_{2} D_{1} \bar{x}}=\kappa\left(D_{1} D_{2}-D_{2} D_{1}\right) x=\kappa\left[D_{1}, D_{2}\right] x, \quad x \in \mathfrak{C} . \end{aligned}$
0902.0431_EQ1122	190	0.658	`\begin{aligned} & f(\Phi(\phi, A, B, \nu),(X, Y, \xi, \eta),(Z, W, \zeta, \omega), r, s, t)) \\ & \left. \quad=\left(\begin{array}{ccc} \frac{2}{3} \nu & -\frac{1}{2} \xi & \frac{1}{2} \zeta \\ \frac{1}{2} \omega & -\frac{1}{3} \nu-r & t \\ \frac{1}{2} \eta & s & -\frac{1}{3} \nu+r \end{array}\right), \phi,\left(\begin{array}{c} -2 A \\ Z \\ X \end{array}\right), \left(\begin{array}{c} -2 B \\ Y \\ -W \end{array}\right) \right), \end{aligned}`	$\begin{aligned} & f(\Phi(\phi, A, B, \nu),(X, Y, \xi, \eta),(Z, W, \zeta, \omega), r, s, t)) \\ & \left. \quad=\left(\begin{array}{ccc} \frac{2}{3} \nu & -\frac{1}{2} \xi & \frac{1}{2} \zeta \\ \frac{1}{2} \omega & -\frac{1}{3} \nu-r & t \\ \frac{1}{2} \eta & s & -\frac{1}{3} \nu+r \end{array}\right), \phi,\left(\begin{array}{c} -2 A \\ Z \\ X \end{array}\right), \left(\begin{array}{c} -2 B \\ Y \\ -W \end{array}\right) \right), \end{aligned}$	$\begin{aligned} & f(\Phi(\phi, A, B, \nu),(X, Y, \xi, \eta),(Z, W, \zeta, \omega), r, s, t)) \\ & \left. \quad=\left(\begin{array}{ccc} \frac{2}{3} \nu & -\frac{1}{2} \xi & \frac{1}{2} \zeta \\ \frac{1}{2} \omega & -\frac{1}{3} \nu-r & t \\ \frac{1}{2} \eta & s & -\frac{1}{3} \nu+r \end{array}\right), \phi,\left(\begin{array}{c} -2 A \\ Z \\ X \end{array}\right), \left(\begin{array}{c} -2 B \\ Y \\ -W \end{array}\right) \right), \end{aligned}$

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0902.0431_EQ0546	92	0.661	`\begin{aligned} & \xi_{2} E_{2}+\xi_{3} E_{3}+F_{1} \left(x_{1}\right)=\alpha E=\alpha(E \times E)=\tau \alpha \tau E \times \tau \alpha \tau E \\ & \quad= \tau\left(\xi_{2} E_{2}+\xi_{3} E_{3}+F_{1}\left(x_{1} \right)\right) \times \tau\left(\xi_{2} E_{2}+\xi_{3} E_{3}+F_{1}\left(x_{1}\right)\right) \\ & \quad=\left(\tau \xi_{2} \tau \xi_{3}-\left(\tau x_{1}, \tau x_{1} \right)\right) E_{1} \end{aligned}`	$\begin{aligned} & \xi_{2} E_{2}+\xi_{3} E_{3}+F_{1} \left(x_{1}\right)=\alpha E=\alpha(E \times E)=\tau \alpha \tau E \times \tau \alpha \tau E \\ & \quad= \tau\left(\xi_{2} E_{2}+\xi_{3} E_{3}+F_{1}\left(x_{1} \right)\right) \times \tau\left(\xi_{2} E_{2}+\xi_{3} E_{3}+F_{1}\left(x_{1}\right)\right) \\ & \quad=\left(\tau \xi_{2} \tau \xi_{3}-\left(\tau x_{1}, \tau x_{1} \right)\right) E_{1} \end{aligned}$	$\begin{aligned} & \xi_{2} E_{2}+\xi_{3} E_{3}+F_{1} \left(x_{1}\right)=\alpha E=\alpha(E \times E)=\tau \alpha \tau E \times \tau \alpha \tau E \\ & \quad= \tau\left(\xi_{2} E_{2}+\xi_{3} E_{3}+F_{1}\left(x_{1} \right)\right) \times \tau\left(\xi_{2} E_{2}+\xi_{3} E_{3}+F_{1}\left(x_{1}\right)\right) \\ & \quad=\left(\tau \xi_{2} \tau \xi_{3}-\left(\tau x_{1}, \tau x_{1} \right)\right) E_{1} \end{aligned}$
0902.0431_EQ0675 (ii)	112	0.662	`2(Q \times R) P-(Q \times P) R-(R \times P) Q+\frac{3}{8} \{P, R\} Q-\frac{3}{8}\{Q, P\} R=0 .`	$2(Q \times R) P-(Q \times P) R-(R \times P) Q+\frac{3}{8}\{P, R\} Q-\frac{3}{8}\{Q, P\} R=0 .$	$2(Q \times R) P-(Q \times P) R-(R \times P) Q+\frac{3}{8}\{P, R\} Q-\frac{3}{8}\{Q, P\} R=0 .$

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0902.0431_EQ1015	169	■ 0.662	\begin{gathered} \pm\left(\lambda_{k}-\lambda_{l}\right), \quad \pm\left(\lambda_{k}+\lambda_{l}\right), \quad 0 \leq k<l \leq 3, \\ \pm \lambda_{k} \pm \frac{1}{2}\left(\mu_{2}-\mu_{3}\right), \quad 0 \leq k \leq 3, \\ \pm \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{3}-\mu_{1}\right), \\ \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{3}-\mu_{1}\right), \\ \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{3}-\mu_{1}\right), \\ \pm \frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{3}-\mu_{1}\right), \\ \pm \frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{1}-\mu_{2}\right), \\ \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{1}-\mu_{2}\right), \\ \pm \frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{1}-\mu_{2}\right), \\ \pm \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{1}-\mu_{2}\right), \\ \pm\left(\mu_{k}+\frac{2}{3} \nu\right), \quad 0 \leq k<l \leq 3, \\ \pm \lambda_{k} \pm\left(\frac{1}{2} \mu_{1}-\frac{2}{3} \nu\right), \quad 0 \leq k \leq 3, \\ \pm \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{2}-\frac{2}{3} \nu\right), \\ \pm \frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{2}-\frac{2}{3} \nu\right), \\ \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{2}-\frac{2}{3} \nu\right), \\ \pm \frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{2}-\frac{2}{3} \nu\right), \\ \pm \frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{3}-\frac{2}{3} \nu\right), \\ \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{3}-\frac{2}{3} \nu\right), \\ \pm \frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{3}-\frac{2}{3} \nu\right), \\ \pm \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{3}-\frac{2}{3} \nu\right), \\ \pm\left(\mu_{j}-\frac{1}{3} \nu+r\right), \quad 1 \leq j \leq 3, \\ \pm \lambda_{k} \pm\left(\frac{1}{2} \mu_{1}+\frac{1}{3} \nu\right) \pm r, \quad 0 \leq k \leq 3, \\ \pm \frac{1}{2}\left(\lambda_{0}+\lambda_{1}-\lambda_{2}-\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{2}+\frac{1}{3} \nu\right) \pm r, \\ \pm \frac{1}{2}\left(\lambda_{0}+\lambda_{1}-\lambda_{2}-\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{2}+\frac{1}{3} \nu\right) \pm r, \end{gathered}	$$\begin{gathered} \pm\left(\lambda_{k}-\lambda_{l}\right), \quad \pm\left(\lambda_{k}+\lambda_{l}\right), \quad 0 \leq k<l \leq 3, \\ \pm \lambda_{k} \pm \frac{1}{2}\left(\mu_{2}-\mu_{3}\right), \quad 0 \leq k \leq 3, \\ \pm \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{3}-\mu_{1}\right), \\ \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{3}-\mu_{1}\right), \\ \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{3}-\mu_{1}\right), \\ \pm \frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{3}-\mu_{1}\right), \\ \pm \frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{1}-\mu_{2}\right), \\ \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{1}-\mu_{2}\right), \\ \pm \frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{1}-\mu_{2}\right), \\ \pm \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{1}-\mu_{2}\right), \\ \pm\left(\mu_{k}+\frac{2}{3} \nu\right), \quad 0 \leq k<l \leq 3, \\ \pm \lambda_{k} \pm\left(\frac{1}{2} \mu_{1}-\frac{2}{3} \nu\right), \quad 0 \leq k \leq 3, \\ \pm \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{2}-\frac{2}{3} \nu\right), \\ \pm \frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{2}-\frac{2}{3} \nu\right), \\ \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{2}-\frac{2}{3} \nu\right), \\ \pm \frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{2}-\frac{2}{3} \nu\right), \\ \pm \frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{3}-\frac{2}{3} \nu\right), \\ \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{3}-\frac{2}{3} \nu\right), \\ \pm \frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{3}-\frac{2}{3} \nu\right), \\ \pm \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{3}-\frac{2}{3} \nu\right), \\ \pm\left(\mu_{j}-\frac{1}{3} \nu+r\right), \quad 1 \leq j \leq 3, \\ \pm \lambda_{k} \pm\left(\frac{1}{2} \mu_{1}+\frac{1}{3} \nu\right) \pm r, \quad 0 \leq k \leq 3, \\ \pm \frac{1}{2}\left(\lambda_{0}+\lambda_{1}-\lambda_{2}-\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{2}+\frac{1}{3} \nu\right) \pm r, \\ \pm \frac{1}{2}\left(\lambda_{0}+\lambda_{1}-\lambda_{2}-\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{2}+\frac{1}{3} \nu\right) \pm r, \end{gathered}$$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0131	25	0.662	`\begin{aligned} (\alpha x)(\alpha y) & =\left(q m \bar{q}+(p a \bar{q}) e_{4}\right)\left(q n \bar{q}+(p b \bar{q}) e_{4}\right) \\ & =((q m \bar{q})(q n \bar{q})-(\overline{p b \bar{q}})(p a \bar{q}))+((p a \bar{q})(\overline{q n \bar{q}})+(p b \bar{q})(q m \bar{q})) e_{4} \\ & =q(m n-\bar{b} a) \bar{q}+(p(a \bar{n}+b m) \bar{q}) e_{4} \\ & =\varphi(p, q)\left(\left(m+a e_{4}\right)\left(n+b e_{4}\right)\right)=\alpha(x y) \end{aligned}`	$\begin{aligned} (\alpha x)(\alpha y) &= (qm\bar{q}+(pa\bar{q})e_4)\,(qn\bar{q}+(pb\bar{q})e_4) \\ &= ((qm\bar{q})(qn\bar{q})-(\overline{pb\bar{q}})(pa\bar{q}))+((pa\bar{q})(\overline{qn\bar{q}})+(pb\bar{q})(qm\bar{q}))e_4 \\ &= q(mn-\bar{b}a)\bar{q}+(p(a\bar{n}+bm)\bar{q})e_4 \\ &= \varphi(p,q)\,((m+ae_4)\,(n+be_4))=\alpha(xy) \end{aligned}$	$\begin{aligned} (\alpha x)(\alpha y) &= (qm\overline{q}+(pa\overline{q})e_4)(qn\overline{q}+(pb\overline{q})e_4) \\ &= ((qm\overline{q})(qn\overline{q})-(\overline{pb\overline{q}})(pa\overline{q}))+((pa\overline{q})(\overline{qn\overline{q}})+(pb\overline{q})(qm\overline{q}))e_4 \\ &= q(mn-\overline{b}a)\overline{q}+(p(a\overline{n}+bm)\overline{q})e_4 \\ &= \varphi(p,q)((m+ae_4)(n+be_4))=\alpha(xy). \end{aligned}$
0902.0431_EQ0734	121	0.666	`\left(\left[\Phi, \Phi_{1}\right], \Phi_{2}\right)_{7}+\left(\Phi_{1},\left[\Phi, \Phi_{2}\right]\right)_{7}=0, \quad \Phi, \Phi_{i} \in \mathfrak{e}_{7}{ }^{C} .`	$\left(\left[\Phi, \Phi_{1}\right], \Phi_{2}\right)_{7}+\left(\Phi_{1},\left[\Phi, \Phi_{2}\right]\right)_{7}=0, \quad \Phi, \Phi_{i} \in \mathfrak{e}_{7}{ }^{C} .$	$\left(\left[\Phi, \Phi_{1}\right], \Phi_{2}\right)_{7}+\left(\Phi_{1},\left[\Phi, \Phi_{2}\right]\right)_{7}=0, \quad \Phi, \Phi_{i} \in \mathfrak{e}_{7}{ }^{C} .$
0902.0431_EQ0873	145	0.666	`\begin{aligned} & \operatorname{Spin}(12) /\{1, \sigma \} \cong S O(12) \\ & \operatorname{Spin}(12) /\{1,-1 \} \cong \operatorname{Spin}(12) /\{1,-\sigma\} \cong \operatorname{Ss}(12) \end{aligned}`	$\begin{aligned} & \operatorname{Spin}(12) /\{1, \sigma \} \cong S O(12) \\ & \operatorname{Spin}(12) /\{1,-1 \} \cong \operatorname{Spin}(12) /\{1,-\sigma\} \cong \operatorname{Ss}(12) \end{aligned}$	$\begin{aligned} & Spin(12) /\{1, \sigma \} \cong S O(12), \\ & Spin(12) /\{1,-1 \} \cong Spin(12) /\{1,-\sigma\} \cong Ss(12). \end{aligned}$
0902.0431_EQ0649	107	0.672	`\varphi_{*}: \mathfrak{s u}(3) \oplus \mathfrak{s u}(3) \rightarrow \mathfrak{e}_{6, C} .`	$\varphi_{*}: \mathfrak{s u}(3) \oplus \mathfrak{s u}(3) \rightarrow \mathfrak{e}_{6, C} .$	$\varphi_{*}: \mathfrak{s u}(3) \oplus \mathfrak{s u}(3) \rightarrow \mathfrak{e}_{6, C} .$
0902.0431_EQ0774	130	0.675	`\begin{aligned} & \langle\alpha \dot{X}, \dot{1}\rangle= \langle\alpha \dot{X}, \alpha \dot{1}\rangle=\langle \dot{X}, \dot{1}\rangle=0 \\ & \langle\alpha \dot{X}, 1\rangle=\langle\alpha \dot{X}, \alpha \underline{1} \rangle=\langle\dot{X}, 1\rangle=0 . \end{aligned}`	$\begin{aligned} & \langle\alpha \dot{X}, \dot{1}\rangle= \langle\alpha \dot{X}, \alpha \dot{1}\rangle=\langle \dot{X}, \dot{1}\rangle=0 \\ & \langle\alpha \dot{X}, 1\rangle=\langle\alpha \dot{X}, \alpha \underline{1} \rangle=\langle\dot{X}, 1\rangle=0 . \end{aligned}$	$\begin{aligned} & \langle\alpha \dot{X}, \dot{1}\rangle= \langle\alpha \dot{X}, \alpha \dot{1}\rangle=\langle \dot{X}, \dot{1}\rangle=0, \\ & \langle\alpha \dot{X}, 1\rangle=\langle\alpha \dot{X}, \alpha \underline{1} \rangle=\langle\dot{X}, 1\rangle=0 . \end{aligned}$
0902.0431_EQ0142	26	0.683	`\overline{\alpha x}=\alpha \bar{x}, \quad x \in \mathfrak{C}^{C} .`	$\overline{\alpha x}=\alpha \bar{x}, \quad x \in \mathfrak{C}^{C} .$	$\overline{\alpha x}=\alpha \bar{x}, \quad x \in \mathfrak{C}^{C} .$
0902.0431_EQ1206	203	0.686	`\begin{aligned} \left\langle R_{1}, R_{2}\right\rangle & =60\left(\operatorname{tr}\left(C_{1} \tau^{t} C_{2} \right)+\operatorname{tr}\left(D_{1} \tau^{t} D_{2} \right)+\left(\boldsymbol{x}_{1}, \tau \boldsymbol{x}_{2} \right)\left(\boldsymbol{a}_{1}, \tau \boldsymbol{a}_{2} \right)+\left(\boldsymbol{y}_{1}, \tau \boldsymbol{y}_{2} \right)\left(\boldsymbol{b}_{1}, \tau \boldsymbol{b}_{2} \right)\right. \\ & \left.+\left(\boldsymbol{z}_{1}, \tau \boldsymbol{z}_{2} \right)\left(\boldsymbol{c}_{1}, \tau \boldsymbol{c}_{2} \right)+\left(\boldsymbol{w}_{1}, \tau \boldsymbol{w}_{2} \right)\left(\boldsymbol{d}_{1}, \tau \boldsymbol{d}_{2} \right)\right) . \end{aligned}`	$\begin{aligned} \left\langle R_{1}, R_{2}\right\rangle & =60\left(\operatorname{tr}\left(C_{1} \tau^{t} C_{2} \right)+\operatorname{tr}\left(D_{1} \tau^{t} D_{2} \right)+\left(\boldsymbol{x}_{1}, \tau \boldsymbol{x}_{2} \right)\left(\boldsymbol{a}_{1}, \tau \boldsymbol{a}_{2} \right)+\left(\boldsymbol{y}_{1}, \tau \boldsymbol{y}_{2} \right)\left(\boldsymbol{b}_{1}, \tau \boldsymbol{b}_{2} \right)\right. \\ & \left.+\left(\boldsymbol{z}_{1}, \tau \boldsymbol{z}_{2} \right)\left(\boldsymbol{c}_{1}, \tau \boldsymbol{c}_{2} \right)+\left(\boldsymbol{w}_{1}, \tau \boldsymbol{w}_{2} \right)\left(\boldsymbol{d}_{1}, \tau \boldsymbol{d}_{2} \right)\right) . \end{aligned}$	$\begin{aligned} \left\langle R_{1}, R_{2}\right\rangle & =60\left(\operatorname{tr}\left(C_{1} \tau^{t} C_{2} \right)+\operatorname{tr}\left(D_{1} \tau^{t} D_{2} \right)+\left(\boldsymbol{x}_{1}, \tau \boldsymbol{x}_{2} \right)\left(\boldsymbol{a}_{1}, \tau \boldsymbol{a}_{2} \right)+\left(\boldsymbol{y}_{1}, \tau \boldsymbol{y}_{2} \right)\left(\boldsymbol{b}_{1}, \tau \boldsymbol{b}_{2} \right)\right. \\ & \left.+\left(\boldsymbol{z}_{1}, \tau \boldsymbol{z}_{2} \right)\left(\boldsymbol{c}_{1}, \tau \boldsymbol{c}_{2} \right)+\left(\boldsymbol{w}_{1}, \tau \boldsymbol{w}_{2} \right)\left(\boldsymbol{d}_{1}, \tau \boldsymbol{d}_{2} \right)\right) . \end{aligned}$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0765	128	0.686	`\begin{aligned} & H_{\alpha_{1}}=\frac{1}{36} \Phi \left(H_{0}-H_{1}, 0,0,0\right), \\ & H_{\alpha_{2}}= \frac{1}{36} \Phi\left(H_{1}-H_{2}, 0,0,0\right), \\ & H_{\alpha_{3}}=\frac{1}{36} \Phi\left(H_{2}-H_{3}, 0,0,0 \right), \\ & H_{\alpha_{4}}=\frac{1}{72} \Phi\left(\left(-H_{0}-H_{1}-H_{2}+H_{3}\right)+2\left(E_{3}-E_{1} \right)^{\sim}, 0,0,0\right), \\ & H_{\alpha_{5}}= \frac{1}{72} \Phi\left(\left(H_{0}+H_{1}+H_{2}+H_{3} \right)+2\left(E_{1}-E_{2}\right)^{\sim}, 0,0,0\right), \ \ & H_{\alpha_{6}}=\frac{1}{54} \Phi\left(\left(-E_{1}+2 E_{2}-E_{3}\right)^{\sim}, 0,0, \frac{3}{2}\right), \\ & H_{\alpha_{7}}=\frac{1}{54} \Phi\left(\left(E_{1}+E_{2}-2 E_{3}\right)^{\sim}, 0,0,-\frac{3}{2}\right) . \end{aligned}`	$$\begin{aligned} & H_{\alpha_{1}}=\frac{1}{36} \Phi \left(H_{0}-H_{1}, 0,0,0\right), \\ & H_{\alpha_{2}}= \frac{1}{36} \Phi\left(H_{1}-H_{2}, 0,0,0\right), \\ & H_{\alpha_{3}}=\frac{1}{36} \Phi\left(H_{2}-H_{3}, 0,0,0 \right), \\ & H_{\alpha_{4}}=\frac{1}{72} \Phi\left(\left(-H_{0}-H_{1}-H_{2}+H_{3}\right)+2\left(E_{3}-E_{1} \right)^{\sim}, 0,0,0\right), \\ & H_{\alpha_{5}}= \frac{1}{72} \Phi\left(\left(H_{0}+H_{1}+H_{2}+H_{3} \right)+2\left(E_{1}-E_{2}\right)^{\sim}, 0,0,0\right), \\ & H_{\alpha_{6}}=\frac{1}{54} \Phi\left(\left(-E_{1}+2E_{2}-E_{3}\right)^{\sim}, 0,0, \frac{3}{2}\right), \\ & H_{\alpha_{7}}=\frac{1}{54} \Phi\left(\left(E_{1}+E_{2}-2E_{3}\right)^{\sim}, 0,0,-\frac{3}{2}\right) . \end{aligned}$$	$$\begin{aligned} & H_{\alpha_{1}}=\frac{1}{36} \Phi(H_{0}-H_{1}, 0,0,0), \\ & H_{\alpha_{2}}= \frac{1}{36} \Phi(H_{1}-H_{2}, 0,0,0), \\ & H_{\alpha_{3}}=\frac{1}{36} \Phi(H_{2}-H_{3}, 0,0,0), \\ & H_{\alpha_{4}}=\frac{1}{72} \Phi((-H_{0}-H_{1}-H_{2}+H_{3})+2(E_{3}-E_{1})^{\sim}, 0,0,0), \\ & H_{\alpha_{5}}= \frac{1}{72} \Phi((H_{0}+H_{1}+H_{2}+H_{3})+2(E_{1}-E_{2})^{\sim}, 0,0,0), \\ & H_{\alpha_{6}}=\frac{1}{54} \Phi\Big((-E_{1}+2E_{2}-E_{3})^{\sim}, 0,0, \frac{3}{2}\Big), \\ & H_{\alpha_{7}}=\frac{1}{54} \Phi\Big((E_{1}+E_{2}-2E_{3})^{\sim}, 0,0,-\frac{3}{2}\Big). \end{aligned}$$
0902.0431_EQ0616	102	0.688	`\begin{gathered} g(\gamma(X \times Y))=g(\gamma((M+ \boldsymbol{a}) \times(N+\boldsymbol{b}))) \\ =g((M- \boldsymbol{a}) \times(N-\boldsymbol{b})) \\ =g\left(\left(M \times N-\frac{1}{2}\left(\boldsymbol{a}^{*} \boldsymbol{b}+\boldsymbol{b}^{*} \boldsymbol{a}\right) \right)+\frac{1}{2}(\boldsymbol{a} N+\boldsymbol{b} M)\right) \\ =\binom{\frac{1}{2} \operatorname{tr}(\boldsymbol{a} N+\boldsymbol{b} M)}{\frac{i}{2}(\boldsymbol{a} N+\boldsymbol{b} M)^{*} \quad M \times N-\frac{1}{2}\left(\boldsymbol{a}^{*} \boldsymbol{b}+ \boldsymbol{b}^{*} \boldsymbol{a}\right)-\frac{1}{2}(\operatorname{tr}(M \times N)-(\boldsymbol{a}, \boldsymbol{b})) E} \\ =\cdots \\ =g(M+\boldsymbol{a}) \circ g(N+\boldsymbol{b})-\left(\frac{1}{4}(M, N)- \frac{1}{2}(\boldsymbol{a}, \boldsymbol{b})\right) E \\ =g(M+\boldsymbol{a}) \circ g(N+\boldsymbol{b})- \frac{1}{4}(\gamma(M+\boldsymbol{a}),(N+\boldsymbol{b})) E \\ =g X \circ g Y-\frac{1}{4}(\gamma X, Y) E . \end{gathered}`	$$\begin{gathered} g(\gamma(X \times Y))=g(\gamma((M+ \boldsymbol{a}) \times(N+\boldsymbol{b}))) \\ =g((M- \boldsymbol{a}) \times(N-\boldsymbol{b})) \\ =g\left(\left(M \times N-\frac{1}{2}\left(\boldsymbol{a}^{*} \boldsymbol{b}+\boldsymbol{b}^{*} \boldsymbol{a}\right) \right)+\frac{1}{2}(\boldsymbol{a} N+\boldsymbol{b} M)\right) \\ =\binom{\frac{1}{2} \operatorname{tr}(\boldsymbol{a} N+\boldsymbol{b} M)}{\frac{i}{2}(\boldsymbol{a} N+\boldsymbol{b} M)^{*} \quad M \times N-\frac{1}{2}\left(\boldsymbol{a}^{*} \boldsymbol{b}+ \boldsymbol{b}^{*} \boldsymbol{a}\right)-\frac{1}{2}(\operatorname{tr}(M \times N)-(\boldsymbol{a}, \boldsymbol{b})) E} \\ =\cdots \\ =g(M+\boldsymbol{a}) \circ g(N+\boldsymbol{b})-\left(\frac{1}{4}(M, N)- \frac{1}{2}(\boldsymbol{a}, \boldsymbol{b})\right) E \\ =g(M+\boldsymbol{a}) \circ g(N+\boldsymbol{b})- \frac{1}{4}(\gamma(M+\boldsymbol{a}),(N+\boldsymbol{b})) E \\ =g X \circ g Y-\frac{1}{4}(\gamma X, Y) E . \end{gathered}$$	$$\begin{gathered} g(\gamma(X \times Y))=g(\gamma((M+ \boldsymbol{a}) \times(N+\boldsymbol{b}))) \\ =g((M- \boldsymbol{a}) \times(N-\boldsymbol{b})) \\ =g((M \times N-\frac{1}{2}(\boldsymbol{a}^{*} \boldsymbol{b}+\boldsymbol{b}^{*} \boldsymbol{a}))+\frac{1}{2}(\boldsymbol{a} N+\boldsymbol{b} M)) \\ =\left(\begin{array}{cc} \frac{1}{2} \operatorname{tr}(M \times N)-\frac{1}{2}(\boldsymbol{a}, \boldsymbol{b}) & \frac{i}{2}(\boldsymbol{a} N+\boldsymbol{b} M) \\ \frac{i}{2}(\boldsymbol{a} N+\boldsymbol{b} M)^{*} & M \times N-\frac{1}{2}(\boldsymbol{a}^{*} \boldsymbol{b}+\boldsymbol{b}^{*} \boldsymbol{a})-\frac{1}{2}(\operatorname{tr}(M \times N)-(\boldsymbol{a}, \boldsymbol{b})) E \end{array}\right) \\ =\cdots \\ =g(M+\boldsymbol{a}) \circ g(N+\boldsymbol{b})-\Big(\frac{1}{4}(M, N)-\frac{1}{2}(\boldsymbol{a}, \boldsymbol{b})\Big) E \\ =g(M+\boldsymbol{a}) \circ g(N+\boldsymbol{b})-\frac{1}{4}(\gamma(M+\boldsymbol{a}),(N+\boldsymbol{b})) E \\ =g X \circ g Y-\frac{1}{4}(\gamma X, Y) E . \end{gathered}$$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0383	63	0.688	`1=\left(E_{1}, E_{1}\right)=\left(\alpha E_{1}, \alpha E_{1}\right)=1+\xi_{2}{ }^{2}+\xi_{3}{ }^{2}+2\left|x_{1}\right|^{2},`	$1=\left(E_{1}, E_{1}\right)=\left(\alpha E_{1}, \alpha E_{1}\right)=1+\xi_{2}{}^{2}+\xi_{3}{}^{2}+2\left\|x_{1}\right\|^{2},$	$1=\left(E_{1}, E_{1}\right)=\left(\alpha E_{1}, \alpha E_{1}\right)=1+\xi_{2}{}^{2}+\xi_{3}{}^{2}+2\left\|x_{1}\right\|^{2},$
0902.0431_EQ1181	199	0.697	`\begin{aligned} & (x \wedge a, y \wedge b)=(x, y)(a, b)-\left(a_{1}, y\right)\left(x \wedge a_{2}, b\right)+\left(a_{2}, y\right)\left(x \wedge a_{1}, b\right) \\ & (* b \wedge x, * a \wedge y)=(a, y \wedge *(* b \wedge x))=\left(a_{1}, y\right)\left(x \wedge a_{2}, b\right)-\left(a_{2}, y\right)\left(x \wedge a_{1}, b\right), \end{aligned}`	$\begin{aligned} & (x \wedge a, y \wedge b)=(x, y)(a, b)-\left(a_{1}, y\right)\left(x \wedge a_{2}, b\right)+\left(a_{2}, y\right)\left(x \wedge a_{1}, b\right) \\ & (* b \wedge x, * a \wedge y)=(a, y \wedge *(* b \wedge x))=\left(a_{1}, y\right)\left(x \wedge a_{2}, b\right)-\left(a_{2}, y\right)\left(x \wedge a_{1}, b\right), \end{aligned}$	$\begin{aligned} & (\boldsymbol{x} \wedge \boldsymbol{a}, \boldsymbol{y} \wedge \boldsymbol{b})=(\boldsymbol{x}, \boldsymbol{y})(\boldsymbol{a}, \boldsymbol{b})-(\boldsymbol{a}_{1}, \boldsymbol{y})(\boldsymbol{x} \wedge \boldsymbol{a}_{2}, \boldsymbol{b})+(\boldsymbol{a}_{2}, \boldsymbol{y})(\boldsymbol{x} \wedge \boldsymbol{a}_{1}, \boldsymbol{b}), \\ & (* \boldsymbol{b} \wedge \boldsymbol{x}, * \boldsymbol{a} \wedge \boldsymbol{y})=(\boldsymbol{a}, \boldsymbol{y} \wedge *(* \boldsymbol{b} \wedge \boldsymbol{x}))=(\boldsymbol{a}_{1}, \boldsymbol{y})(\boldsymbol{x} \wedge \boldsymbol{a}_{2}, \boldsymbol{b})-(\boldsymbol{a}_{2}, \boldsymbol{y})(\boldsymbol{x} \wedge \boldsymbol{a}_{1}, \boldsymbol{b}), \end{aligned}$
0902.0431_EQ0086	18	0.697	`\mathfrak{a} \supset[\mathfrak{a}, \mathfrak{S}] \supset[\mathfrak{s} \mathfrak{u}(3), \mathfrak{S}]=\mathfrak{S} \text { (Lemma 1.6.1). }`	$\mathfrak{a} \supset[\mathfrak{a}, \mathfrak{S}] \supset[\mathfrak{s} \mathfrak{u}(3), \mathfrak{S}]=\mathfrak{S} \text { (Lemma 1.6.1). }$	$\mathfrak{a} \supset[\mathfrak{a}, \mathfrak{S}] \supset[\mathfrak{s} \mathfrak{u}(3), \mathfrak{S}]=\mathfrak{S} \text { (Lemma 1.6.1). }$
0902.0431_EQ0646	107	0.705	`\begin{aligned} & \varphi((A, B), 1) X=h(A, B) X h(A, B)^{*}, \\ & \varphi((A, B), \epsilon) X=h(A, B) \bar{X} h(A, B)^{*}, \end{aligned} \quad X \in\left(\mathfrak{J}_{\boldsymbol{C}}\right)^{C} .`	$\begin{aligned} & \varphi((A, B), 1) X=h(A, B) X h(A, B)^{*}, \\ & \varphi((A, B), \epsilon) X=h(A, B) \bar{X} h(A, B)^{*}, \end{aligned} \quad X \in\left(\mathfrak{J}_{\boldsymbol{C}}\right)^{C} .$	$\begin{aligned} & \varphi((A, B), 1) X=h(A, B) X h(A, B)^{*}, \\ & \varphi((A, B), \epsilon) X=h(A, B) \overline{X} h(A, B)^{*}, \end{aligned} \quad X \in\left(\mathfrak{J}_{\boldsymbol{C}}\right)^{C} .$
0902.0431_EQ0976	162	0.710	`\begin{aligned} {\left[R_{1},\right.} & {\left. \left[R_{2}, R_{3}\right]\right]+\left[R_{2},\left[R_{3}, R_{1}\right]\right]+\left[R_{3},\left[R_{1}, R_{2}\right]\right] } \\ = & \cdots(\text { using }[\Phi, P \times Q]=\Phi P \times Q+P \times \Phi Q(\text { Proposition 4.3.2) } \\ & (P \times R) Q-(Q \times R) P+\frac{1}{8}\{Q, R\} P-\frac{1}{8}\{P, R\}-\frac{1}{4}\{P, Q\} R=0 \\ & (\text { Lemma 4.1.1.(3), }\{\Phi P, Q\}+\{P, \Phi Q\}=0 \text { (Proposition 4.2.2.(2)) etc.) } \cdots \\ = & 0 \end{aligned}`	$\begin{aligned} {\left[R_{1},\right.} & {\left. \left[R_{2}, R_{3}\right]\right]+\left[R_{2},\left[R_{3}, R_{1}\right]\right]+\left[R_{3},\left[R_{1}, R_{2}\right]\right] } \\ = & \cdots(\text { using }[\Phi, P \times Q]=\Phi P \times Q+P \times \Phi Q(\text { Proposition 4.3.2) } \\ & (P \times R) Q-(Q \times R) P+\frac{1}{8}\{Q, R\} P-\frac{1}{8}\{P, R\}-\frac{1}{4}\{P, Q\} R=0 \\ & (\text { Lemma 4.1.1.(3), }\{\Phi P, Q\}+\{P, \Phi Q\}=0 \text { (Proposition 4.2.2.(2)) etc.) } \cdots \\ = & 0 \end{aligned}$	$\begin{aligned} {\left[R_{1},\right.} & {\left. \left[R_{2}, R_{3}\right]\right]+\left[R_{2},\left[R_{3}, R_{1}\right]\right]+\left[R_{3},\left[R_{1}, R_{2}\right]\right] } \\ = & \cdots(\text { using }[\Phi, P \times Q]=\Phi P \times Q+P \times \Phi Q(\text { Proposition 4.3.2) } \\ & (P \times R) Q-(Q \times R) P+\frac{1}{8}\{Q, R\} P-\frac{1}{8}\{P, R\}-\frac{1}{4}\{P, Q\} R=0 \\ & (\text { Lemma 4.1.1.(3), }\{\Phi P, Q\}+\{P, \Phi Q\}=0 \text { (Proposition 4.2.2.(2)) etc.) } \cdots \\ = & 0 \end{aligned}$
0902.0431_EQ0575	96	0.718	`\begin{aligned} { }^{t}\left(k_{J}(M)\right) & ={ }^{t}((k(M)) J)=-J^{t}(k(M))=-J^{t}\left(k\left(M_{1}\right)+i k\left(M_{2}\right)\right) \\ & =-\left(\tau^{t}\left(k\left(M_{1}\right)\right)+i \tau^{t}\left(k\left(M_{2}\right)\right)\right) J=-\left(k\left(M_{1}^{*}\right)+i k\left(M_{2}^{*}\right)\right) J \\ & =-\left(k\left(M_{1}\right)+i k\left(M_{2}\right)\right) J=-(k(M)) J=-k_{J}(M) \end{aligned}`	$\begin{aligned} { }^{t}\left(k_{J}(M)\right) & ={ }^{t}((k(M)) J)=-J^{t}(k(M))=-J^{t}\left(k\left(M_{1}\right)+i k\left(M_{2}\right)\right) \\ & =-\left(\tau^{t}\left(k\left(M_{1}\right)\right)+i \tau^{t}\left(k\left(M_{2}\right)\right)\right) J=-\left(k\left(M_{1}^{*}\right)+i k\left(M_{2}^{*}\right)\right) J \\ & =-\left(k\left(M_{1}\right)+i k\left(M_{2}\right)\right) J=-(k(M)) J=-k_{J}(M) \end{aligned}$	$\begin{aligned} { }^{t}\left(k_{J}(M)\right) & ={ }^{t}((k(M)) J)=-J^{t}(k(M))=-J^{t}\left(k\left(M_{1}\right)+i k\left(M_{2}\right)\right) \\ & =-\left(\tau^{t}\left(k\left(M_{1}\right)\right)+i \tau^{t}\left(k\left(M_{2}\right)\right)\right) J=-\left(k\left(M_{1}^{*}\right)+i k\left(M_{2}^{*}\right)\right) J \\ & =-\left(k\left(M_{1}\right)+i k\left(M_{2}\right)\right) J=-(k(M)) J=-k_{J}(M) \end{aligned}$
0902.0431_EQ0704	116	0.718	`\begin{aligned} 2(\psi(X \times X) & \left.+\frac{1}{3}(2 \nu+\mu)(X \times X)\right) \times(X \times X) \\ & =(\operatorname{det} X)\left(\nu X+\phi X+\frac{1}{3}(\nu+2 \mu) X\right) \end{aligned}`	$\begin{aligned} 2(\psi(X \times X) & \left.+\frac{1}{3}(2 \nu+\mu)(X \times X)\right) \times(X \times X) \\ & =(\operatorname{det} X)\left(\nu X+\phi X+\frac{1}{3}(\nu+2 \mu) X\right) \end{aligned}$	$\begin{aligned} 2(\psi(X \times X) & \left.+\frac{1}{3}(2 \nu+\mu)(X \times X)\right) \times(X \times X) \\ & =(\operatorname{det} X)\left(\nu X+\phi X+\frac{1}{3}(\nu+2 \mu) X\right) \end{aligned}$
0902.0431_EQ0082	17	0.719	`[\mathfrak{s u}(3), \mathfrak{S}]=\mathfrak{S} .`	$[\mathfrak{s u}(3), \mathfrak{S}]=\mathfrak{S} .$	$[\mathfrak{s u}(3), \mathfrak{S}]=\mathfrak{S} .$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0095	19	0.719	`\mathfrak{h}=\left\{\left.\left(\begin{array}{ccc} \lambda_{1} & 0 & 0 \\ 0 & \lambda_{2} & 0 \\ 0 & 0 & \lambda_{3} \end{array}\right) \right\rvert\, \lambda_{i} \in \boldsymbol{C}, \lambda_{1}+\lambda_{2}+\lambda_{3}=0 \right\}`	$\mathfrak{h}=\left\{\left.\left(\begin{array}{ccc} \lambda_{1} & 0 & 0 \\ 0 & \lambda_{2} & 0 \\ 0 & 0 & \lambda_{3} \end{array}\right) \right\rvert\, \lambda_{i} \in \boldsymbol{C}, \lambda_{1}+\lambda_{2}+\lambda_{3}=0 \right\}$	$\mathfrak{h}=\left\{\left.\left(\begin{array}{ccc} \lambda_{1} & 0 & 0 \\ 0 & \lambda_{2} & 0 \\ 0 & 0 & \lambda_{3} \end{array}\right) \right\rvert\, \lambda_{i} \in \boldsymbol{C}, \lambda_{1}+\lambda_{2}+\lambda_{3}=0 \right\}$
0902.0431_EQ0964	160	0.719	`E_{7}{ }^{C} \simeq E_{7} \times \boldsymbol{R}^{133} .`	$E_{7}{ }^{C} \simeq E_{7} \times \boldsymbol{R}^{133} .$	$E_{7}{ }^{C} \simeq E_{7} \times \boldsymbol{R}^{133} .$
0902.0431_EQ0197	33	0.724	`\begin{aligned} & \widetilde{D}_{4}=\left\{\left(\alpha_{1}, \alpha_{2}, \alpha_{3}\right) \in S O(8) \times S O(8) \times S O(8) \mid\left(\alpha_{1} x \right)\left(\alpha_{2} y\right)=\overline{\alpha_{3}(\overline{x y})}, x, y \in \mathfrak{C}\right\} \ \ & \widetilde{D}_{4} \text { is a compact group. } \end{aligned}`	$\widetilde{D}_{4}=\left\{\left(\alpha_{1}, \alpha_{2}, \alpha_{3}\right) \in S O(8) \times S O(8) \times S O(8) \mid\left(\alpha_{1} x\right)\left(\alpha_{2} y\right)=\overline{\alpha_{3}(\overline{x y})}, x, y \in \mathfrak{C}\right\}$ $\widetilde{D}_{4}$ is a compact group.	$\widetilde{D}_{4}=\{(\alpha_{1}, \alpha_{2}, \alpha_{3}) \in S O(8) \times S O(8) \times S O(8) \mid(\alpha_{1} x)(\alpha_{2} y)=\overline{\alpha_{3}(\overline{x y})}, x, y \in \mathfrak{C}\}.$ $\widetilde{D}_{4}$ is a compact group.
0902.0431_EQ0532	89	0.724	`\begin{aligned} \left|\eta_{1}(t)\right|^{2} & +\left| \eta_{2}(t)\right|^{2}+\left|\eta_{3}(t)\right|^{2} \\ & =\left|\xi_{1}\right|^{2}+\left|\frac{\xi_{2}- \xi_{3}}{2}+\frac{\xi_{2}+\xi_{3}}{2} \cos t-|q| \sin t+i \nu \sin t\right|^{2} \\ & +\left|-\frac{\xi_{2}- \xi_{3}}{2}+\frac{\xi_{2}+\xi_{3}}{2} \cos t-|q| \sin t+i \nu \sin t\right|^{2} \\ & =\left|\xi_{1}\right|^{2}+2 \left(\frac{\xi_{2}-\xi_{3}}{2}\right)^{2}+2\left(\frac{ \xi_{2}+\xi_{3}}{2} \cos t-|q| \sin t\right)^{2}+2 \nu^{2} \sin ^{2} t \\ & =\left|\xi_{1}\right|^{2}+2 \left(\frac{\xi_{2}-\xi_{3}}{2}\right)^{2}+2\left(\left(\frac{\xi_{2}+\xi_{3}}{2}\right)^{2}+|q|^{2}\right) \sin ^{2}\left(t+t_{0}\right)+2 \nu^{2} \sin ^{2} t \\ \leq & \left.\left|\xi_{1}\right|^{2}+\left|\xi_{2}\right|^{2}+ \left|\xi_{3}\right|^{2}+2|q|^{2}+2 \nu^{2} \cos ^{2} t_{0} \quad \text { (for some } t_{0} \in \boldsymbol{R} \right) \end{aligned}`	$\begin{aligned} \left\|\eta_{1}(t)\right\|^{2} & +\left\|\eta_{2}(t)\right\|^{2}+\left\|\eta_{3}(t)\right\|^{2} \\ & =\left\|\xi_{1}\right\|^{2}+\left\|\frac{\xi_{2}- \xi_{3}}{2}+\frac{\xi_{2}+\xi_{3}}{2} \cos t-\|q\| \sin t+i \nu \sin t\right\|^{2} \\ & +\left\|-\frac{\xi_{2}- \xi_{3}}{2}+\frac{\xi_{2}+\xi_{3}}{2} \cos t-\|q\| \sin t+i \nu \sin t\right\|^{2} \\ & =\left\|\xi_{1}\right\|^{2}+2 \left(\frac{\xi_{2}-\xi_{3}}{2}\right)^{2}+2\left(\frac{ \xi_{2}+\xi_{3}}{2} \cos t-\|q\| \sin t\right)^{2}+2 \nu^{2} \sin ^{2} t \\ & =\left\|\xi_{1}\right\|^{2}+2 \left(\frac{\xi_{2}-\xi_{3}}{2}\right)^{2}+2\left(\left(\frac{\xi_{2}+\xi_{3}}{2}\right)^{2}+\|q\|^{2}\right) \sin ^{2}\left(t+t_{0}\right)+2 \nu^{2} \sin ^{2} t \\ \leq & \left.\left\|\xi_{1}\right\|^{2}+\left\|\xi_{2}\right\|^{2}+ \left\|\xi_{3}\right\|^{2}+2\|q\|^{2}+2 \nu^{2} \cos ^{2} t_{0} \quad \text { (for some } t_{0} \in \boldsymbol{R} \right) \end{aligned}$	$\begin{aligned} \left\|\eta_{1}(t)\right\|^{2} & +\left\|\eta_{2}(t)\right\|^{2}+\left\|\eta_{3}(t)\right\|^{2} \\ & =\left\|\xi_{1}\right\|^{2}+\left\|\frac{\xi_{2}- \xi_{3}}{2}+\frac{\xi_{2}+\xi_{3}}{2} \cos t-\|q\| \sin t+i \nu \sin t\right\|^{2} \\ & +\left\|-\frac{\xi_{2}- \xi_{3}}{2}+\frac{\xi_{2}+\xi_{3}}{2} \cos t-\|q\| \sin t+i \nu \sin t\right\|^{2} \\ & =\left\|\xi_{1}\right\|^{2}+2 \left(\frac{\xi_{2}-\xi_{3}}{2}\right)^{2}+2\left(\frac{ \xi_{2}+\xi_{3}}{2} \cos t-\|q\| \sin t\right)^{2}+2 \nu^{2} \sin ^{2} t \\ & =\left\|\xi_{1}\right\|^{2}+2 \left(\frac{\xi_{2}-\xi_{3}}{2}\right)^{2}+2\left(\left(\frac{\xi_{2}+\xi_{3}}{2}\right)^{2}+\|q\|^{2}\right) \sin ^{2}\left(t+t_{0}\right)+2 \nu^{2} \sin ^{2} t \\ \leq & \left.\left\|\xi_{1}\right\|^{2}+\left\|\xi_{2}\right\|^{2}+ \left\|\xi_{3}\right\|^{2}+2\|q\|^{2}+2 \nu^{2} \cos ^{2} t_{0} \quad \text { (for some } t_{0} \in \boldsymbol{R} \right) \end{aligned}$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ1178	199	0.725	`\begin{aligned} = & \sum_{j=1}^{5} \sum_{i=1}^{6}(-1)^{i} \left(\boldsymbol{a}_{1} \wedge \cdots \boldsymbol{a}_{i-1} \wedge \boldsymbol{a}_{i+1} \wedge \cdots \wedge \boldsymbol{a}_{6}, \boldsymbol{e}_{1} \wedge \cdots \wedge \boldsymbol{e}_{5}\right) a_{i j} \boldsymbol{e}_{j} \\ & =-\sum_{j=1}^{5} \operatorname{det}\left(\begin{array}{cccc} a_{1 j} & a_{11} & \cdots & a_{15} \\ a_{2 j} & a_{21} & \cdots & a_{25} \\ & & \cdots & \\ a_{6 j} & a_{61} & \cdots & a_{65} \end{array}\right) \boldsymbol{e}_{j}=0 . \end{aligned}`	$$\begin{aligned} &= \sum_{j=1}^{5} \sum_{i=1}^{6}(-1)^{i} \left(\boldsymbol{a}_{1} \wedge \cdots \boldsymbol{a}_{i-1} \wedge \boldsymbol{a}_{i+1} \wedge \cdots \wedge \boldsymbol{a}_{6}, \boldsymbol{e}_{1} \wedge \cdots \wedge \boldsymbol{e}_{5}\right) a_{i j} \boldsymbol{e}_{j} \\ & =-\sum_{j=1}^{5} \operatorname{det}\left(\begin{array}{cccc} a_{1 j} & a_{11} & \cdots & a_{15} \\ a_{2 j} & a_{21} & \cdots & a_{25} \\ & & \cdots & \\ a_{6 j} & a_{61} & \cdots & a_{65} \end{array}\right) \boldsymbol{e}_{j}=0 . \end{aligned}$$	$$\begin{aligned} &= \sum_{j=1}^{5} \sum_{i=1}^{6}(-1)^{i} \left(\boldsymbol{a}_{1} \wedge \cdots \boldsymbol{a}_{i-1} \wedge \boldsymbol{a}_{i+1} \wedge \cdots \wedge \boldsymbol{a}_{6}, \boldsymbol{e}_{1} \wedge \cdots \wedge \boldsymbol{e}_{5}\right) a_{i j} \boldsymbol{e}_{j} \\ & =-\sum_{j=1}^{5} \operatorname{det}\left(\begin{array}{cccc} a_{1 j} & a_{11} & \cdots & a_{15} \\ a_{2 j} & a_{21} & \cdots & a_{25} \\ & & \cdots & \\ a_{6 j} & a_{61} & \cdots & a_{65} \end{array}\right) \boldsymbol{e}_{j}=0 . \end{aligned}$$
0902.0431_EQ1148	194	0.732	`\begin{aligned} ((\boldsymbol{u} \times \boldsymbol{v}) \boldsymbol{x}, \boldsymbol{y})= & (*(\boldsymbol{v} \wedge *(\boldsymbol{u} \wedge \boldsymbol{x})), \boldsymbol{y})+\frac{2}{3}(\boldsymbol{u}, \boldsymbol{v})(\boldsymbol{x}, \boldsymbol{y}) \\ = & -(\boldsymbol{x} \wedge \boldsymbol{u}, \boldsymbol{y} \wedge \boldsymbol{v})+\frac{2}{3}(\boldsymbol{u}, \boldsymbol{v})(\boldsymbol{x}, \boldsymbol{y}) \\ = & \left(\boldsymbol{x} \wedge \boldsymbol{u}_{2} \wedge \boldsymbol{u}_{3}, \boldsymbol{v}\right) \left(\boldsymbol{u}_{1}, \boldsymbol{y}\right)-\left(\boldsymbol{x} \wedge \boldsymbol{u}_{1} \wedge \boldsymbol{u}_{3}, \boldsymbol{v}\right) \left(\boldsymbol{u}_{2}, \boldsymbol{y}\right) \\ & +\left(\boldsymbol{x} \wedge \boldsymbol{u}_{1} \wedge \boldsymbol{u}_{2}, \boldsymbol{v}\right) \left(\boldsymbol{u}_{3}, \boldsymbol{y}\right)-\frac{1}{3}(\boldsymbol{u}, \boldsymbol{v})(\boldsymbol{x}, \boldsymbol{y}) . \end{aligned}`	$$\begin{aligned} ((\boldsymbol{u} \times \boldsymbol{v}) \boldsymbol{x}, \boldsymbol{y}) = & (*(\boldsymbol{v} \wedge *(\boldsymbol{u} \wedge \boldsymbol{x})), \boldsymbol{y})+\frac{2}{3}(\boldsymbol{u}, \boldsymbol{v})(\boldsymbol{x}, \boldsymbol{y}) \\ = & -(\boldsymbol{x} \wedge \boldsymbol{u}, \boldsymbol{y} \wedge \boldsymbol{v})+\frac{2}{3}(\boldsymbol{u}, \boldsymbol{v})(\boldsymbol{x}, \boldsymbol{y}) \\ = & \left(\boldsymbol{x} \wedge \boldsymbol{u}_{2} \wedge \boldsymbol{u}_{3}, \boldsymbol{v}\right) \left(\boldsymbol{u}_{1}, \boldsymbol{y}\right)-\left(\boldsymbol{x} \wedge \boldsymbol{u}_{1} \wedge \boldsymbol{u}_{3}, \boldsymbol{v}\right) \left(\boldsymbol{u}_{2}, \boldsymbol{y}\right) \\ & +\left(\boldsymbol{x} \wedge \boldsymbol{u}_{1} \wedge \boldsymbol{u}_{2}, \boldsymbol{v}\right) \left(\boldsymbol{u}_{3}, \boldsymbol{y}\right)-\frac{1}{3}(\boldsymbol{u}, \boldsymbol{v})(\boldsymbol{x}, \boldsymbol{y}) . \end{aligned}$$	$$\begin{aligned} ((\boldsymbol{u} \times \boldsymbol{v}) \boldsymbol{x}, \boldsymbol{y}) = & (*(\boldsymbol{v} \wedge *(\boldsymbol{u} \wedge \boldsymbol{x})), \boldsymbol{y})+\frac{2}{3}(\boldsymbol{u}, \boldsymbol{v})(\boldsymbol{x}, \boldsymbol{y}) \\ = & -(\boldsymbol{x} \wedge \boldsymbol{u}, \boldsymbol{y} \wedge \boldsymbol{v})+\frac{2}{3}(\boldsymbol{u}, \boldsymbol{v})(\boldsymbol{x}, \boldsymbol{y}) \\ = & \left(\boldsymbol{x} \wedge \boldsymbol{u}_{2} \wedge \boldsymbol{u}_{3}, \boldsymbol{v}\right) \left(\boldsymbol{u}_{1}, \boldsymbol{y}\right)-\left(\boldsymbol{x} \wedge \boldsymbol{u}_{1} \wedge \boldsymbol{u}_{3}, \boldsymbol{v}\right) \left(\boldsymbol{u}_{2}, \boldsymbol{y}\right) \\ & +\left(\boldsymbol{x} \wedge \boldsymbol{u}_{1} \wedge \boldsymbol{u}_{2}, \boldsymbol{v}\right) \left(\boldsymbol{u}_{3}, \boldsymbol{y}\right)-\frac{1}{3}(\boldsymbol{u}, \boldsymbol{v})(\boldsymbol{x}, \boldsymbol{y}) . \end{aligned}$$
0902.0431_EQ1081	183	0.733	`\begin{aligned} & S_{1} \tau S_{2}=\chi P_{1} \tau \chi P_{2}=\chi\left(X_{1}, Y_{1}, \xi_{1}, \eta_{1} \right) \tau \chi\left(X_{2}, Y_{2}, \xi_{2}, \eta_{2} \right) \\ & =\left(k\left(g X_{1}-\frac{\xi_{1}}{2} E\right)+i k\left(g\left(\gamma Y_{1}\right)-\frac{ \eta_{1}}{2} E\right)\right) J \tau\left(\left(k\left(g X_{2}-\frac{\xi_{2}}{2} E\right) \right.\right. \\ & \left.\left.\quad+i k\left(g\left(\gamma Y_{2}\right)-\frac{\eta_{2}}{2} E\right)\right) J\right) \end{aligned}`	$$\begin{aligned} & S_{1} \tau S_{2}=\chi P_{1} \tau \chi P_{2}=\chi\left(X_{1}, Y_{1}, \xi_{1}, \eta_{1} \right) \tau \chi\left(X_{2}, Y_{2}, \xi_{2}, \eta_{2} \right) \\ & =\left(k\left(g X_{1}-\frac{\xi_{1}}{2} E\right)+i k\left(g\left(\gamma Y_{1}\right)-\frac{ \eta_{1}}{2} E\right)\right) J \tau\left(\left(k\left(g X_{2}-\frac{\xi_{2}}{2} E\right) \right.\right. \\ & \left.\left.\quad+i k\left(g\left(\gamma Y_{2}\right)-\frac{\eta_{2}}{2} E\right)\right) J\right) \end{aligned}$$	$$\begin{aligned} & S_{1} \tau S_{2}=\chi P_{1} \tau \chi P_{2}=\chi\left(X_{1}, Y_{1}, \xi_{1}, \eta_{1} \right) \tau \chi\left(X_{2}, Y_{2}, \xi_{2}, \eta_{2} \right) \\ & =\left(k\left(g X_{1}-\frac{\xi_{1}}{2} E\right)+i k\left(g\left(\gamma Y_{1}\right)-\frac{ \eta_{1}}{2} E\right)\right) J \tau\left(\left(k\left(g X_{2}-\frac{\xi_{2}}{2} E\right) \right.\right. \\ & \left.\left.\quad+i k\left(g\left(\gamma Y_{2}\right)-\frac{\eta_{2}}{2} E\right)\right) J\right) \end{aligned}$$

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0902.0431_EQ1096	186	0.736	\begin{aligned} & {\left[\zeta l\left(S_{1}\right) I, \zeta\left(l\left(S_{2}\right) I\right]\right.} \\ & = \left[\Theta\left(0,2 \lambda \gamma \chi^{-1} S_{1}, 2 \chi^{-1} S_{1}, 0,0,0\right), \Theta\left(0,2 \lambda \gamma \chi^{-1} S_{2}, 2 \chi^{-1} S_{2}, 0,0,0\right) \right] \\ & =\Theta\left(2 \lambda \gamma \chi^{-1} S_{1} \times 2 \chi^{-1} S_{2}-2 \lambda \gamma \chi^{-1} S_{2} \times 2 \chi^{-1} S_{1}, 0,0\right. \\ & \quad \frac{1}{8}\left(-\left\{2 \lambda \gamma \chi^{-1} S_{1}, 2 \chi^{-1} S_{2}\right\}+\left\{2 \lambda \gamma \chi^{-1} S_{2}, 2 \chi^{-1} S_{1}\right\}\right), \ \ & \left.\quad \frac{1}{4}\left\{2 \lambda \gamma \chi^{-1} S_{1}, 2 \lambda \gamma \chi^{-1} S_{2}\right\},-\frac{1}{4}\left\{2 \chi^{-1} S_{1}, 2 \chi^{-1} S_{2}\right\}\right), \end{aligned}	$[\zeta l\left(S_1\right) I, \zeta\left(l\left(S_2\right) I\right.]$ $= \left[\Theta\left(0, 2\lambda\gamma\chi^{-1}S_1, 2\chi^{-1}S_1, 0, 0, 0\right), \Theta\left(0, 2\lambda\gamma\chi^{-1}S_2, 2\chi^{-1}S_2, 0, 0, 0\right)\right]$ $= \Theta\left(2\lambda\gamma\chi^{-1}S_1 \times 2\chi^{-1}S_2 - 2\lambda\gamma\chi^{-1}S_2 \times 2\chi^{-1}S_1, 0, 0\right.$ $\frac{1}{8}\left(-\left\{2\lambda\gamma\chi^{-1}S_1, 2\chi^{-1}S_2\right\} + \left\{2\lambda\gamma\chi^{-1}S_2, 2\chi^{-1}S_1\right\}\right),$ $\left.\frac{1}{4}\left\{2\lambda\gamma\chi^{-1}S_1, 2\lambda\gamma\chi^{-1}S_2\right\}, -\frac{1}{4}\left\{2\chi^{-1}S_1, 2\chi^{-1}S_2\right\}\right),$	$[\zeta l(S_1)I, \zeta(l(S_2)I]$ $= [\Theta(0, 2\lambda\gamma\chi^{-1}S_1, 2\chi^{-1}S_1, 0, 0, 0), \Theta(0, 2\lambda\gamma\chi^{-1}S_2, 2\chi^{-1}S_2, 0, 0, 0)]$ $= \Theta\Big(2\lambda\gamma\chi^{-1}S_1 \times 2\chi^{-1}S_2 - 2\lambda\gamma\chi^{-1}S_2 \times 2\chi^{-1}S_1, 0, 0,$ $\frac{1}{8}(-\{2\lambda\gamma\chi^{-1}S_1, 2\chi^{-1}S_2\} + \{2\lambda\gamma\chi^{-1}S_2, 2\chi^{-1}S_1\}),$ $\frac{1}{4}\{2\lambda\gamma\chi^{-1}S_1, 2\lambda\gamma\chi^{-1}S_2\}, -\frac{1}{4}\{2\chi^{-1}S_1, 2\chi^{-1}S_2\}\Big),$
0902.0431_EQ0158	29	0.746	\left(\alpha_{1} x\right)\left(\alpha_{2} y\right)= \alpha_{3}(x y), \quad x, y \in \mathfrak{C} .	$\left(\alpha_1 x\right)\left(\alpha_2 y\right) = \alpha_3(xy), \quad x, y \in \mathfrak{C}.$	$(\alpha_1 x)(\alpha_2 y) = \alpha_3(xy), \quad x, y \in \mathfrak{C}.$
0902.0431_EQ0621	103	0.747	\begin{aligned} & \langle\varphi(A) X, \varphi(A) Y \rangle=\langle g \varphi(A) X, g \varphi(A) Y\rangle \ \ & \quad=\left\langle A(g X) A^{*}, A(g Y) A^{*}\right \rangle=\langle g X, g Y\rangle=\langle X, Y\rangle . \end{aligned}	$\langle\varphi(A)X, \varphi(A)Y\rangle = \langle g\varphi(A)X, g\varphi(A)Y\rangle$ $= \langle A(gX)A^*, A(gY)A^*\rangle = \langle gX, gY\rangle = \langle X, Y\rangle.$	$\langle\varphi(A)X, \varphi(A)Y\rangle = \langle g\varphi(A)X, g\varphi(A)Y\rangle$ $= \langle A(gX)A^*, A(gY)A^*\rangle = \langle gX, gY\rangle = \langle X, Y\rangle.$
0902.0431_EQ1102	187	0.751	\begin{aligned} \left(\left(\mathfrak{e}_{8}{ }^{C} \right)_{\widetilde{\lambda} \gamma}\right)_{\tau \widetilde{\lambda}} & =\left(\left(\mathfrak{e}_{8}{ }^{C}\right)_{\tau \gamma}\right)_{\widetilde{\lambda} \gamma}=\left(\mathfrak{e}_{8(8)}\right)_{\widetilde{\lambda} \gamma}=\left(\mathfrak{e}_{8(8)}\right)^{\widetilde{\lambda} \gamma}, \\ \left(\left(\mathfrak{e}_{8}{ }^{C}\right)_{-\widetilde{\lambda} \gamma}\right)_{\tau \widetilde{\lambda}} & =\left(\left(\mathfrak{e}_{8}{ }^{C}\right)_{\tau \gamma}\right)_{-\widetilde{\lambda} \gamma}=\left(\mathfrak{e}_{8(8)}\right)_{-\widetilde{\lambda} \gamma}, \end{aligned}	$\left(\left(\mathfrak{e}_8{}^C\right)_{\widetilde{\lambda}\gamma}\right)_{\tau\widetilde{\lambda}} = \left(\left(\mathfrak{e}_8{}^C\right)_{\tau\gamma}\right)_{\widetilde{\lambda}\gamma} = \left(\mathfrak{e}_{8(8)}\right)_{\widetilde{\lambda}\gamma} = \left(\mathfrak{e}_{8(8)}\right)^{\widetilde{\lambda}\gamma},$ $\left(\left(\mathfrak{e}_8{}^C\right)_{-\widetilde{\lambda}\gamma}\right)_{\tau\widetilde{\lambda}} = \left(\left(\mathfrak{e}_8{}^C\right)_{\tau\gamma}\right)_{-\widetilde{\lambda}\gamma} = \left(\mathfrak{e}_{8(8)}\right)_{-\widetilde{\lambda}\gamma},$	$((\mathfrak{e}_8{}^C)_{\widetilde{\lambda}\gamma})_{\tau\widetilde{\lambda}} = ((\mathfrak{e}_8{}^C)_{\tau\gamma})_{\widetilde{\lambda}\gamma} = (\mathfrak{e}_{8(8)})_{\widetilde{\lambda}\gamma} = (\mathfrak{e}_{8(8)})^{\widetilde{\lambda}\gamma},$ $((\mathfrak{e}_8{}^C)_{-\widetilde{\lambda}\gamma})_{\tau\widetilde{\lambda}} = ((\mathfrak{e}_8{}^C)_{\tau\gamma})_{-\widetilde{\lambda}\gamma} = (\mathfrak{e}_{8(8)})_{-\widetilde{\lambda}\gamma},$

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0902.0431_EQ0250	41	0.754	`\begin{aligned} & (4) \Rightarrow(2) \operatorname{tr}(\alpha X)=(\alpha X, E, E)=(\alpha X, \alpha E, \alpha E)=(X, E, E) \text { (Lemma 2.2.2.(2)) } \\ = & \operatorname{tr}(X) \text {. Hence } \frac{1}{2}(\operatorname{tr}(X) \operatorname{tr}(Y)-(X, Y))=(X, Y, E) \text { (Lemma 2.1.1) }=(\alpha X, \alpha Y, \alpha E) \\ = & (\alpha X, \alpha Y, E)=\frac{1}{2}(\operatorname{tr}(\alpha X) \operatorname{tr}(\alpha Y)-(\alpha X, \alpha Y))=\frac{1}{2}(\operatorname{tr}(X) \operatorname{tr}(Y)-(\alpha X, \alpha Y)) \text {. There- } \end{aligned}`	$(4) \Rightarrow(2) \operatorname{tr}(\alpha X)=(\alpha X, E, E)=(\alpha X, \alpha E, \alpha E)=(X, E, E)$ (Lemma 2.2.2.(2)) $=\operatorname{tr}(X)$. Hence $\frac{1}{2}(\operatorname{tr}(X) \operatorname{tr}(Y)-(X, Y))=(X, Y, E)$ (Lemma 2.1.1) $=(\alpha X, \alpha Y, \alpha E)$ $=(\alpha X, \alpha Y, E)=\frac{1}{2}(\operatorname{tr}(\alpha X) \operatorname{tr}(\alpha Y)-(\alpha X, \alpha Y))=\frac{1}{2}(\operatorname{tr}(X) \operatorname{tr}(Y)-(\alpha X, \alpha Y))$. There-	$(4) \Rightarrow (2)\ \operatorname{tr}(\alpha X) = (\alpha X, E, E) = (\alpha X, \alpha E, \alpha E) = (X, E, E)$ (Lemma 2.2.2.(2)) $= \operatorname{tr}(X)$. Hence $\frac{1}{2}(\operatorname{tr}(X)\operatorname{tr}(Y) - (X, Y)) = (X, Y, E)$ (Lemma 2.1.1) $= (\alpha X, \alpha Y, \alpha E)$ $= (\alpha X, \alpha Y, E) = \frac{1}{2}(\operatorname{tr}(\alpha X)\ \operatorname{tr}(\alpha Y) - (\alpha X, \alpha Y)) = \frac{1}{2}(\operatorname{tr}(X)\operatorname{tr}(Y) - (\alpha X, \alpha Y))$. There-
0902.0431_EQ0911	151	0.754	`E_{7, \boldsymbol{C}}=\left\{\alpha \in \operatorname{Iso}_{\boldsymbol{C}}\left(\left( \mathfrak{P}_{\boldsymbol{C}}\right)^{C}\right) \mid \alpha(P \times Q) \alpha^{-1}=\alpha P \times \alpha Q,\langle\alpha P, \alpha Q\rangle=\langle P, Q\rangle \right\} .`	$E_{7,\boldsymbol{C}}=\left\{\alpha \in \operatorname{Iso}_{\boldsymbol{C}}\left(\left(\mathfrak{P}_{\boldsymbol{C}}\right)^{C}\right) \mid \alpha(P \times Q)\alpha^{-1}=\alpha P \times \alpha Q, \langle\alpha P, \alpha Q\rangle=\langle P, Q\rangle\right\}.$	$E_{7,\boldsymbol{C}}=\{\alpha \in \operatorname{Iso}_{C}((\mathfrak{P}_{\boldsymbol{C}})^{C}) \mid \alpha(P \times Q)\alpha^{-1}=\alpha P \times \alpha Q, \langle\alpha P, \alpha Q\rangle=\langle P, Q\rangle\}.$
0902.0431_EQ1107	187	0.754	`k^{2} B_{8}\left(R, R^{\prime}\right)=B_{8}\left( \alpha R, \alpha R^{\prime}\right)=B_{8}\left(R, R^{\prime}\right), \quad R, R^{\prime} \in\left( \mathfrak{e}_{8}^{C}\right)_{-\widetilde{\lambda}_{\gamma}}, \gamma},`	$k^{2} B_{8}\left(R, R^{\prime}\right)=B_{8}\left(\alpha R, \alpha R^{\prime}\right)=B_{8}\left(R, R^{\prime}\right), \quad R, R^{\prime} \in\left(\mathfrak{e}_{8}^{C}\right)_{-\widetilde{\lambda}_{\gamma}},$	$k^{2} B_{8}(R, R')=B_{8}(\alpha R, \alpha R')=B_{8}(R, R'), \quad R, R' \in ({\mathfrak{e}_{8}}^{C})_{-\widetilde{\lambda}_{\gamma}},$
0902.0431_EQ0448	73	0.755	`\phi=\delta+\widetilde{T}, \quad \delta \in \mathfrak{f}_{4}^{C}, T \in \mathfrak{J}_{0}^{C} .`	$\phi=\delta+\widetilde{T}, \quad \delta \in \mathfrak{f}_{4}^{C}, T \in \mathfrak{J}_{0}^{C}.$	$\phi=\delta+\widetilde{T}, \quad \delta \in {\mathfrak{f}_{4}}^{C}, T \in {\mathfrak{J}_{0}}^{C}.$
0902.0431_EQ0318	51	0.755	`\begin{aligned} & ([\delta,[\widetilde{A}, \widetilde{B}]],[\widetilde{C}, \widetilde{D}])_{4}+([\widetilde{A}, \widetilde{B}],[\delta,[\widetilde{C}, \widetilde{D}]])_{4} \\ & =([\widetilde{\delta A}, \widetilde{B}]+[\widetilde{A}, \widetilde{\delta B}],[\widetilde{C}, \widetilde{D}])_{4}+([\widetilde{A}, \widetilde{B}],[\widetilde{\delta C}, \widetilde{D}]+[\widetilde{C}, \widetilde{\delta D}])_{4}(\text { Lemma 2.4.5.(1) }) \\ = & ([\widetilde{\delta A}, \widetilde{B}] C, D)+([\widetilde{A}, \widetilde{\delta B}] C, D)+([\widetilde{A}, \widetilde{B}] \delta C, D)+([\widetilde{A}, \widetilde{B}] C, \delta D) \\ = & (\delta A \circ(B \circ C), D)-(B \circ(\delta A \circ C), D)+(A \circ(\delta B \circ C), D)-(\delta B \circ(A \circ C), D) \\ & +(A \circ(B \circ \delta C), D)-(B \circ(A \circ \delta C), D)+(A \circ(B \circ C), \delta D)-(B \circ(A \circ C), \delta D) \end{aligned}`	$([\delta,[\widetilde{A}, \widetilde{B}]],[\widetilde{C}, \widetilde{D}])_{4}+([\widetilde{A}, \widetilde{B}],[\delta,[\widetilde{C}, \widetilde{D}]])_{4}$ $=([\widetilde{\delta A}, \widetilde{B}]+[\widetilde{A}, \widetilde{\delta B}],[\widetilde{C}, \widetilde{D}])_{4}+([\widetilde{A}, \widetilde{B}],[\widetilde{\delta C}, \widetilde{D}]+[\widetilde{C}, \widetilde{\delta D}])_{4}$(Lemma 2.4.5.(1)) $=([\widetilde{\delta A}, \widetilde{B}] C, D)+([\widetilde{A}, \widetilde{\delta B}] C, D)+([\widetilde{A}, \widetilde{B}] \delta C, D)+([\widetilde{A}, \widetilde{B}] C, \delta D)$ $=(\delta A \circ(B \circ C), D)-(B \circ(\delta A \circ C), D)+(A \circ(\delta B \circ C), D)-(\delta B \circ(A \circ C), D)$ $+(A \circ(B \circ \delta C), D)-(B \circ(A \circ \delta C), D)+(A \circ(B \circ C), \delta D)-(B \circ(A \circ C), \delta D)$	$([\delta,[\widetilde{A}, \widetilde{B}]],[\widetilde{C}, \widetilde{D}])_{4}+([\widetilde{A}, \widetilde{B}],[\delta,[\widetilde{C}, \widetilde{D}]])_{4}$ $=([\widetilde{\delta A}, \widetilde{B}]+[\widetilde{A}, \widetilde{\delta B}],[\widetilde{C}, \widetilde{D}])_{4}+([\widetilde{A}, \widetilde{B}],[\widetilde{\delta C}, \widetilde{D}]+[\widetilde{C}, \widetilde{\delta D}])_{4}$ (Lemma 2.4.5.(1)) $=([\widetilde{\delta A}, \widetilde{B}] C, D)+([\widetilde{A}, \widetilde{\delta B}] C, D)+([\widetilde{A}, \widetilde{B}] \delta C, D)+([\widetilde{A}, \widetilde{B}] C, \delta D)$ $=(\delta A \circ(B \circ C), D)-(B \circ(\delta A \circ C), D)+(A \circ(\delta B \circ C), D)-(\delta B \circ(A \circ C), D)$ $+(A \circ(B \circ \delta C), D)-(B \circ(A \circ \delta C), D)+(A \circ(B \circ C), \delta D)-(B \circ(A \circ C), \delta D),$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ1153	194	0.759	`\begin{aligned} & ((u \times w) v-(v \times w) u, a) \\ & =\left(\left((u \times w) v_{1}\right) \wedge v_{2} \wedge v_{3}, a\right)-\left(\left((u \times w) v_{2} \right) \wedge v_{1} \wedge v_{3}, a\right) \\ & \quad+ \left(\left((u \times w) v_{3}\right) \wedge v_{1} \wedge v_{2}, a\right)-\left(\left((v \times w) u_{1} \right) \wedge u_{2} \wedge u_{3}, a\right) \\ & \quad+ \left(\left((v \times w) u_{2}\right) \wedge u_{1} \wedge u_{3}, a\right)-\left(\left((v \times w) u_{3}\right) \wedge u_{1} \wedge u_{2}, a\right) \\ & =-(u, w)(v, a)+ \sum_{i=1}^{3} \sum_{j=1}^{3}\left(u_{i} \wedge u_{i+1} \wedge v_{j}, w\right)\left(u_{i+2} \wedge v_{i+1} \wedge v_{j+2}, a\right) \end{aligned}`	$\begin{aligned} & ((u \times w) v-(v \times w) u, a) \\ & =\left(\left((u \times w) v_{1}\right) \wedge v_{2} \wedge v_{3}, a\right)-\left(\left((u \times w) v_{2} \right) \wedge v_{1} \wedge v_{3}, a\right) \\ & \quad+ \left(\left((u \times w) v_{3}\right) \wedge v_{1} \wedge v_{2}, a\right)-\left(\left((v \times w) u_{1} \right) \wedge u_{2} \wedge u_{3}, a\right) \\ & \quad+ \left(\left((v \times w) u_{2}\right) \wedge u_{1} \wedge u_{3}, a\right)-\left(\left((v \times w) u_{3}\right) \wedge u_{1} \wedge u_{2}, a\right) \\ & =-(u, w)(v, a)+ \sum_{i=1}^{3} \sum_{j=1}^{3}\left(u_{i} \wedge u_{i+1} \wedge v_{j}, w\right)\left(u_{i+2} \wedge v_{i+1} \wedge v_{j+2}, a\right) \end{aligned}$	$\begin{aligned} & ((\boldsymbol{u} \times \boldsymbol{w}) \boldsymbol{v}-(\boldsymbol{v} \times \boldsymbol{w}) \boldsymbol{u}, \boldsymbol{a}) \\ & =\left(\left((\boldsymbol{u} \times \boldsymbol{w}) \boldsymbol{v}_{1}\right) \wedge \boldsymbol{v}_{2} \wedge \boldsymbol{v}_{3}, \boldsymbol{a}\right)-\left(\left((\boldsymbol{u} \times \boldsymbol{w}) \boldsymbol{v}_{2} \right) \wedge \boldsymbol{v}_{1} \wedge \boldsymbol{v}_{3}, \boldsymbol{a}\right) \\ & \quad+ \left(\left((\boldsymbol{u} \times \boldsymbol{w}) \boldsymbol{v}_{3}\right) \wedge \boldsymbol{v}_{1} \wedge \boldsymbol{v}_{2}, \boldsymbol{a}\right)-\left(\left((\boldsymbol{v} \times \boldsymbol{w}) \boldsymbol{u}_{1} \right) \wedge \boldsymbol{u}_{2} \wedge \boldsymbol{u}_{3}, \boldsymbol{a}\right) \\ & \quad+ \left(\left((\boldsymbol{v} \times \boldsymbol{w}) \boldsymbol{u}_{2}\right) \wedge \boldsymbol{u}_{1} \wedge \boldsymbol{u}_{3}, \boldsymbol{a}\right)-\left(\left((\boldsymbol{v} \times \boldsymbol{w}) \boldsymbol{u}_{3}\right) \wedge \boldsymbol{u}_{1} \wedge \boldsymbol{u}_{2}, \boldsymbol{a}\right) \\ & =-(\boldsymbol{u}, \boldsymbol{w})(\boldsymbol{v}, \boldsymbol{a})+ \sum_{i=1}^{3} \sum_{j=1}^{3}\left(\boldsymbol{u}_{i} \wedge \boldsymbol{u}_{i+1} \wedge \boldsymbol{v}_{j}, \boldsymbol{w}\right)\left(\boldsymbol{u}_{i+2} \wedge \boldsymbol{v}_{i+1} \wedge \boldsymbol{v}_{j+2}, \boldsymbol{a}\right) \end{aligned}$
0902.0431_EQ0134	25	0.760	`\alpha=\varphi(1, q) \beta=\varphi(1, q) \varphi(p, 1)= \varphi(p, q), \quad(p, q) \in \operatorname{Sp}(1) \times \operatorname{Sp}(1),`	$\alpha=\varphi(1, q) \beta=\varphi(1, q) \varphi(p, 1)= \varphi(p, q), \quad(p, q) \in \operatorname{Sp}(1) \times \operatorname{Sp}(1),$	$\alpha=\varphi(1, q) \beta=\varphi(1, q) \varphi(p, 1)= \varphi(p, q), \quad(p, q) \in Sp(1) \times Sp(1),$
0902.0431_EQ0224	37	0.761	`\begin{gathered} E_{1}=\left(\begin{array}{ccc} 1 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{array}\right), \quad E_{2}=\left(\begin{array}{ccc} 0 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 0 \end{array}\right), \quad E_{3}=\left(\begin{array}{ccc} 0 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 1 \end{array}\right), \\ F_{1}(x)=\left(\begin{array}{ccc} 0 & 0 & 0 \\ 0 & 0 & x \\ 0 & \bar{x} & 0 \end{array} \right), \quad F_{2}(x)=\left(\begin{array}{ccc} 0 & 0 & \bar{x} \\ 0 & 0 & 0 \\ x & 0 & 0 \end{array}\right), \quad F_{3}(x)=\left(\begin{array}{ccc} 0 & x & 0 \\ \bar{x} & 0 & 0 \\ 0 & 0 & 0 \end{array}\right) . \end{gathered}`	$\begin{gathered} E_{1}=\left(\begin{array}{ccc} 1 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{array}\right), \quad E_{2}=\left(\begin{array}{ccc} 0 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 0 \end{array}\right), \quad E_{3}=\left(\begin{array}{ccc} 0 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 1 \end{array}\right), \\ F_{1}(x)=\left(\begin{array}{ccc} 0 & 0 & 0 \\ 0 & 0 & x \\ 0 & \bar{x} & 0 \end{array} \right), \quad F_{2}(x)=\left(\begin{array}{ccc} 0 & 0 & \bar{x} \\ 0 & 0 & 0 \\ x & 0 & 0 \end{array}\right), \quad F_{3}(x)=\left(\begin{array}{ccc} 0 & x & 0 \\ \bar{x} & 0 & 0 \\ 0 & 0 & 0 \end{array}\right) . \end{gathered}$	$\begin{gathered} E_{1}=\left(\begin{array}{ccc} 1 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{array}\right), \quad E_{2}=\left(\begin{array}{ccc} 0 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 0 \end{array}\right), \quad E_{3}=\left(\begin{array}{ccc} 0 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 1 \end{array}\right), \\ F_{1}(x)=\left(\begin{array}{ccc} 0 & 0 & 0 \\ 0 & 0 & x \\ 0 & \overline{x} & 0 \end{array} \right), \quad F_{2}(x)=\left(\begin{array}{ccc} 0 & 0 & \overline{x} \\ 0 & 0 & 0 \\ x & 0 & 0 \end{array}\right), \quad F_{3}(x)=\left(\begin{array}{ccc} 0 & x & 0 \\ \overline{x} & 0 & 0 \\ 0 & 0 & 0 \end{array}\right) . \end{gathered}$

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0902.0431_EQ0117	22	0.762	`\begin{aligned} \left(\alpha e_{4}\right)\left(\alpha e_{7}\right) & =a_{4} a_{7}=a_{4}\left(a_{3} a_{4}\right)=-a_{4}\left(a_{4} a_{3}\right)=a_{3}=\alpha e_{3}=\alpha\left(e_{4} e_{7}\right), \\ \left(\alpha e_{1}\right)\left(\alpha e_{6}\right) & =a_{1} a_{6}=a_{1}\left(a_{4} a_{2}\right)=-a_{4}\left(a_{1} a_{2}\right)=-a_{4} a_{3}=a_{3} a_{4}=a_{7} \\ & =\alpha e_{7}=\alpha\left(e_{1} e_{6}\right), \\ \left(\alpha e_{3}\right)\left(\alpha e_{6}\right) & =a_{3} a_{6}=\left(a_{1} a_{2}\right)\left(a_{4} a_{2}\right)=-\left(a_{2} a_{1}\right)\left(a_{4} a_{2}\right)=-a_{2}\left(a_{1} a_{4}\right) a_{2} \\ & =-a_{2} a_{5} a_{2}=a_{2} a_{2} a_{5}=-a_{5}=-\alpha e_{5}=\alpha\left(e_{3} e_{6}\right), \text { etc. } \end{aligned}`	$\begin{aligned} \left(\alpha e_{4}\right)\left(\alpha e_{7}\right) & =a_{4} a_{7}=a_{4}\left(a_{3} a_{4}\right)=-a_{4}\left(a_{4} a_{3}\right)=a_{3}=\alpha e_{3}=\alpha\left(e_{4} e_{7}\right), \\ \left(\alpha e_{1}\right)\left(\alpha e_{6}\right) & =a_{1} a_{6}=a_{1}\left(a_{4} a_{2}\right)=-a_{4}\left(a_{1} a_{2}\right)=-a_{4} a_{3}=a_{3} a_{4}=a_{7} \\ & =\alpha e_{7}=\alpha\left(e_{1} e_{6}\right), \\ \left(\alpha e_{3}\right)\left(\alpha e_{6}\right) & =a_{3} a_{6}=\left(a_{1} a_{2}\right)\left(a_{4} a_{2}\right)=-\left(a_{2} a_{1}\right)\left(a_{4} a_{2}\right)=-a_{2}\left(a_{1} a_{4}\right) a_{2} \\ & =-a_{2} a_{5} a_{2}=a_{2} a_{2} a_{5}=-a_{5}=-\alpha e_{5}=\alpha\left(e_{3} e_{6}\right), \text { etc. } \end{aligned}$	$\begin{aligned} \left(\alpha e_{4}\right)\left(\alpha e_{7}\right) & =a_{4} a_{7}=a_{4}\left(a_{3} a_{4}\right)=-a_{4}\left(a_{4} a_{3}\right)=a_{3}=\alpha e_{3}=\alpha\left(e_{4} e_{7}\right), \\ \left(\alpha e_{1}\right)\left(\alpha e_{6}\right) & =a_{1} a_{6}=a_{1}\left(a_{4} a_{2}\right)=-a_{4}\left(a_{1} a_{2}\right)=-a_{4} a_{3}=a_{3} a_{4}=a_{7} \\ & =\alpha e_{7}=\alpha\left(e_{1} e_{6}\right), \\ \left(\alpha e_{3}\right)\left(\alpha e_{6}\right) & =a_{3} a_{6}=\left(a_{1} a_{2}\right)\left(a_{4} a_{2}\right)=-\left(a_{2} a_{1}\right)\left(a_{4} a_{2}\right)=-a_{2}\left(a_{1} a_{4}\right) a_{2} \\ & =-a_{2} a_{5} a_{2}=a_{2} a_{2} a_{5}=-a_{5}=-\alpha e_{5}=\alpha\left(e_{3} e_{6}\right), \text { etc. } \end{aligned}$

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0902.0431_EQ0466	77	0.763	`\begin{aligned} & \frac{1}{2}(B, X) A+\frac{1}{6}(A, B) X-2 B \times(A \times X)+\frac{1}{3}(A, B) X \\ = & \frac{1}{2}(B, X) A+\frac{1}{2}(A, B) X-2 B \circ(A \times X)+\operatorname{tr}(B) A \times X+\operatorname{tr}(A \times X) B \\ & -(\operatorname{tr}(B) \operatorname{tr}(A \times X)-(B, A \times X)) E \\ = & \frac{1}{2}(B, X) A+\frac{1}{2}(A, B) X-2 B \circ(A \circ X)+\operatorname{tr}(A) B \circ X+\operatorname{tr}(X) B \circ A \\ & -\operatorname{tr}(A) \operatorname{tr}(X) B+(A, X) B+\operatorname{tr}(B) A \circ X-\frac{1}{2} \operatorname{tr}(B) \operatorname{tr}(A) X \\ & -\frac{1}{2} \operatorname{tr}(B) \operatorname{tr}(X) A+\frac{1}{2} \operatorname{tr}(B) \operatorname{tr}(A) \operatorname{tr}(X) E-\frac{1}{2} \operatorname{tr}(B)(A, X) E \\ & +\frac{1}{2}(\operatorname{tr}(A) \operatorname{tr}(X)-(A, X)) B-\frac{1}{2} \operatorname{tr}(B)(\operatorname{tr}(A) \operatorname{tr}(X)-(A, X)) E+(A, B, X) E \\ = & \operatorname{tr}(A) B \circ X+\operatorname{tr}(B) X \circ A+\operatorname{tr}(X) A \circ B \\ & -\frac{1}{2}(\operatorname{tr}(A) \operatorname{tr}(B) X+\operatorname{tr}(B) \operatorname{tr}(X) A+\operatorname{tr}(A) \operatorname{tr}(X) B) \\ & +\frac{1}{2}((A, B) X+(B, X) A+(A, X) B)+(A, B, X) E-2 B \circ(A \circ X) \\ = & A \circ(B \circ X)+B \circ(A \circ X)+X \circ(A \circ B)-2 B \circ(A \circ X) \\ = & A \circ(B \circ X)-B \circ(A \circ X)+(A \circ B) \circ X \\ = & {[\widetilde{A}, \widetilde{B}] X+(A \circ B)^{ \sim} X . } \end{aligned}`	$\begin{aligned} & \frac{1}{2}(B, X) A+\frac{1}{6}(A, B) X-2 B \times(A \times X)+\frac{1}{3}(A, B) X \\ = & \frac{1}{2}(B, X) A+\frac{1}{2}(A, B) X-2 B \circ(A \times X)+\operatorname{tr}(B) A \times X+\operatorname{tr}(A \times X) B \\ & -(\operatorname{tr}(B) \operatorname{tr}(A \times X)-(B, A \times X)) E \\ = & \frac{1}{2}(B, X) A+\frac{1}{2}(A, B) X-2 B \circ(A \circ X)+\operatorname{tr}(A) B \circ X+\operatorname{tr}(X) B \circ A \\ & -\operatorname{tr}(A) \operatorname{tr}(X) B+(A, X) B+\operatorname{tr}(B) A \circ X-\frac{1}{2} \operatorname{tr}(B) \operatorname{tr}(A) X \\ & -\frac{1}{2} \operatorname{tr}(B) \operatorname{tr}(X) A+\frac{1}{2} \operatorname{tr}(B) \operatorname{tr}(A) \operatorname{tr}(X) E-\frac{1}{2} \operatorname{tr}(B)(A, X) E \\ & +\frac{1}{2}(\operatorname{tr}(A) \operatorname{tr}(X)-(A, X)) B-\frac{1}{2} \operatorname{tr}(B)(\operatorname{tr}(A) \operatorname{tr}(X)-(A, X)) E+(A, B, X) E \\ = & \operatorname{tr}(A) B \circ X+\operatorname{tr}(B) X \circ A+\operatorname{tr}(X) A \circ B \\ & -\frac{1}{2}(\operatorname{tr}(A) \operatorname{tr}(B) X+\operatorname{tr}(B) \operatorname{tr}(X) A+\operatorname{tr}(A) \operatorname{tr}(X) B) \\ & +\frac{1}{2}((A, B) X+(B, X) A+(A, X) B)+(A, B, X) E-2 B \circ(A \circ X) \\ = & A \circ(B \circ X)+B \circ(A \circ X)+X \circ(A \circ B)-2 B \circ(A \circ X) \\ = & A \circ(B \circ X)-B \circ(A \circ X)+(A \circ B) \circ X \\ = & {[\widetilde{A}, \widetilde{B}] X+(A \circ B)^{ \sim} X . } \end{aligned}$	$\begin{aligned} & \frac{1}{2}(B, X) A+\frac{1}{6}(A, B) X-2 B \times(A \times X)+\frac{1}{3}(A, B) X \\ = & \frac{1}{2}(B, X) A+\frac{1}{2}(A, B) X-2 B \circ(A \times X)+\operatorname{tr}(B) A \times X+\operatorname{tr}(A \times X) B \\ & -(\operatorname{tr}(B) \operatorname{tr}(A \times X)-(B, A \times X)) E \\ = & \frac{1}{2}(B, X) A+\frac{1}{2}(A, B) X-2 B \circ(A \circ X)+\operatorname{tr}(A) B \circ X+\operatorname{tr}(X) B \circ A \\ & -\operatorname{tr}(A) \operatorname{tr}(X) B+(A, X) B+\operatorname{tr}(B) A \circ X-\frac{1}{2} \operatorname{tr}(B) \operatorname{tr}(A) X \\ & -\frac{1}{2} \operatorname{tr}(B) \operatorname{tr}(X) A+\frac{1}{2} \operatorname{tr}(B) \operatorname{tr}(A) \operatorname{tr}(X) E-\frac{1}{2} \operatorname{tr}(B)(A, X) E \\ & +\frac{1}{2}(\operatorname{tr}(A) \operatorname{tr}(X)-(A, X)) B-\frac{1}{2} \operatorname{tr}(B)(\operatorname{tr}(A) \operatorname{tr}(X)-(A, X)) E+(A, B, X) E \\ = & \operatorname{tr}(A) B \circ X+\operatorname{tr}(B) X \circ A+\operatorname{tr}(X) A \circ B \\ & -\frac{1}{2}(\operatorname{tr}(A) \operatorname{tr}(B) X+\operatorname{tr}(B) \operatorname{tr}(X) A+\operatorname{tr}(A) \operatorname{tr}(X) B) \\ & +\frac{1}{2}((A, B) X+(B, X) A+(A, X) B)+(A, B, X) E-2 B \circ(A \circ X) \\ = & A \circ(B \circ X)+B \circ(A \circ X)+X \circ(A \circ B)-2 B \circ(A \circ X) \\ = & A \circ(B \circ X)-B \circ(A \circ X)+(A \circ B) \circ X \\ = & {[\widetilde{A}, \widetilde{B}] X+(A \circ B)^{ \sim} X . } \end{aligned}$

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0902.0431_EQ0368	60	0.766	`\begin{aligned} & \left\{\begin{array}{l} \eta_{1}= \xi_{1} \\ \eta_{2}=\frac{\xi_{2}+\xi_{3}}{2}+\frac{ \xi_{2}-\xi_{3}}{2} \cos 2|a|+\frac{\left(a, x_{1} \right)}{|a|} \sin 2|a| \\ \eta_{3}=\frac{\xi_{2}+ \xi_{3}}{2}-\frac{\xi_{2}-\xi_{3}}{2} \cos 2|a|-\frac{ \left(a, x_{1}\right)}{|a|} \sin 2|a|, \end{array}\right. \\ & \left\{\begin{array}{l} y_{1}=x_{1}-\frac{\left(\xi_{2}-\xi_{3}\right) a}{2|a|} \sin 2|a|-\frac{2\left(a, x_{1}\right) a}{|a|^{2}} \sin ^{2}|a| \\ y_{2}=x_{2} \cos |a|-\frac{\overline{x_{3} a}}{|a|} \sin |a| \\ y_{3}=x_{3} \cos |a|+\frac{\overline{a x}}{|a|} \sin |a| \end{array}\right. \end{aligned}`	$\begin{aligned} & \left\{\begin{array}{l} \eta_{1}= \xi_{1} \\ \eta_{2}=\frac{\xi_{2}+\xi_{3}}{2}+\frac{ \xi_{2}-\xi_{3}}{2} \cos 2\|a\|+\frac{\left(a, x_{1} \right)}{\|a\|} \sin 2\|a\| \\ \eta_{3}=\frac{\xi_{2}+ \xi_{3}}{2}-\frac{\xi_{2}-\xi_{3}}{2} \cos 2\|a\|-\frac{ \left(a, x_{1}\right)}{\|a\|} \sin 2\|a\|, \end{array}\right. \\ & \left\{\begin{array}{l} y_{1}=x_{1}-\frac{\left(\xi_{2}-\xi_{3}\right) a}{2\|a\|} \sin 2\|a\|-\frac{2\left(a, x_{1}\right) a}{\|a\|^{2}} \sin ^{2}\|a\| \\ y_{2}=x_{2} \cos \|a\|-\frac{\overline{x_{3} a}}{\|a\|} \sin \|a\| \\ y_{3}=x_{3} \cos \|a\|+\frac{\overline{a x}}{\|a\|} \sin \|a\| \end{array}\right. \end{aligned}$	$\begin{aligned} & \left\{\begin{array}{l} \eta_{1}= \xi_{1} \\ \eta_{2}=\frac{\xi_{2}+\xi_{3}}{2}+\frac{ \xi_{2}-\xi_{3}}{2} \cos 2\|a\|+\frac{\left(a, x_{1} \right)}{\|a\|} \sin 2\|a\| \\ \eta_{3}=\frac{\xi_{2}+ \xi_{3}}{2}-\frac{\xi_{2}-\xi_{3}}{2} \cos 2\|a\|-\frac{ \left(a, x_{1}\right)}{\|a\|} \sin 2\|a\|, \end{array}\right. \\ & \left\{\begin{array}{l} y_{1}=x_{1}-\frac{\left(\xi_{2}-\xi_{3}\right) a}{2\|a\|} \sin 2\|a\|-\frac{2\left(a, x_{1}\right) a}{\|a\|^{2}} \sin ^{2}\|a\| \\ y_{2}=x_{2} \cos \|a\|-\frac{\overline{x_{3} a}}{\|a\|} \sin \|a\| \\ y_{3}=x_{3} \cos \|a\|+\frac{\overline{a x}}{\|a\|} \sin \|a\| \end{array}\right. \end{aligned}$
0902.0431_EQ1100	187	0.766	`\mathfrak{e}_{8(8)}=\left(\mathfrak{e}_{8}{ }^{C} \right)^{\tau \gamma}=\left\{R \in \mathfrak{e}_{8}{ }^{C} \mid \tau \gamma R=R\right\}`	$\mathfrak{e}_{8(8)}=\left(\mathfrak{e}_{8}{ }^{C}\right)^{\tau \gamma}=\left\{R \in \mathfrak{e}_{8}{ }^{C} \mid \tau \gamma R=R\right\}$	$\mathfrak{e}_{8(8)}=\left(\mathfrak{e}_{8}{ }^{C}\right)^{\tau \gamma}=\left\{R \in \mathfrak{e}_{8}{ }^{C} \mid \tau \gamma R=R\right\}$
0902.0431_EQ0816	136	0.770	`\alpha=\left(\begin{array}{cccc} \beta & 0 & M & 0 \\ 0 & \delta & 0 & N \\ a & 0 & \mu & 0 \\ 0 & b & 0 & \nu \end{array}\right), \quad \begin{aligned} & \beta, \delta \in \operatorname{Hom}_{C}\left(\mathfrak{J}^{C} \right), \\ & a, b \in \operatorname{Hom}_{C}\left(\mathfrak{J}^{C}, C\right), \\ & M, N \in \mathfrak{J}^{C}, \\ & \mu, \nu \in C . \end{aligned}`	$\alpha=\left(\begin{array}{cccc} \beta & 0 & M & 0 \\ 0 & \delta & 0 & N \\ a & 0 & \mu & 0 \\ 0 & b & 0 & \nu \end{array}\right), \quad \begin{aligned} & \beta, \delta \in \operatorname{Hom}_{C}\left(\mathfrak{J}^{C}\right), \\ & a, b \in \operatorname{Hom}_{C}\left(\mathfrak{J}^{C}, C\right), \\ & M, N \in \mathfrak{J}^{C}, \\ & \mu, \nu \in C . \end{aligned}$	$\alpha=\left(\begin{array}{cccc} \beta & 0 & M & 0 \\ 0 & \delta & 0 & N \\ a & 0 & \mu & 0 \\ 0 & b & 0 & \nu \end{array}\right), \quad \begin{aligned} & \beta, \delta \in \operatorname{Hom}_{C}(\mathfrak{J}^{C}), \\ & a, b \in \operatorname{Hom}_{C}(\mathfrak{J}^{C}, C), \\ & M, N \in \mathfrak{J}^{C}, \\ & \mu, \nu \in \boldsymbol{C}. \end{aligned}$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0746	123	0.770	`\begin{aligned} & \pm\left(\lambda_{k}-\lambda_{l} \right), \quad \pm\left(\lambda_{k}+\lambda_{l} \right), \quad 0 \leq k<l \leq 3, \\ & \quad \pm \lambda_{k} \pm \frac{1}{2}\left(\mu_{2}-\mu_{3} \right), \quad 0 \leq k \leq 3, \\ & \pm \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{3}-\mu_{1}\right), \\ & \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{3}-\mu_{1}\right), \\ & \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{3}-\mu_{1}\right), \\ & \pm \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{3}-\mu_{1}\right), \\ & \pm \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{1}-\mu_{2}\right), \\ & \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{1}-\mu_{2}\right), \\ & \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{1}-\mu_{2}\right), \\ & \pm \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{1}-\mu_{2}\right), \\ & \quad \pm\left(\mu_{j}+\frac{2}{3}\nu\right), \quad 0 \leq j \leq 3, \\ & \quad \pm \lambda_{k} \pm\left(\frac{1}{2}\mu_{1}-\frac{2}{3}\nu\right), \quad 0 \leq k \leq 3, \\ & \pm \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm\left(\frac{1}{2}\mu_{2}-\frac{2}{3}\nu\right), \\ & \pm \frac{1}{2}\left(\quad \lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm\left(\frac{1}{2}\mu_{2}-\frac{2}{3}\nu\right), \end{aligned}`	$$\begin{aligned} & \pm\left(\lambda_{k}-\lambda_{l} \right), \quad \pm\left(\lambda_{k}+\lambda_{l} \right), \quad 0 \leq k<l \leq 3, \\ & \quad \pm \lambda_{k} \pm \frac{1}{2}\left(\mu_{2}-\mu_{3} \right), \quad 0 \leq k \leq 3, \\ & \pm \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{3}-\mu_{1}\right), \\ & \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{3}-\mu_{1}\right), \\ & \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{3}-\mu_{1}\right), \\ & \pm \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{3}-\mu_{1}\right), \\ & \pm \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{1}-\mu_{2}\right), \\ & \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{1}-\mu_{2}\right), \\ & \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{1}-\mu_{2}\right), \\ & \pm \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{1}-\mu_{2}\right), \\ & \quad \pm\left(\mu_{j}+\frac{2}{3}\nu\right), \quad 0 \leq j \leq 3, \\ & \quad \pm \lambda_{k} \pm\left(\frac{1}{2}\mu_{1}-\frac{2}{3}\nu\right), \quad 0 \leq k \leq 3, \\ & \pm \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm\left(\frac{1}{2}\mu_{2}-\frac{2}{3}\nu\right), \\ & \pm \frac{1}{2}\left(\quad \lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm\left(\frac{1}{2}\mu_{2}-\frac{2}{3}\nu\right), \end{aligned}$$	$$\begin{aligned} & \pm\left(\lambda_{k}-\lambda_{l} \right), \quad \pm\left(\lambda_{k}+\lambda_{l} \right), \quad 0 \leq k<l \leq 3, \\ & \quad \pm \lambda_{k} \pm \frac{1}{2}\left(\mu_{2}-\mu_{3} \right), \quad 0 \leq k \leq 3, \\ & \pm \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{3}-\mu_{1}\right), \\ & \pm \frac{1}{2}\left(\quad \lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{3}-\mu_{1}\right), \\ & \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{3}-\mu_{1}\right), \\ & \pm \frac{1}{2}\left(\quad \lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{3}-\mu_{1}\right), \\ & \pm \frac{1}{2}\left(\quad \lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{1}-\mu_{2}\right), \\ & \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{1}-\mu_{2}\right), \\ & \pm \frac{1}{2}\left(\quad \lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{1}-\mu_{2}\right), \\ & \pm \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{1}-\mu_{2}\right), \\ & \quad \pm\left(\mu_{j}+\frac{2}{3}\nu\right), \quad 0 \leq j \leq 3, \\ & \quad \pm \lambda_{k} \pm\left(\frac{1}{2}\mu_{1}-\frac{2}{3}\nu\right), \quad 0 \leq k \leq 3, \\ & \pm \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm\left(\frac{1}{2}\mu_{2}-\frac{2}{3}\nu\right), \\ & \pm \frac{1}{2}\left(\quad \lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm\left(\frac{1}{2}\mu_{2}-\frac{2}{3}\nu\right), \end{aligned}$$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ1119	190	0.778	`\mathfrak{e}_{8}^{C}=\mathfrak{s l}(3, C) \oplus \mathfrak{e}_{6}^{C} \oplus\left(\mathfrak{J}^{C} \right)^{3} \oplus\left(\mathfrak{J}^{C}\right)^{3},`	$\mathfrak{e}_{8}^{C}=\mathfrak{s l}(3, C) \oplus \mathfrak{e}_{6}^{C} \oplus\left(\mathfrak{J}^{C} \right)^{3} \oplus\left(\mathfrak{J}^{C}\right)^{3},$	$\mathfrak{e}_{8}^{C}=\mathfrak{s l}(3, C) \oplus \mathfrak{e}_{6}^{C} \oplus\left(\mathfrak{J}^{C} \right)^{3} \oplus\left(\mathfrak{J}^{C}\right)^{3},$
0902.0431_EQ0856	142	0.779	`\begin{aligned} 2 \sin ^{2} a & \left(E_{2}, E_{3} \times X\right)+\tau \xi \sin a \cos a-\left(E_{3}, Y\right) \sin a \cos a-\eta \cos ^{2} a \\ & =\eta \sin ^{2} a+( \tau \xi-\xi) \sin a \cos a-\eta \cos ^{2} a \\ & = \frac{1}{2}(\tau \xi-\xi) \sin 2 a-\eta \cos 2 a=0 . \end{aligned}`	$\begin{aligned} 2 \sin ^{2} a & \left(E_{2}, E_{3} \times X\right)+\tau \xi \sin a \cos a-\left(E_{3}, Y\right) \sin a \cos a-\eta \cos ^{2} a \\ & =\eta \sin ^{2} a+(\tau \xi-\xi) \sin a \cos a-\eta \cos ^{2} a \\ & = \frac{1}{2}(\tau \xi-\xi) \sin 2 a-\eta \cos 2 a=0 . \end{aligned}$	$\begin{aligned} 2 \sin ^{2} a & \left(E_{2}, E_{3} \times X\right)+\tau \xi \sin a \cos a-\left(E_{3}, Y\right) \sin a \cos a-\eta \cos ^{2} a \\ & =\eta \sin ^{2} a+(\tau \xi-\xi) \sin a \cos a-\eta \cos ^{2} a \\ & = \frac{1}{2}(\tau \xi-\xi) \sin 2 a-\eta \cos 2 a=0 . \end{aligned}$
0902.0431_EQ1077	183	0.782	`\begin{aligned} & g\left(2\left(X_{1} \vee \gamma X_{2}-X_{2} \vee \gamma X_{1}\right) X\right) \\ & =-4 g X_{2} \circ\left(g X_{1} \circ g X\right)+4 g X_{1} \circ\left(g X_{2} \circ g X\right) \\ & =-g X_{2} g X_{1} g X-g X_{2} g X g X_{1}-g X_{1} g X g X_{2}-g X g X_{1} g X_{2} \\ & \quad+g X_{1} g X_{2} g X+g X_{1} g X g X_{2}+g X_{2} g X g X_{1}+g X g X_{2} g X_{1} \\ & =\left[g X_{1}, g X_{2}\right] g X-g X\left[g X_{1}, g X_{2}\right]=g\left(\left(\varphi_{*}\left[g X_{1}, g X_{2}\right]\right) X\right) . \end{aligned}`	$\begin{aligned} & g\left(2\left(X_{1} \vee \gamma X_{2}-X_{2} \vee \gamma X_{1}\right) X\right) \\ & =-4 g X_{2} \circ\left(g X_{1} \circ g X\right)+4 g X_{1} \circ\left(g X_{2} \circ g X\right) \\ & =-g X_{2} g X_{1} g X-g X_{2} g X g X_{1}-g X_{1} g X g X_{2}-g X g X_{1} g X_{2} \\ & \quad+g X_{1} g X_{2} g X+g X_{1} g X g X_{2}+g X_{2} g X g X_{1}+g X g X_{2} g X_{1} \\ & =\left[g X_{1}, g X_{2}\right] g X-g X\left[g X_{1}, g X_{2}\right]=g\left(\left(\varphi_{*}\left[g X_{1}, g X_{2}\right]\right) X\right) . \end{aligned}$	$\begin{aligned} & g\left(2\left(X_{1} \vee \gamma X_{2}-X_{2} \vee \gamma X_{1}\right) X\right) \\ & =-4 g X_{2} \circ\left(g X_{1} \circ g X\right)+4 g X_{1} \circ\left(g X_{2} \circ g X\right) \\ & =-g X_{2} g X_{1} g X-g X_{2} g X g X_{1}-g X_{1} g X g X_{2}-g X g X_{1} g X_{2} \\ & \quad+g X_{1} g X_{2} g X+g X_{1} g X g X_{2}+g X_{2} g X g X_{1}+g X g X_{2} g X_{1} \\ & =\left[g X_{1}, g X_{2}\right] g X-g X\left[g X_{1}, g X_{2}\right]=g\left(\left(\varphi_{*}\left[g X_{1}, g X_{2}\right]\right) X\right) . \end{aligned}$
0902.0431_EQ1137	192	0.785	`\begin{aligned} \left(\mathfrak{e}_{8}\right)^{w} & =\left\{R \in \mathfrak{e}_{8}{ }^{C} \mid w R=R, \tau \widetilde{\lambda} R=R\right\} \\ & =\left\{(D, \phi, 0,0) \in \mathfrak{e}_{8}{ }^{C} \mid D \in \mathfrak{s u}(3), \phi \in \mathfrak{e}_{6}\right\} \cong \mathfrak{s u}(3) \oplus \mathfrak{e}_{6}, \end{aligned}`	$\begin{aligned} \left(\mathfrak{e}_{8}\right)^{w} & =\left\{R \in \mathfrak{e}_{8}{ }^{C} \mid w R=R, \tau \widetilde{\lambda} R=R\right\} \\ & =\left\{(D, \phi, 0,0) \in \mathfrak{e}_{8}{ }^{C} \mid D \in \mathfrak{s u}(3), \phi \in \mathfrak{e}_{6}\right\} \cong \mathfrak{s u}(3) \oplus \mathfrak{e}_{6}, \end{aligned}$	$\begin{aligned} \left(\mathfrak{e}_{8}\right)^{w} & =\left\{R \in \mathfrak{e}_{8}{ }^{C} \mid w R=R, \tau \widetilde{\lambda} R=R\right\} \\ & =\left\{(D, \phi, 0,0) \in \mathfrak{e}_{8}{ }^{C} \mid D \in \mathfrak{s u}(3), \phi \in \mathfrak{e}_{6}\right\} \cong \mathfrak{s u}(3) \oplus \mathfrak{e}_{6}, \end{aligned}$
0902.0431_EQ0299	48	0.788	`\mathfrak{f}_{4}{ }^{C}=\mathfrak{d}_{4}{ }^{C} \oplus \widetilde{\mathfrak{A}}_{1}{ }^{C} \oplus \widetilde{\mathfrak{A}}_{2}{ }^{C} \oplus \widetilde{\mathfrak{A}}_{3}{ }^{C}=\mathfrak{d}_{4}{ }^{C} \oplus \widetilde{\mathfrak{A}}^{C} .`	$\mathfrak{f}_{4}{ }^{C}=\mathfrak{d}_{4}{ }^{C} \oplus \widetilde{\mathfrak{A}}_{1}{ }^{C} \oplus \widetilde{\mathfrak{A}}_{2}{ }^{C} \oplus \widetilde{\mathfrak{A}}_{3}{ }^{C}=\mathfrak{d}_{4}{ }^{C} \oplus \widetilde{\mathfrak{A}}^{C} .$	$\mathfrak{f}_{4}{ }^{C}=\mathfrak{d}_{4}{ }^{C} \oplus \widetilde{\mathfrak{A}}_{1}{ }^{C} \oplus \widetilde{\mathfrak{A}}_{2}{ }^{C} \oplus \widetilde{\mathfrak{A}}_{3}{ }^{C}=\mathfrak{d}_{4}{ }^{C} \oplus \widetilde{\mathfrak{A}}^{C} .$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ1034	176	0.789	`\begin{array}{r} \frac{1}{2}\left(\lambda_{0}+ \lambda_{1}+\lambda_{2}+\lambda_{3}\right)-\frac{1}{2} \mu_{3}-\frac{1}{3} \nu+r=1 \quad 3 \quad 5 \quad 4 \quad 3 \quad 2 \\ \frac{1}{2}\left(\lambda_{0}+ \lambda_{1}+\lambda_{2}+\lambda_{3}\right)-\frac{1}{2} \mu_{3}-\frac{1}{3} \nu-r=1 \quad 3 \quad 4 \quad 4 \\ \ \frac{1}{2}\left(\lambda_{0}-\lambda_{1}-\lambda_{2}+ \lambda_{3}\right)+\frac{1}{2} \mu_{3}+\frac{1}{3} \nu+r=1 \quad 1 \quad 2 \end{array}`	$\begin{array}{r} \frac{1}{2}\left(\lambda_{0}+ \lambda_{1}+\lambda_{2}+\lambda_{3}\right)-\frac{1}{2} \mu_{3}-\frac{1}{3} \nu+r=1 \quad 3 \quad 5 \quad 4 \quad 3 \quad 2 \\ \frac{1}{2}\left(\lambda_{0}+ \lambda_{1}+\lambda_{2}+\lambda_{3}\right)-\frac{1}{2} \mu_{3}-\frac{1}{3} \nu-r=1 \quad 3 \quad 4 \quad 4 \\ \frac{1}{2}\left(\lambda_{0}-\lambda_{1}-\lambda_{2}+ \lambda_{3}\right)+\frac{1}{2} \mu_{3}+\frac{1}{3} \nu+r=1 \quad 1 \quad 2 \end{array}$	$\begin{array}{r} \frac{1}{2}\left(\lambda_{0}+ \lambda_{1}+\lambda_{2}+\lambda_{3}\right)-\frac{1}{2} \mu_{3}-\frac{1}{3} \nu+r=1 \quad 3 \quad 5 \quad 4 \quad 3 \quad 2 \quad 1 \quad 2 \\ \frac{1}{2}\left(\lambda_{0}+ \lambda_{1}+\lambda_{2}+\lambda_{3}\right)-\frac{1}{2} \mu_{3}-\frac{1}{3} \nu-r=1 \quad 3 \quad 4 \quad 4 \quad 3 \quad 2 \quad 1 \quad 2 \\ \frac{1}{2}\left(\lambda_{0}-\lambda_{1}-\lambda_{2}+ \lambda_{3}\right)+\frac{1}{2} \mu_{3}+\frac{1}{3} \nu+r=1 \quad 1 \quad 2 \quad 1 \quad 1 \quad 0 \quad 0 \quad 1 \\ \frac{1}{2}\left(\lambda_{0}-\lambda_{1}-\lambda_{2}+ \lambda_{3}\right)+\frac{1}{2} \mu_{3}+\frac{1}{3} \nu-r=1 \quad 1 \quad 1 \quad 1 \quad 1 \quad 0 \quad 0 \quad 1 \\ \frac{1}{2}\left(\lambda_{0}-\lambda_{1}-\lambda_{2}+ \lambda_{3}\right)-\frac{1}{2} \mu_{3}-\frac{1}{3} \nu+r=1 \quad 2 \quad 3 \quad 2 \quad 1 \quad 0 \quad 0 \quad 1 \\ \frac{1}{2}\left(\lambda_{0}-\lambda_{1}-\lambda_{2}+ \lambda_{3}\right)-\frac{1}{2} \mu_{3}-\frac{1}{3} \nu-r=1 \quad 2 \quad 2 \quad 2 \quad 1 \quad 0 \quad 0 \quad 1 \\ \begin{array}{rl} \nu-r & =0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 1 \\ 2r & =0 \quad 0 \quad 1 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \\ \nu+r & =0 \quad 0 \quad 1 \quad 0 \quad 0 \quad 0 \quad 0 \quad 1 . \end{array} \end{array}$
0902.0431_EQ0899	149	0.790	`\begin{aligned} & =\chi\left(\begin{array}{c} \varphi_{*}(D) X \\ \gamma \varphi_{*}(D) \gamma Y \\ 0 \\ 0 \end{array}\right)=\chi\left(\left(\begin{array}{cccc} \varphi_{*}(D) X & 0 & 0 & 0 \\ 0 & \tau \varphi_{*}(D) \tau & 0 & 0 \\ 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \end{array}\right)\left(\begin{array}{l} X \\ Y \\ \xi \\ \eta \end{array}\right)\right) \\ & =\chi \left(\Phi\left(\varphi_{*}(D), 0,0,0\right) P\right) . \end{aligned}`	$\begin{aligned} & =\chi\left(\begin{array}{c} \varphi_{*}(D) X \\ \gamma \varphi_{*}(D) \gamma Y \\ 0 \\ 0 \end{array}\right)=\chi\left(\left(\begin{array}{cccc} \varphi_{*}(D) X & 0 & 0 & 0 \\ 0 & \tau \varphi_{*}(D) \tau & 0 & 0 \\ 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \end{array}\right)\left(\begin{array}{l} X \\ Y \\ \xi \\ \eta \end{array}\right)\right) \\ & =\chi \left(\Phi\left(\varphi_{*}(D), 0,0,0\right) P\right) . \end{aligned}$	$\begin{aligned} & =\chi\left(\begin{array}{c} \varphi_{*}(D) X \\ \gamma \varphi_{*}(D) \gamma Y \\ 0 \\ 0 \end{array}\right)=\chi\left(\left(\begin{array}{cccc} \varphi_{*}(D) X & 0 & 0 & 0 \\ 0 & \tau \varphi_{*}(D) \tau & 0 & 0 \\ 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \end{array}\right)\left(\begin{array}{l} X \\ Y \\ \xi \\ \eta \end{array}\right)\right) \\ & =\chi(\Phi(\varphi_{*}(D), 0,0,0) P). \end{aligned}$
0902.0431_EQ0631	104	0.794	`\begin{aligned} \varphi(B)(M+\boldsymbol{a}) & =g^{-1}\left(B g(M+\boldsymbol{a}) B^{*}\right) \ \ & =g^{-1}\left(\left(\begin{array}{cc} p & 0 \\ 0 & D \end{array}\right)\left(\left(\begin{array}{cc} \frac{1}{2} \operatorname{tr}(M) & i \boldsymbol{a} \\ i \boldsymbol{a}^{*} & M-\frac{1}{2} \operatorname{tr}(M) E \end{array}\right)\left(\begin{array}{cc} \bar{p} & 0 \\ 0 & D^{*} \end{array}\right)\right)\right. \ \ & =g^{-1}\left(\left(\begin{array}{cc} \frac{1}{2} \operatorname{tr}(M) & i p \boldsymbol{a} D^{*} \\ i D \boldsymbol{a}^{*} \bar{p} & D M D^{*}-\frac{1}{2} \operatorname{tr}(M) E \end{array}\right)\right) \\ & =D M D^{*}+p \boldsymbol{a} D^{*}=\beta(M+\boldsymbol{a}) . \end{aligned}`	$\begin{aligned} \varphi(B)(M+\boldsymbol{a}) & =g^{-1}\left(B g(M+\boldsymbol{a}) B^{*}\right) \ \ & =g^{-1}\left(\left(\begin{array}{cc} p & 0 \\ 0 & D \end{array}\right)\left(\left(\begin{array}{cc} \frac{1}{2} \operatorname{tr}(M) & i \boldsymbol{a} \\ i \boldsymbol{a}^{*} & M-\frac{1}{2} \operatorname{tr}(M) E \end{array}\right)\left(\begin{array}{cc} \bar{p} & 0 \\ 0 & D^{*} \end{array}\right)\right)\right. \ \ & =g^{-1}\left(\left(\begin{array}{cc} \frac{1}{2} \operatorname{tr}(M) & i p \boldsymbol{a} D^{*} \\ i D \boldsymbol{a}^{*} \bar{p} & D M D^{*}-\frac{1}{2} \operatorname{tr}(M) E \end{array}\right)\right) \\ & =D M D^{*}+p \boldsymbol{a} D^{*}=\beta(M+\boldsymbol{a}) . \end{aligned}$	$\begin{aligned} \varphi(B)(M+\boldsymbol{a}) & =g^{-1}\left(B g(M+\boldsymbol{a}) B^{*}\right) \ \ & =g^{-1}\left(\left(\begin{array}{cc} p & 0 \\ 0 & D \end{array}\right)\left(\left(\begin{array}{cc} \frac{1}{2} \operatorname{tr}(M) & i \boldsymbol{a} \\ i \boldsymbol{a}^{*} & M-\frac{1}{2} \operatorname{tr}(M) E \end{array}\right)\left(\begin{array}{cc} \bar{p} & 0 \\ 0 & D^{*} \end{array}\right)\right)\right. \ \ & =g^{-1}\left(\left(\begin{array}{cc} \frac{1}{2} \operatorname{tr}(M) & i p \boldsymbol{a} D^{*} \\ i D \boldsymbol{a}^{*} \bar{p} & D M D^{*}-\frac{1}{2} \operatorname{tr}(M) E \end{array}\right)\right) \\ & =D M D^{*}+p \boldsymbol{a} D^{*}=\beta(M+\boldsymbol{a}) . \end{aligned}$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0108	21	0.795	`\begin{aligned} (\alpha x)(\alpha y) & =(a+A \boldsymbol{m})(b+A \boldsymbol{n}) \\ & =(a b-\langle A \boldsymbol{m}, A \boldsymbol{n}\rangle)+(a A \boldsymbol{n}+\bar{b} A \boldsymbol{m}-\overline{A \boldsymbol{m} \times A \boldsymbol{n}}) \\ & =\left(a b-\left\langle\boldsymbol{m}, A^{*} A \boldsymbol{n} \right\rangle\right)+(a A \boldsymbol{n}+\bar{b} A \boldsymbol{m}-\bar{t} \widetilde{A}(\boldsymbol{m} \times \boldsymbol{n})) \\ & =(a b-\langle\boldsymbol{m}, \boldsymbol{n}\rangle)+A(a \boldsymbol{n}+\bar{b} \boldsymbol{m}-\overline{\boldsymbol{m} \times \boldsymbol{n}}) \\ & =\varphi(A)((a+\boldsymbol{m})(b+ \boldsymbol{n}))=\alpha(x y) \end{aligned}`	$\begin{aligned} (\alpha x)(\alpha y) & =(a+A \boldsymbol{m})(b+A \boldsymbol{n}) \\ & =(a b-\langle A \boldsymbol{m}, A \boldsymbol{n}\rangle)+(a A \boldsymbol{n}+\bar{b} A \boldsymbol{m}-\overline{A \boldsymbol{m} \times A \boldsymbol{n}}) \\ & =\left(a b-\left\langle\boldsymbol{m}, A^{*} A \boldsymbol{n} \right\rangle\right)+(a A \boldsymbol{n}+\bar{b} A \boldsymbol{m}-\bar{t} \widetilde{A}(\boldsymbol{m} \times \boldsymbol{n})) \\ & =(a b-\langle\boldsymbol{m}, \boldsymbol{n}\rangle)+A(a \boldsymbol{n}+\bar{b} \boldsymbol{m}-\overline{\boldsymbol{m} \times \boldsymbol{n}}) \\ & =\varphi(A)((a+\boldsymbol{m})(b+ \boldsymbol{n}))=\alpha(x y) \end{aligned}$	$\begin{aligned} (\alpha x)(\alpha y) & =(a+A \boldsymbol{m})(b+A \boldsymbol{n}) \\ & =(a b-\langle A \boldsymbol{m}, A \boldsymbol{n}\rangle)+(a A \boldsymbol{n}+\bar{b} A \boldsymbol{m}-\overline{A \boldsymbol{m} \times A \boldsymbol{n}}) \\ & =\left(a b-\left\langle\boldsymbol{m}, A^{*} A \boldsymbol{n} \right\rangle\right)+(a A \boldsymbol{n}+\bar{b} A \boldsymbol{m}-\bar{t} \widetilde{A}(\boldsymbol{m} \times \boldsymbol{n})) \\ & =(a b-\langle\boldsymbol{m}, \boldsymbol{n}\rangle)+A(a \boldsymbol{n}+\bar{b} \boldsymbol{m}-\overline{\boldsymbol{m} \times \boldsymbol{n}}) \\ & =\varphi(A)((a+\boldsymbol{m})(b+ \boldsymbol{n}))=\alpha(x y) \end{aligned}$
0902.0431_EQ0882	146	0.798	`\alpha P=(X, Y, \xi, \eta), \quad X, Y \quad \text { are diagonal, } \quad \xi>0 .`	$\alpha P=(X, Y, \xi, \eta), \quad X, Y \quad \text { are diagonal, } \quad \xi>0 .$	$\alpha P=(X, Y, \xi, \eta), \quad X, Y \quad \text { are diagonal, } \quad \xi>0 .$
0902.0431_EQ0695	115	0.803	`\Phi=\Phi_{-3}+\Phi_{-2}+\Phi_{-1}+\Phi_{0}+\Phi_{1}+ \Phi_{2}+\Phi_{3}, \quad \Phi_{i} \in \mathfrak{e}_{7}{ }^{C}`	$\Phi=\Phi_{-3}+\Phi_{-2}+\Phi_{-1}+\Phi_{0}+\Phi_{1}+\Phi_{2}+\Phi_{3}, \quad \Phi_{i} \in \mathfrak{e}_{7}{ }^{C}$	$\Phi=\Phi_{-3}+\Phi_{-2}+\Phi_{-1}+\Phi_{0}+\Phi_{1}+\Phi_{2}+\Phi_{3}, \quad \Phi_{i} \in \mathfrak{e}_{7}{ }^{C},$
0902.0431_EQ0931	154	0.803	`\epsilon A=\overline{\left(\operatorname{Ad} J_{3}\right) A}, \quad J_{3}=\left(\begin{array}{cc} 0 & E \\ -E & 0 \end{array}\right),`	$\epsilon A=\overline{\left(\operatorname{Ad} J_{3}\right) A}, \quad J_{3}=\left(\begin{array}{cc} 0 & E \\ -E & 0 \end{array}\right),$	$\epsilon A=\overline{(\mathrm{Ad} J_{3}) A}, \quad J_{3}=\left(\begin{array}{cc} 0 & E \\ -E & 0 \end{array}\right),$
0902.0431_EQ0666	110	0.804	`\begin{aligned} E_{6(6)} & \simeq \operatorname{Sp}(4) / \boldsymbol{Z}_{2} \times \boldsymbol{R}^{42}, \\ E_{6(2)} & \simeq(\operatorname{Sp}(1) \times \operatorname{SU}(6)) / \boldsymbol{Z}_{2} \times \boldsymbol{R}^{40}, \\ E_{6(-14)} & \simeq(U(1) \times \operatorname{Spin}(10)) / \boldsymbol{Z}_{4} \times \boldsymbol{R}^{32}, \\ E_{6(-26)} & \simeq F_{4} \times \boldsymbol{R}^{26} . \end{aligned}`	$\begin{aligned} E_{6(6)} & \simeq \operatorname{Sp}(4) / \boldsymbol{Z}_{2} \times \boldsymbol{R}^{42}, \\ E_{6(2)} & \simeq(\operatorname{Sp}(1) \times \operatorname{SU}(6)) / \boldsymbol{Z}_{2} \times \boldsymbol{R}^{40}, \\ E_{6(-14)} & \simeq(U(1) \times \operatorname{Spin}(10)) / \boldsymbol{Z}_{4} \times \boldsymbol{R}^{32}, \\ E_{6(-26)} & \simeq F_{4} \times \boldsymbol{R}^{26} . \end{aligned}$	$\begin{aligned} E_{6(6)} & \simeq Sp(4) / \boldsymbol{Z}_{2} \times \boldsymbol{R}^{42}, \\ E_{6(2)} & \simeq(Sp(1) \times SU(6)) / \boldsymbol{Z}_{2} \times \boldsymbol{R}^{40}, \\ E_{6(-14)} & \simeq(U(1) \times Spin(10)) / \boldsymbol{Z}_{4} \times \boldsymbol{R}^{32}, \\ E_{6(-26)} & \simeq F_{4} \times \boldsymbol{R}^{26} . \end{aligned}$
0902.0431_EQ1192	200	0.804	`\begin{aligned} (a \times b) c & =-\left(a_{1} \wedge c_{1}, b\right) a_{1} \wedge c_{2}+\left(a_{1} \wedge c_{2}, b\right) a_{2} \wedge c_{1} \\ & +\left(a_{2} \wedge c_{1}, b\right) a_{1} \wedge c_{2}-\left(a_{2} \wedge c_{2}, b\right) a_{1} \wedge c_{1}+\frac{4}{5}(a, b) c . \end{aligned}`	$\begin{aligned} (a \times b) c & =-\left(a_{1} \wedge c_{1}, b\right) a_{1} \wedge c_{2}+\left(a_{1} \wedge c_{2}, b\right) a_{2} \wedge c_{1} \\ & +\left(a_{2} \wedge c_{1}, b\right) a_{1} \wedge c_{2}-\left(a_{2} \wedge c_{2}, b\right) a_{1} \wedge c_{1}+\frac{4}{5}(a, b) c . \end{aligned}$	$\begin{aligned} (\boldsymbol{a} \times \boldsymbol{b}) \boldsymbol{c} & =-\left(\boldsymbol{a}_{1} \wedge \boldsymbol{c}_{1}, \boldsymbol{b}\right) \boldsymbol{a}_{1} \wedge \boldsymbol{c}_{2}+\left(\boldsymbol{a}_{1} \wedge \boldsymbol{c}_{2}, \boldsymbol{b}\right) \boldsymbol{a}_{2} \wedge \boldsymbol{c}_{1} \\ & +\left(\boldsymbol{a}_{2} \wedge \boldsymbol{c}_{1}, \boldsymbol{b}\right) \boldsymbol{a}_{1} \wedge \boldsymbol{c}_{2}-\left(\boldsymbol{a}_{2} \wedge \boldsymbol{c}_{2}, \boldsymbol{b}\right) \boldsymbol{a}_{1} \wedge \boldsymbol{c}_{1}+\frac{4}{5}(\boldsymbol{a}, \boldsymbol{b}) \boldsymbol{c} . \end{aligned}$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0059	14	0.807	`\begin{array}{cll} \lambda G_{23}+\mu G_{45}+\nu G_{67}, & -\lambda G_{13}-\mu G_{46}+\nu G_{57}, & \\ \lambda G_{12}+\mu G_{47}+\nu G_{56}, & -\lambda G_{15}+\mu G_{26}-\nu G_{37}, & \lambda, \mu, \nu \in \boldsymbol{R} \\ \lambda G_{14}-\mu G_{27}-\nu G_{36}, & -\lambda G_{17}-\mu G_{24}+\nu G_{35}, & \lambda+\mu+\nu=0 \\ & \lambda G_{16}+\mu G_{25}+\nu G_{34} & \end{array}`	$\begin{array}{cll} \lambda G_{23}+\mu G_{45}+\nu G_{67}, & -\lambda G_{13}-\mu G_{46}+\nu G_{57}, & \\ \lambda G_{12}+\mu G_{47}+\nu G_{56}, & -\lambda G_{15}+\mu G_{26}-\nu G_{37}, & \lambda, \mu, \nu \in \boldsymbol{R} \\ \lambda G_{14}-\mu G_{27}-\nu G_{36}, & -\lambda G_{17}-\mu G_{24}+\nu G_{35}, & \lambda+\mu+\nu=0 \\ & \lambda G_{16}+\mu G_{25}+\nu G_{34} & \end{array}$	$\begin{array}{cll} \lambda G_{23}+\mu G_{45}+\nu G_{67}, & -\lambda G_{13}-\mu G_{46}+\nu G_{57}, & \\ \lambda G_{12}+\mu G_{47}+\nu G_{56}, & -\lambda G_{15}+\mu G_{26}-\nu G_{37}, & \lambda, \mu, \nu \in \boldsymbol{R} \\ \lambda G_{14}-\mu G_{27}-\nu G_{36}, & -\lambda G_{17}-\mu G_{24}+\nu G_{35}, & \lambda+\mu+\nu=0 \\ & \lambda G_{16}+\mu G_{25}+\nu G_{34}. & \end{array}$
0902.0431_EQ1023	171	0.807	`\begin{aligned} & {[(\Phi(h), 0,0, r, 0),(0,0,0,0,1,0)]=(0,0,0,0,2 r, 0)} \\ & {[(\Phi(h), 0,0, r, 0),(0,0,0,0,0,1)]=(0,0,0,0,0,-2 r),} \end{aligned}`	$\begin{aligned} & {[(\Phi(h), 0,0, r, 0),(0,0,0,0,1,0)]=(0,0,0,0,2 r, 0)} \\ & {[(\Phi(h), 0,0, r, 0),(0,0,0,0,0,1)]=(0,0,0,0,0,-2 r),} \end{aligned}$	$\begin{aligned} & {[(\Phi(h), 0,0, r, 0),(0,0,0,0,1,0)]=(0,0,0,0,2 r, 0)} \\ & {[(\Phi(h), 0,0, r, 0),(0,0,0,0,0,1)]=(0,0,0,0,0,-2 r),} \end{aligned}$
0902.0431_EQ0628	104	0.808	`\begin{aligned} \varphi(A) E & =g^{-1}\left(A(g E) A^{*} \right)=g^{-1}\left(A\left(2 E_{1}-\frac{1}{2} E\right) A^{*}\right)=g^{-1}\left(2 A E_{1} A^{*}-\frac{1}{2} E \right) \\ & =g^{-1}(g(\alpha E))=\alpha E \end{aligned}`	$\begin{aligned} \varphi(A) E & =g^{-1}(A(g E) A^{*})=g^{-1}\left(A\left(2 E_{1}-\frac{1}{2} E\right) A^{*}\right)=g^{-1}\left(2 A E_{1} A^{*}-\frac{1}{2} E \right) \\ & =g^{-1}(g(\alpha E))=\alpha E \end{aligned}$	$\begin{aligned} \varphi(A) E & =g^{-1}(A(g E) A^{*})=g^{-1}\left(A\left(2 E_{1}-\frac{1}{2} E\right) A^{*}\right)=g^{-1}\left(2 A E_{1} A^{*}-\frac{1}{2} E \right) \\ & =g^{-1}(g(\alpha E))=\alpha E. \end{aligned}$
0902.0431_EQ0333	53	0.813	`\mathfrak{f}_{4}{ }^{C}=\mathfrak{d}_{4}{ }^{C} \oplus \widetilde{\mathfrak{A}}_{1}{ }^{C} \oplus \widetilde{\mathfrak{A}}_{2}{ }^{C} \oplus \widetilde{\mathfrak{A}}_{3}{ }^{C} .`	$\mathfrak{f}_{4}{ }^{C}=\mathfrak{d}_{4}{ }^{C} \oplus \widetilde{\mathfrak{A}}_{1}{ }^{C} \oplus \widetilde{\mathfrak{A}}_{2}{ }^{C} \oplus \widetilde{\mathfrak{A}}_{3}{ }^{C} .$	$\mathfrak{f}_{4}{ }^{C}=\mathfrak{d}_{4}{ }^{C} \oplus \widetilde{\mathfrak{A}}_{1}{ }^{C} \oplus \widetilde{\mathfrak{A}}_{2}{ }^{C} \oplus \widetilde{\mathfrak{A}}_{3}{ }^{C} .$
0902.0431_EQ0301	48	0.817	`\mathfrak{a} \supset\left[\mathfrak{a}, \mathfrak{f}_{4}{ }^{C}\right] \supset\left[\mathfrak{d}_{4}{ }^{C}, \widetilde{\mathfrak{A}}_{i}{ }^{C}\right]=\widetilde{\mathfrak{A}}_{i}{ }^{C}, \quad i=1,2,3 .`	$\mathfrak{a} \supset\left[\mathfrak{a}, \mathfrak{f}_{4}{ }^{C}\right] \supset\left[\mathfrak{d}_{4}{ }^{C}, \widetilde{\mathfrak{A}}_{i}{ }^{C}\right]=\widetilde{\mathfrak{A}}_{i}{ }^{C}, \quad i=1,2,3 .$	$\mathfrak{a} \supset\left[\mathfrak{a}, \mathfrak{f}_{4}{ }^{C}\right] \supset\left[\mathfrak{d}_{4}{ }^{C}, \widetilde{\mathfrak{A}}_{i}{ }^{C}\right]=\widetilde{\mathfrak{A}}_{i}{ }^{C}, \quad i=1,2,3 .$
0902.0431_EQ0315	50	0.827	`(\delta,[\widetilde{A}, \widetilde{B}])_{4}=(\delta A, B), \quad \delta \in \mathfrak{f}_{4}{ }^{C}, \quad A, B \in \mathfrak{J}^{C} .`	$(\delta,[\widetilde{A}, \widetilde{B}])_{4}=(\delta A, B), \quad \delta \in \mathfrak{f}_{4}{ }^{C}, \quad A, B \in \mathfrak{J}^{C} .$	$(\delta,[\widetilde{A}, \widetilde{B}])_{4}=(\delta A, B), \quad \delta \in \mathfrak{f}_{4}{ }^{C}, \quad A, B \in \mathfrak{J}^{C} .$
0902.0431_EQ0749	124	0.827	`\mathfrak{h}=\left\{\Phi\left(\sum_{k=0}^{3} \lambda_{k} H_{k}+\left(\sum_{j=1}^{3} \mu_{j} E_{j}\right)^{\sim}, 0,0, \nu\right) \in \mathfrak{e}_{7}^{C} \left\lvert\, \begin{array}{l} \lambda_{k}, \nu \in C \\ \mu_{j} \in C, \mu_{1}+\mu_{2}+\mu_{3}=0 \end{array}\right.\right\}`	$\mathfrak{h}=\left\{\Phi\left(\sum_{k=0}^{3} \lambda_{k} H_{k}+\left(\sum_{j=1}^{3} \mu_{j} E_{j}\right)^{\sim}, 0,0, \nu\right) \in \mathfrak{e}_{7}^{C} \left\lvert\, \begin{array}{l} \lambda_{k}, \nu \in C \\ \mu_{j} \in C, \mu_{1}+\mu_{2}+\mu_{3}=0 \end{array}\right.\right\}$	$\mathfrak{h}=\left\{\Phi\left(\sum_{k=0}^{3} \lambda_{k} H_{k}+\left(\sum_{j=1}^{3} \mu_{j} E_{j}\right)^{\sim}, 0,0, \nu\right) \in \mathfrak{e}_{7}^{C} \left\lvert\, \begin{array}{l} \lambda_{k}, \nu \in C \\ \mu_{j} \in C, \mu_{1}+\mu_{2}+\mu_{3}=0 \end{array}\right.\right\}$
0902.0431_EQ1076	183	0.830	`\begin{aligned} & g\left(2\left(X_{1} \vee \gamma X_{2} \right) X\right) \quad X \in \mathfrak{J}^{C} \\ & =g \left(\left(\gamma X_{2}, X\right) X_{1}+\frac{1}{3} \left(X_{1}, \gamma X_{2}\right) X-4 \gamma X_{2} \times \left(X_{1} \times X\right)\right)(\text { Lemma 3.4.1 }) \\ & =\left(\gamma X_{2}, X\right) g X_{1}+\frac{1}{3} \left(X_{1}, \gamma X_{2}\right) g X-4 g X_{2} \circ \left(g X_{1} \circ g X\right)+\left(\gamma X_{1}, X \right) g X_{2} \\ & \quad+\left(\gamma X_{2}, \gamma X_{1}, \gamma X\right) E(\text { Lemma 3.12.1 }), \end{aligned}`	$\begin{aligned} & g\left(2\left(X_{1} \vee \gamma X_{2} \right) X\right) \quad X \in \mathfrak{J}^{C} \\ & =g \left(\left(\gamma X_{2}, X\right) X_{1}+\frac{1}{3} \left(X_{1}, \gamma X_{2}\right) X-4 \gamma X_{2} \times \left(X_{1} \times X\right)\right)(\text { Lemma 3.4.1 }) \\ & =\left(\gamma X_{2}, X\right) g X_{1}+\frac{1}{3} \left(X_{1}, \gamma X_{2}\right) g X-4 g X_{2} \circ \left(g X_{1} \circ g X\right)+\left(\gamma X_{1}, X \right) g X_{2} \\ & \quad+\left(\gamma X_{2}, \gamma X_{1}, \gamma X\right) E(\text { Lemma 3.12.1 }), \end{aligned}$	$\begin{aligned} & g\left(2\left(X_{1} \vee \gamma X_{2} \right) X\right) \quad X \in \mathfrak{J}^{C} \\ & =g \left(\left(\gamma X_{2}, X\right) X_{1}+\frac{1}{3} \left(X_{1}, \gamma X_{2}\right) X-4 \gamma X_{2} \times \left(X_{1} \times X\right)\right)(\text { Lemma 3.4.1 }) \\ & =\left(\gamma X_{2}, X\right) g X_{1}+\frac{1}{3} \left(X_{1}, \gamma X_{2}\right) g X-4 g X_{2} \circ \left(g X_{1} \circ g X\right)+\left(\gamma X_{1}, X \right) g X_{2} \\ & \quad+\left(\gamma X_{2}, \gamma X_{1}, \gamma X\right) E(\text { Lemma 3.12.1 }), \end{aligned}$

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0902.0431_EQ0963	160	0.831	`\begin{aligned} & G_{01}, \quad G_{23}, \quad G_{45}, \quad G_{67}, \quad G_{46}+G_{47}, \quad G_{47}-G_{56}, \\ & G_{24}+G_{35}, \quad G_{25}-G_{34}, \quad G_{26}+G_{37}, \quad G_{27}-G_{36}, \\ & \widetilde{A}_{l}(1), \quad \widetilde{A}_{l}\left(e_{1}\right), \quad \widetilde{F}_{l}(1), \quad \widetilde{F}_{l}\left(e_{1}\right), \quad \left(E_{1}-E_{2}\right)^{\sim}, \quad\left(E_{2}-E_{3}\right)^{\sim} \\ & \check{F}_{l}(1), \quad F_{l}\left(e_{1}\right), \quad \hat{F}_{l}(1), \quad \hat{F}_{l}\left(e_{1}\right), \quad E_{l}, \quad \hat{E}_{l}, \quad 1, \quad l=1,2,3 \end{aligned}`	$\begin{aligned} & G_{01}, \quad G_{23}, \quad G_{45}, \quad G_{67}, \quad G_{46}+G_{47}, \quad G_{47}-G_{56}, \\ & G_{24}+G_{35}, \quad G_{25}-G_{34}, \quad G_{26}+G_{37}, \quad G_{27}-G_{36}, \\ & \widetilde{A}_{l}(1), \quad \widetilde{A}_{l}\left(e_{1}\right), \quad \widetilde{F}_{l}(1), \quad \widetilde{F}_{l}\left(e_{1}\right), \quad \left(E_{1}-E_{2}\right)^{\sim}, \quad\left(E_{2}-E_{3}\right)^{\sim} \\ & \check{F}_{l}(1), \quad F_{l}\left(e_{1}\right), \quad \hat{F}_{l}(1), \quad \hat{F}_{l}\left(e_{1}\right), \quad E_{l}, \quad \hat{E}_{l}, \quad 1, \quad l=1,2,3 \end{aligned}$	$\begin{aligned} & G_{01}, \quad G_{23}, \quad G_{45}, \quad G_{67}, \quad G_{46}+G_{47}, \quad G_{47}-G_{56}, \\ & G_{24}+G_{35}, \quad G_{25}-G_{34}, \quad G_{26}+G_{37}, \quad G_{27}-G_{36}, \\ & \widetilde{A}_{l}(1), \quad \widetilde{A}_{l}(e_{1}), \quad \widetilde{F}_{l}(1), \quad \widetilde{F}_{l}(e_{1}), \quad (E_{1}-E_{2})^{\sim}, \quad(E_{2}-E_{3})^{\sim} \\ & \check{F}_{l}(1), \quad \check{F}_{l}(e_{1}), \quad \hat{F}_{l}(1), \quad \hat{F}_{l}(e_{1}), \quad \check{E}_{l}, \quad \hat{E}_{l}, \quad 1, \quad l=1,2,3 \end{aligned}$
0902.0431_EQ0573	96	0.831	`\mathfrak{S}(6, C)=\left\{S \in M(6, C) \mid{ }^{t} S=-S \right\}`	$\mathfrak{S}(6, C)=\left\{S \in M(6, C) \mid{ }^{t} S=-S\right\}$	$\mathfrak{S}(6, C)=\{S \in M(6, C) \mid{ }^{t} S=-S\}$
0902.0431_EQ0714	118	0.833	`\[ \lambda \Phi(\phi, A, B, \nu) \lambda^{-1}=\Phi \left(-{ }^{t} \phi,-B,-A,-\nu\right) . \] \end{itemize}`	$\lambda \Phi(\phi, A, B, \nu) \lambda^{-1}=\Phi\left(-{ }^{t} \phi,-B,-A,-\nu\right) .$	$\lambda \Phi(\phi, A, B, \nu) \lambda^{-1}=\Phi(-{ }^{t} \phi,-B,-A,-\nu).$
0902.0431_EQ1088	185	0.835	`\begin{aligned} \lambda \gamma P_{1} & \times P_{2}-\lambda \gamma P_{2} \times P_{1} \\ & =\Phi\left(\begin{array}{c} \frac{1}{2}\left(-X_{1} \vee \gamma X_{2}+X_{2} \vee \gamma X_{1}-\gamma Y_{1} \vee Y_{2}+\gamma Y_{2} \vee Y_{1}\right) \\ \frac{1}{4}\left(2 \gamma X_{1} \times Y_{2}-2 \gamma X_{2} \times Y_{1}+\eta_{1} X_{2}-\eta_{2} X_{1}+\xi_{2} \gamma Y_{1}-\xi_{1} \gamma Y_{2}\right) \\ \frac{1}{4}\left(2 X_{2} \times \gamma Y_{1}-2 X_{1} \times \gamma Y_{2}+\eta_{2} \gamma X_{1}-\eta_{1} \gamma X_{2}+\xi_{1} Y_{2}-\xi_{2} Y_{1}\right) \\ 0 \end{array}\right) \\ & =\Phi\left(\frac{1}{4} \varphi_{*} D, \frac{1}{4} A,-\frac{1}{4} \gamma A, 0\right) \quad(\text { Lemma 5.8.2 }) \\ & = \frac{1}{4} \varphi_{*}(k D+i k(g A)) \\ & =\frac{1}{4} \varphi_{*}\left(S_{1} \tau S_{2}-S_{2} \tau S_{1}-\frac{1}{8} \operatorname{tr}\left(S_{1} \tau S_{2}-S_{2} \tau S_{1}\right) E\right) . \end{aligned}`	$\begin{aligned} \lambda \gamma P_{1} & \times P_{2}-\lambda \gamma P_{2} \times P_{1} \\ & =\Phi\left(\begin{array}{c} \frac{1}{2}\left(-X_{1} \vee \gamma X_{2}+X_{2} \vee \gamma X_{1}-\gamma Y_{1} \vee Y_{2}+\gamma Y_{2} \vee Y_{1}\right) \\ \frac{1}{4}\left(2 \gamma X_{1} \times Y_{2}-2 \gamma X_{2} \times Y_{1}+\eta_{1} X_{2}-\eta_{2} X_{1}+\xi_{2} \gamma Y_{1}-\xi_{1} \gamma Y_{2}\right) \\ \frac{1}{4}\left(2 X_{2} \times \gamma Y_{1}-2 X_{1} \times \gamma Y_{2}+\eta_{2} \gamma X_{1}-\eta_{1} \gamma X_{2}+\xi_{1} Y_{2}-\xi_{2} Y_{1}\right) \\ 0 \end{array}\right) \\ & =\Phi\left(\frac{1}{4} \varphi_{*} D, \frac{1}{4} A,-\frac{1}{4} \gamma A, 0\right) \quad(\text { Lemma 5.8.2 }) \\ & = \frac{1}{4} \varphi_{*}(k D+i k(g A)) \\ & =\frac{1}{4} \varphi_{*}\left(S_{1} \tau S_{2}-S_{2} \tau S_{1}-\frac{1}{8} \operatorname{tr}\left(S_{1} \tau S_{2}-S_{2} \tau S_{1}\right) E\right) . \end{aligned}$	$\begin{aligned} \lambda \gamma P_{1} & \times P_{2}-\lambda \gamma P_{2} \times P_{1} \\ & =\Phi\left(\begin{array}{c} \frac{1}{2}\left(-X_{1} \vee \gamma X_{2}+X_{2} \vee \gamma X_{1}-\gamma Y_{1} \vee Y_{2}+\gamma Y_{2} \vee Y_{1}\right) \\ \frac{1}{4}\left(2 \gamma X_{1} \times Y_{2}-2 \gamma X_{2} \times Y_{1}+\eta_{1} X_{2}-\eta_{2} X_{1}+\xi_{2} \gamma Y_{1}-\xi_{1} \gamma Y_{2}\right) \\ \frac{1}{4}\left(2 X_{2} \times \gamma Y_{1}-2 X_{1} \times \gamma Y_{2}+\eta_{2} \gamma X_{1}-\eta_{1} \gamma X_{2}+\xi_{1} Y_{2}-\xi_{2} Y_{1}\right) \\ 0 \end{array}\right) \\ & =\Phi\left(\frac{1}{4} \varphi_{*} D, \frac{1}{4} A,-\frac{1}{4} \gamma A, 0\right) \quad(\text{Lemma 5.8.2}) \\ & = \frac{1}{4} \varphi_{*}(k D+i k(g A)) \\ & =\frac{1}{4} \varphi_{*}\left(S_{1} \tau S_{2}-S_{2} \tau S_{1}-\frac{1}{8} \operatorname{tr}(S_{1} \tau S_{2}-S_{2} \tau S_{1}) E\right). \end{aligned}$
0902.0431_EQ0289	46	0.835	`D+\widetilde{A}=0, \quad D \in \mathfrak{d}_{4}, A \in \mathfrak{M}^{-}, \operatorname{diag} A=0, \text { then } D=0, A=0 .`	$D+\widetilde{A}=0, \quad D \in \mathfrak{d}_{4}, A \in \mathfrak{M}^{-}, \operatorname{diag} A=0, \text { then } D=0, A=0.$	$D+\widetilde{A}=0, \quad D \in \mathfrak{d}_{4}, A \in \mathfrak{M}^{-}, \operatorname{diag} A=0, \text { then } D=0, A=0.$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0548	92	0.835	`\begin{aligned} 0 & =\left(\xi E_{1}+\xi_{2} E_{2}+ \xi_{3} E_{3}+F_{1}\left(x_{1}\right)\right) \times\left(\xi E_{1}+\xi_{2} E_{2}+\xi_{3} E_{3}+F_{1}\left(x_{1} \right)\right) \\ & =\left(\xi_{2} \xi_{3}-\left(x_{1}, x_{1}\right)\right) E_{1}+\xi \xi_{3} E_{2}+\xi \xi_{2} E_{3}-\xi F_{1}\left(x_{1}\right) \end{aligned}`	$\begin{aligned} 0 & =\left(\xi E_{1}+\xi_{2} E_{2}+ \xi_{3} E_{3}+F_{1}\left(x_{1}\right)\right) \times\left(\xi E_{1}+\xi_{2} E_{2}+\xi_{3} E_{3}+F_{1}\left(x_{1} \right)\right) \\ & =\left(\xi_{2} \xi_{3}-\left(x_{1}, x_{1}\right)\right) E_{1}+\xi \xi_{3} E_{2}+\xi \xi_{2} E_{3}-\xi F_{1}\left(x_{1}\right) \end{aligned}$	$\begin{aligned} 0 &= (\xi E_1+\xi_2 E_2+\xi_3 E_3+F_1(x_1)) \times (\xi E_1+\xi_2 E_2+\xi_3 E_3+F_1(x_1)) \\ &= (\xi_2\xi_3-(x_1,x_1))E_1+\xi\xi_3E_2+\xi\xi_2E_3-\xi F_1(x_1). \end{aligned}$
0902.0431_EQ0379	63	0.836	`\begin{aligned} \mathfrak{J}_{\sigma} & =\{X \in \mathfrak{J} \mid \sigma X=X\}=\left\{\left.\left(\begin{array}{ccc} \xi_{1} & 0 & 0 \\ 0 & \xi_{2} & x_{1} \\ 0 & \overline{x_{1}} & \xi_{3} \end{array} \right) \right\rvert\, \xi_{i} \in \boldsymbol{R}, x_{1} \in \mathfrak{C}\right\} \\ & \left.=\left\{X \in \mathfrak{J} \mid E_{1} \circ X=0\right\} \oplus \mathfrak{E}_{1} \text { (where } \mathfrak{E}_{1}=\left \{\xi E_{1} \mid \xi \in \boldsymbol{R}\right\}\right) \\ & =\mathfrak{J}(2, \mathfrak{C}) \oplus \mathfrak{E}_{1}, \\ \mathfrak{J}_{-\sigma} & =\{X \in \mathfrak{J} \mid \sigma X=-X\}=\left\{\left.\left(\begin{array}{ccc} 0 & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & 0 & 0 \\ x_{2} & 0 & 0 \end{array}\right) \right\rvert\, x_{i} \in \mathfrak{C}\right\} \\ & =\left\{X \in \mathfrak{J} \mid 2 E_{1} \circ X=X\right\} . \end{aligned}`	$\begin{aligned} \mathfrak{J}_{\sigma} & =\{X \in \mathfrak{J} \mid \sigma X=X\}=\left\{\left.\left(\begin{array}{ccc} \xi_{1} & 0 & 0 \\ 0 & \xi_{2} & x_{1} \\ 0 & \overline{x_{1}} & \xi_{3} \end{array} \right) \right\rvert\, \xi_{i} \in \boldsymbol{R}, x_{1} \in \mathfrak{C}\right\} \\ & =\left\{X \in \mathfrak{J} \mid E_{1} \circ X=0\right\} \oplus \mathfrak{E}_{1} \text { (where } \mathfrak{E}_{1}=\left \{\xi E_{1} \mid \xi \in \boldsymbol{R}\right\}\right) \\ & =\mathfrak{J}(2, \mathfrak{C}) \oplus \mathfrak{E}_{1}, \\ \mathfrak{J}_{-\sigma} & =\{X \in \mathfrak{J} \mid \sigma X=-X\}=\left\{\left.\left(\begin{array}{ccc} 0 & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & 0 & 0 \\ x_{2} & 0 & 0 \end{array}\right) \right\rvert\, x_{i} \in \mathfrak{C}\right\} \\ & =\left\{X \in \mathfrak{J} \mid 2 E_{1} \circ X=X\right\} . \end{aligned}$	$\begin{aligned} \mathfrak{J}_\sigma &= \{X\in\mathfrak{J}\,\vert\,\sigma X=X\}=\left\{\left.\begin{pmatrix}\xi_1 & 0 & 0\\ 0 & \xi_2 & x_1\\ 0 & \overline{x}_1 & \xi_3\end{pmatrix}\right\vert\, \xi_i\in\boldsymbol{R}, x_1\in\mathfrak{C}\right\} \\ &= \{X\in\mathfrak{J}\,\vert\,E_1\circ X=0\}\oplus\mathfrak{E}_1 \ \ (\text{where } \mathfrak{E}_1=\{\xi E_1\,\vert\,\xi\in\boldsymbol{R}\}) \\ &= \mathfrak{J}(2,\mathfrak{C})\oplus\mathfrak{E}_1, \\ \mathfrak{J}_{-\sigma} &= \{X\in\mathfrak{J}\,\vert\,\sigma X=-X\}=\left\{\left.\begin{pmatrix}0 & x_3 & \overline{x}_2\\ \overline{x}_3 & 0 & 0\\ x_2 & 0 & 0\end{pmatrix}\right\vert\, x_i\in\mathfrak{C}\right\} \\ &= \{X\in\mathfrak{J}\,\vert\,2E_1\circ X=X\}. \end{aligned}$
0902.0431_EQ0189	32	0.837	`\begin{aligned} \left(\alpha e_{1}\right)\left(\left(\alpha e_{3}\right) b_{0}\right) & =a_{1}\left(a_{3} b_{0}\right)=a_{1}\left(a_{2}\left(a_{1} b_{0}\right) \right)=-a_{1}\left(a_{1}\left(a_{2} b_{0}\right) \right)=a_{2} b_{0} \\ & =\alpha\left(e_{2}\right) b_{0}=\alpha\left(e_{1} e_{3}\right) b_{0}, \\ \left(\alpha e_{2}\right)\left(\left(\alpha e_{5}\right) b_{0} \right) & =a_{2}\left(a_{5} b_{0}\right)=a_{2}\left(a_{1} \left(a_{4} b_{0}\right)\right)=-a_{1}\left(a_{2} \left(a_{4} b_{0}\right)\right)=-a_{1}\left(a_{6} b_{0} \right) \\ & =a_{6}\left(a_{1} b_{0}\right)=a_{7} b_{0}= \alpha\left(e_{7}\right) b_{0}=\alpha\left(e_{2} e_{5} \right) b_{0} . \end{aligned}`	$\begin{aligned} \left(\alpha e_{1}\right)\left(\left(\alpha e_{3}\right) b_{0}\right) & =a_{1}\left(a_{3} b_{0}\right)=a_{1}\left(a_{2}\left(a_{1} b_{0}\right) \right)=-a_{1}\left(a_{1}\left(a_{2} b_{0}\right) \right)=a_{2} b_{0} \\ & =\alpha\left(e_{2}\right) b_{0}=\alpha\left(e_{1} e_{3}\right) b_{0}, \\ \left(\alpha e_{2}\right)\left(\left(\alpha e_{5}\right) b_{0} \right) & =a_{2}\left(a_{5} b_{0}\right)=a_{2}\left(a_{1} \left(a_{4} b_{0}\right)\right)=-a_{1}\left(a_{2} \left(a_{4} b_{0}\right)\right)=-a_{1}\left(a_{6} b_{0} \right) \\ & =a_{6}\left(a_{1} b_{0}\right)=a_{7} b_{0}= \alpha\left(e_{7}\right) b_{0}=\alpha\left(e_{2} e_{5} \right) b_{0} . \end{aligned}$	$\begin{aligned} (\alpha e_1)((\alpha e_3)b_0) &= a_1(a_3b_0)=a_1(a_2(a_1b_0))=-a_1(a_1(a_2b_0))=a_2b_0 \\ &= \alpha(e_2)b_0=\alpha(e_1e_3)b_0, \\ (\alpha e_2)((\alpha e_5)b_0) &= a_2(a_5b_0)=a_2(a_1(a_4b_0))=-a_1(a_2(a_4b_0))=-a_1(a_6b_0) \\ &= a_6(a_1b_0)=a_7b_0=\alpha(e_7)b_0=\alpha(e_2e_5)b_0. \end{aligned}$
0902.0431_EQ0643	106	0.840	`\tau h(A, B)=h(B, A), \overline{h(A, B)}=h(\bar{B}, \bar{A}), \quad h(A, B)^{*}=h\left(B^{*}, A^{*}\right) .`	$\tau h(A, B)=h(B, A), \overline{h(A, B)}=h(\bar{B}, \bar{A}), \quad h(A, B)^{*}=h\left(B^{*}, A^{*}\right) .$	$\tau h(A, B)=h(B, A), \ \ \overline{h(A, B)}=h(\overline{B}, \overline{A}), \ \ h(A, B)^{*}=h(B^{*}, A^{*}).$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0603	101	0.841	`\begin{aligned} & =\left\{M+i F\left(\boldsymbol{a} e_{4} \right) \mid M \in \mathfrak{J}(3, \boldsymbol{H}), \boldsymbol{a} \in \boldsymbol{H}^{3}\right\} \\ & =\mathfrak{J}_{\boldsymbol{H}} \oplus i \boldsymbol{H}^{3}, \\ \left(\mathfrak{J}^{C}\right)_{-\tau \gamma} & =\left\{X \in \mathfrak{J}^{C} \mid \tau \gamma X=-X\right\} \\ & =\left\{\left.i\left(\begin{array}{ccc} \mu_{1} & m_{3} & \bar{m}_{2} \\ \bar{m}_{3} & \mu_{2} & m_{1} \\ m_{2} & \bar{m}_{1} & \mu_{3} \end{array}\right)+\left(\begin{array}{ccc} 0 & a_{3} e_{4} & -a_{2} e_{4} \\ -a_{3} e_{4} & 0 & a_{1} e_{4} \\ a_{2} e_{4} & -a_{1} e_{4} & 0 \end{array}\right) \right\rvert\, , \begin{array}{l} \mu_{i} \in \boldsymbol{R} \\ m_{i}, a_{i} \in \boldsymbol{H} \end{array}\right\} \\ & =\left\{iM+F\left(\boldsymbol{a} e_{4}\right) \mid M \in \mathfrak{J}(3, \boldsymbol{H}), \boldsymbol{a} \in \boldsymbol{H}^{3}\right\} \\ & =i\mathfrak{J}_{\boldsymbol{H}} \oplus \boldsymbol{H}^{3}, \end{aligned}`	$= \left\{M+iF\left(\boldsymbol{a}e_4\right) \mid M \in \mathfrak{J}(3,\boldsymbol{H}), \boldsymbol{a} \in \boldsymbol{H}^3\right\}$ $= \mathfrak{J}_{\boldsymbol{H}} \oplus i\boldsymbol{H}^3,$ $\left(\mathfrak{J}^C\right)_{-\tau\gamma} = \left\{X \in \mathfrak{J}^C \mid \tau\gamma X = -X\right\}$ $= \left\{ i\begin{pmatrix} \mu_1 & m_3 & \bar{m}_2 \\ \bar{m}_3 & \mu_2 & m_1 \\ m_2 & \bar{m}_1 & \mu_3 \end{pmatrix} + \begin{pmatrix} 0 & a_3e_4 & -a_2e_4 \\ -a_3e_4 & 0 & a_1e_4 \\ a_2e_4 & -a_1e_4 & 0 \end{pmatrix} \middle\vert \begin{array}{l} \mu_i \in \boldsymbol{R} \\ m_i, a_i \in \boldsymbol{H} \end{array} \right\}$ $= \left\{iM+F\left(\boldsymbol{a}e_4\right) \mid M \in \mathfrak{J}(3,\boldsymbol{H}), \boldsymbol{a} \in \boldsymbol{H}^3\right\}$ $= i\mathfrak{J}_{\boldsymbol{H}} \oplus \boldsymbol{H}^3,$	$= \left\{M+iF\left(\boldsymbol{a}e_4\right) \mid M \in \mathfrak{J}(3,\boldsymbol{H}), \boldsymbol{a} \in \boldsymbol{H}^3\right\}$ $= \mathfrak{J}_{\boldsymbol{H}} \oplus i\boldsymbol{H}^3,$ $\left(\mathfrak{J}^C\right)_{-\tau\gamma} = \left\{X \in \mathfrak{J}^C \mid \tau\gamma X = -X\right\}$ $= \left\{ i\begin{pmatrix} \mu_1 & m_3 & \overline{m}_2 \\ \overline{m}_3 & \mu_2 & m_1 \\ m_2 & \overline{m}_1 & \mu_3 \end{pmatrix} + \begin{pmatrix} 0 & a_3e_4 & -a_2e_4 \\ -a_3e_4 & 0 & a_1e_4 \\ a_2e_4 & -a_1e_4 & 0 \end{pmatrix} \middle\vert \begin{array}{l} \mu_i \in \boldsymbol{R} \\ m_i, a_i \in \boldsymbol{H} \end{array} \right\}$ $= \left\{iM+F\left(\boldsymbol{a}e_4\right) \mid M \in \mathfrak{J}(3,\boldsymbol{H}), \boldsymbol{a} \in \boldsymbol{H}^3\right\}$ $= i\mathfrak{J}_{\boldsymbol{H}} \oplus \boldsymbol{H}^3,$
0902.0431_EQ0348	56	0.842	`\begin{aligned} & \left(\alpha_{1}, \alpha_{1}\right)= \left(\alpha_{2}, \alpha_{2}\right)=\frac{1}{9}, \quad \left(\alpha_{3}, \alpha_{3}\right)=\left(\alpha_{4}, \alpha_{4}\right)=\frac{1}{18} \\ & \left(\alpha_{1}, \alpha_{2}\right)=-\frac{1}{18}, \quad\left(\alpha_{2}, \alpha_{3}\right)=-\frac{1}{18}, \quad\left(\alpha_{3}, \alpha_{4}\right)=-\frac{1}{36} \\ & \left(\alpha_{1}, \alpha_{3}\right)=\left(\alpha_{1}, \alpha_{4}\right)= \left(\alpha_{2}, \alpha_{4}\right)=0, \\ & (-\mu,-\mu)=\frac{1}{9}, \quad\left(-\mu, \alpha_{1}\right)=-\frac{1}{18}, \quad\left(-\mu, \alpha_{i}\right)=0, \quad i=2,3,4 \end{aligned}`	$(\alpha_1,\alpha_1) = (\alpha_2,\alpha_2) = \frac{1}{9}, \quad (\alpha_3,\alpha_3) = (\alpha_4,\alpha_4) = \frac{1}{18}$ $(\alpha_1,\alpha_2) = -\frac{1}{18}, \quad (\alpha_2,\alpha_3) = -\frac{1}{18}, \quad (\alpha_3,\alpha_4) = -\frac{1}{36}$ $(\alpha_1,\alpha_3) = (\alpha_1,\alpha_4) = (\alpha_2,\alpha_4) = 0,$ $(-\mu,-\mu) = \frac{1}{9}, \quad (-\mu,\alpha_1) = -\frac{1}{18}, \quad (-\mu,\alpha_i) = 0, \quad i = 2,3,4$	$(\alpha_1,\alpha_1) = (\alpha_2,\alpha_2) = \frac{1}{9}, \quad (\alpha_3,\alpha_3) = (\alpha_4,\alpha_4) = \frac{1}{18},$ $(\alpha_1,\alpha_2) = -\frac{1}{18}, \quad (\alpha_2,\alpha_3) = -\frac{1}{18}, \quad (\alpha_3,\alpha_4) = -\frac{1}{36},$ $(\alpha_1,\alpha_3) = (\alpha_1,\alpha_4) = (\alpha_2,\alpha_4) = 0,$ $(-\mu,-\mu) = \frac{1}{9}, \quad (-\mu,\alpha_1) = -\frac{1}{18}, \quad (-\mu,\alpha_i) = 0, \quad i = 2,3,4,$
0902.0431_EQ0637	105	0.844	`\begin{aligned} \mathfrak{e}_{6, \boldsymbol{C}} & = \left\{\phi \in \operatorname{Hom}_{C}\left(\left(\mathfrak{J}_{\boldsymbol{C}}\right)^{C}\right) \mid(\phi X, X, X)=0,\langle\phi X, Y\rangle+\langle X, \phi Y\rangle=0\right\} \\ & =\left\{\delta+i \widetilde{T} \mid \delta \in \mathfrak{f}_{4, \boldsymbol{C}}, T \in \left(\mathfrak{J}_{\boldsymbol{C}}\right)_{0}\right\} \end{aligned}`	$\mathfrak{e}_{6,\boldsymbol{C}} = \left\{\phi \in \operatorname{Hom}_C\left(\left(\mathfrak{J}_{\boldsymbol{C}}\right)^C\right) \mid (\phi X, X, X) = 0, \langle\phi X, Y\rangle + \langle X, \phi Y\rangle = 0\right\}$ $= \left\{\delta + i\widetilde{T} \mid \delta \in \mathfrak{f}_{4,\boldsymbol{C}}, T \in \left(\mathfrak{J}_{\boldsymbol{C}}\right)_0\right\}$	$\mathfrak{e}_{6,\boldsymbol{C}} = \left\{\phi \in \operatorname{Hom}_C((\mathfrak{J}_{\boldsymbol{C}})^C) \mid (\phi X, X, X) = 0, \langle\phi X, Y\rangle + \langle X, \phi Y\rangle = 0\right\}$ $= \left\{\delta + i\widetilde{T} \mid \delta \in \mathfrak{f}_{4,\boldsymbol{C}}, T \in (\mathfrak{J}_{\boldsymbol{C}})_0\right\}$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0686	114	0.844	`\left\{\begin{aligned} \phi & =\left[\phi_{1}, \phi_{2} \right]+2 A_{1} \vee B_{2}-2 A_{2} \vee B_{1} \\ A & = \left(\phi_{1}+\frac{2}{3} \nu_{1}\right) A_{2}-\left(\phi_{2}+\frac{2}{3} \nu_{2}\right) A_{1} \\ B & =- \left({ }^{t} \phi_{1}+\frac{2}{3} \nu_{1}\right) B_{2}+ \left({ }^{t} \phi_{2}+\frac{2}{3} \nu_{2}\right) B_{1} \\ \nu & =\left(A_{1}, B_{2}\right)-\left(B_{1}, A_{2} \right) . \end{aligned}\right.`	$\left\{\begin{aligned} \phi & =\left[\phi_{1}, \phi_{2} \right]+2 A_{1} \vee B_{2}-2 A_{2} \vee B_{1} \\ A & = \left(\phi_{1}+\frac{2}{3} \nu_{1}\right) A_{2}-\left(\phi_{2}+\frac{2}{3} \nu_{2}\right) A_{1} \\ B & =- \left({ }^{t} \phi_{1}+\frac{2}{3} \nu_{1}\right) B_{2}+ \left({ }^{t} \phi_{2}+\frac{2}{3} \nu_{2}\right) B_{1} \\ \nu & =\left(A_{1}, B_{2}\right)-\left(B_{1}, A_{2} \right) . \end{aligned}\right.$	$\left\{\begin{aligned} \phi & =\left[\phi_{1}, \phi_{2} \right]+2 A_{1} \vee B_{2}-2 A_{2} \vee B_{1} \\ A & = \left(\phi_{1}+\frac{2}{3} \nu_{1}\right) A_{2}-\left(\phi_{2}+\frac{2}{3} \nu_{2}\right) A_{1} \\ B & =- \left({ }^{t} \phi_{1}+\frac{2}{3} \nu_{1}\right) B_{2}+ \left({ }^{t} \phi_{2}+\frac{2}{3} \nu_{2}\right) B_{1} \\ \nu & =\left(A_{1}, B_{2}\right)-\left(B_{1}, A_{2} \right) . \end{aligned}\right.$
0902.0431_EQ0509	83	0.847	`\begin{aligned} {\left[h, \widetilde{F}_{23}(a)\right] } & =\left[h_{\delta}, \widetilde{F}_{23}(a)\right]+ \left[\widetilde{H}, \widetilde{F}_{23}(a)\right] \\ & =\left(h_{\delta} F_{23}(a)\right)^{\sim}+\frac{1}{2} \left[H, F_{23}(a)\right]^{\sim}(\text { Lemma 3.6.3 }) \\ & =\widetilde{F}_{23}\left(h_{\delta} a\right)+ \frac{1}{2}\left[H, F_{23}(a)\right]^{\sim} \\ & =\left(\lambda_{k}+\frac{1}{2}\left(\mu_{2}-\mu_{3}\right) \right) \widetilde{F}_{23}(a), \end{aligned}`	$\begin{aligned} {\left[h, \widetilde{F}_{23}(a)\right] } & =\left[h_{\delta}, \widetilde{F}_{23}(a)\right]+ \left[\widetilde{H}, \widetilde{F}_{23}(a)\right] \\ & =\left(h_{\delta} F_{23}(a)\right)^{\sim}+\frac{1}{2} \left[H, F_{23}(a)\right]^{\sim}(\text { Lemma 3.6.3 }) \\ & =\widetilde{F}_{23}\left(h_{\delta} a\right)+ \frac{1}{2}\left[H, F_{23}(a)\right]^{\sim} \\ & =\left(\lambda_{k}+\frac{1}{2}\left(\mu_{2}-\mu_{3}\right) \right) \widetilde{F}_{23}(a), \end{aligned}$	$\begin{aligned} {\left[h, \widetilde{F}_{23}(a)\right] } & =\left[h_{\delta}, \widetilde{F}_{23}(a)\right]+ \left[\widetilde{H}, \widetilde{F}_{23}(a)\right] \\ & =\left(h_{\delta} F_{23}(a)\right)^{\sim}+\frac{1}{2} \left[H, F_{23}(a)\right]^{\sim}(\text { Lemma 3.6.3 }) \\ & =\widetilde{F}_{23}\left(h_{\delta} a\right)+ \frac{1}{2}\left[H, F_{23}(a)\right]^{\sim} \\ & =\left(\lambda_{k}+\frac{1}{2}\left(\mu_{2}-\mu_{3}\right) \right) \widetilde{F}_{23}(a), \end{aligned}$
0902.0431_EQ0091	18	0.848	`\begin{array}{ll} {\left[H_{1},\left[H_{1}, S_{1} \right]\right]=\left[H_{1}, S_{2}\right]=-S_{1},} & {\left[H_{1},\left[H_{1}, S_{2}\right]\right]= \left[H_{1},-S_{1}\right]=-S_{2},} \\ {\left[H_{1}, \left[H_{1}, S_{3}\right]\right]=\left[H_{1},-S_{4} \right]=-S_{3},} & {\left[H_{1},\left[H_{1}, S_{4} \right]\right]=\left[H_{1}, S_{3}\right]=-S_{4},} \\ {\left[H_{1},\left[H_{1}, S_{5}\right]\right]=0,} & {\left[H_{1},\left[H_{1}, S_{6}\right]\right]=0} \\ \end{array}`	$\begin{array}{ll} {\left[H_{1},\left[H_{1}, S_{1} \right]\right]=\left[H_{1}, S_{2}\right]=-S_{1},} & {\left[H_{1},\left[H_{1}, S_{2}\right]\right]= \left[H_{1},-S_{1}\right]=-S_{2},} \\ {\left[H_{1}, \left[H_{1}, S_{3}\right]\right]=\left[H_{1},-S_{4} \right]=-S_{3},} & {\left[H_{1},\left[H_{1}, S_{4} \right]\right]=\left[H_{1}, S_{3}\right]=-S_{4},} \\ {\left[H_{1},\left[H_{1}, S_{5}\right]\right]=0,} & {\left[H_{1},\left[H_{1}, S_{6}\right]\right]=0} \\ \end{array}$	$\begin{array}{ll} {\left[H_{1},\left[H_{1}, S_{1} \right]\right]=\left[H_{1}, S_{2}\right]=-S_{1},} & {\left[H_{1},\left[H_{1}, S_{2}\right]\right]= \left[H_{1},-S_{1}\right]=-S_{2},} \\ {\left[H_{1}, \left[H_{1}, S_{3}\right]\right]=\left[H_{1},-S_{4} \right]=-S_{3},} & {\left[H_{1},\left[H_{1}, S_{4} \right]\right]=\left[H_{1}, S_{3}\right]=-S_{4},} \\ {\left[H_{1},\left[H_{1}, S_{5}\right]\right]=0,} & {\left[H_{1},\left[H_{1}, S_{6}\right]\right]=0} \\ \end{array}$
0902.0431_EQ0683 (2)	113	0.848	`\begin{aligned} \{\alpha P, \alpha Q\} \alpha P & = \frac{8}{3}((\alpha P \times \alpha P) \alpha Q-( \alpha P \times \alpha Q) \alpha P) \quad \text { (Lemma 4.1.1.(2)) } \\ & =\frac{8}{3}(\alpha(P \times P) Q- \alpha(P \times Q) P)=\{P, Q\} \alpha P . \end{aligned}`	$\begin{aligned} \{\alpha P, \alpha Q\} \alpha P & = \frac{8}{3}((\alpha P \times \alpha P) \alpha Q-(\alpha P \times \alpha Q) \alpha P) \quad \text { (Lemma 4.1.1.(2)) } \\ & =\frac{8}{3}(\alpha(P \times P) Q- \alpha(P \times Q) P)=\{P, Q\} \alpha P . \end{aligned}$	$\begin{aligned} \{\alpha P, \alpha Q\} \alpha P & = \frac{8}{3}((\alpha P \times \alpha P) \alpha Q-(\alpha P \times \alpha Q) \alpha P) \quad \text { (Lemma 4.1.1.(2)) } \\ & =\frac{8}{3}(\alpha(P \times P) Q- \alpha(P \times Q) P)=\{P, Q\} \alpha P . \end{aligned}$
0902.0431_EQ0423	69	0.848	`\beta X=B X B^{*} \quad \text { or } \quad \beta X=B \bar{X} B^{*}, \quad X \in \mathfrak{J}_{C} .`	$\beta X=B X B^{*} \quad \text { or } \quad \beta X=B \bar{X} B^{*}, \quad X \in \mathfrak{J}_{C} .$	$\beta X=B X B^{*} \quad \text { or } \quad \beta X=B \bar{X} B^{*}, \quad X \in \mathfrak{J}_{C} .$
0902.0431_EQ0995	165	0.852	`E_{8}{ }^{C}=\left\{\alpha \in \operatorname{Iso}_{C} \left(\mathfrak{e}_{8}{ }^{C}\right) \mid \alpha \left[R_{1}, R_{2}\right]=\left[\alpha R_{1}, \alpha R_{2}\right]\right\} .`	$E_{8}{ }^{C}=\left\{\alpha \in \operatorname{Iso}_{C} \left(\mathfrak{e}_{8}{ }^{C}\right) \mid \alpha \left[R_{1}, R_{2}\right]=\left[\alpha R_{1}, \alpha R_{2}\right]\right\} .$	$E_{8}{ }^{C}=\left\{\alpha \in \operatorname{Iso}_{C} \left(\mathfrak{e}_{8}{ }^{C}\right) \mid \alpha \left[R_{1}, R_{2}\right]=\left[\alpha R_{1}, \alpha R_{2}\right]\right\} .$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0581	97	0.853	\begin{aligned} & \operatorname{det}\left(\begin{array}{cccccc} 0 & s_{12} & s_{13} & s_{14} & s_{15} & s_{16} \\ -s_{12} & 0 & s_{23} & s_{24} & s_{25} & s_{26} \\ -s_{13} & -s_{23} & 0 & s_{34} & s_{35} & s_{36} \\ -s_{14} & -s_{24} & -s_{34} & 0 & s_{45} & s_{46} \\ -s_{15} & -s_{25} & -s_{35} & -s_{45} & 0 & s_{56} \\ -s_{16} & -s_{26} & -s_{36} & -s_{46} & -s_{56} & 0 \end{array}\right) \\ = & \left(s_{12} s_{34} s_{56}-s_{12} s_{35} s_{46}+s_{12} s_{36} s_{45}-s_{13} s_{24} s_{56}+s_{13} s_{25} s_{46}-s_{13} s_{26} s_{45} \right. \\ & +s_{14} s_{23} s_{56}-s_{14} s_{25} s_{36}+s_{14} s_{26} s_{35}-s_{15} s_{23} s_{46}+s_{15} s_{24} s_{36}-s_{15} s_{26} s_{35} \\ & +s_{16} s_{23} s_{45}-s_{16} s_{24} s_{35}+s_{16} s_{25} s_{34}\right)^{2} \end{aligned}	$$\begin{aligned} & \operatorname{det}\left(\begin{array}{cccccc} 0 & s_{12} & s_{13} & s_{14} & s_{15} & s_{16} \\ -s_{12} & 0 & s_{23} & s_{24} & s_{25} & s_{26} \\ -s_{13} & -s_{23} & 0 & s_{34} & s_{35} & s_{36} \\ -s_{14} & -s_{24} & -s_{34} & 0 & s_{45} & s_{46} \\ -s_{15} & -s_{25} & -s_{35} & -s_{45} & 0 & s_{56} \\ -s_{16} & -s_{26} & -s_{36} & -s_{46} & -s_{56} & 0 \end{array}\right) \\ = & \left(s_{12} s_{34} s_{56}-s_{12} s_{35} s_{46}+s_{12} s_{36} s_{45}-s_{13} s_{24} s_{56}+s_{13} s_{25} s_{46}-s_{13} s_{26} s_{45} \right. \\ & +s_{14} s_{23} s_{56}-s_{14} s_{25} s_{36}+s_{14} s_{26} s_{35}-s_{15} s_{23} s_{46}+s_{15} s_{24} s_{36}-s_{15} s_{26} s_{35} \\ & +s_{16} s_{23} s_{45}-s_{16} s_{24} s_{35}+s_{16} s_{25} s_{34}\right)^{2} \end{aligned}$$
0902.0431_EQ0620	103	0.854	\begin{gathered} 3 \operatorname{det}(\varphi(A) X)=3 \operatorname{det} Z=(Z \times Z, Z)=(g(\gamma(Z \times Z)), g Z) \\ =\left(g Z \circ g Z-\frac{1}{4}(\gamma Z, Z) E, g Z\right) \\ =\left(g Z \circ g Z-\frac{1}{4}(g Z, g Z) E, g Z\right) \\ =\left(A(g X) A^{*} \circ A(g X) A^{*}-\frac{1}{4}\left(A(g X) A^{*}, A(g X) A^{*}\right) E, A(g X) A^{*}\right) \\ =\left(g X \circ g X-\frac{1}{4}(g X, g X) E, g X\right) \\ =\left(g X \circ g X-\frac{1}{4}(\gamma X, X) E, g X\right) \\ =(g(\gamma(X \times X)), g X)=(X \times X, X)=3 \operatorname{det} X, \end{gathered}	$$\begin{gathered} 3 \operatorname{det}(\varphi(A) X)=3 \operatorname{det} Z=(Z \times Z, Z)=(g(\gamma(Z \times Z)), g Z) \\ =\left(g Z \circ g Z-\frac{1}{4}(\gamma Z, Z) E, g Z\right) \\ =\left(g Z \circ g Z-\frac{1}{4}(g Z, g Z) E, g Z\right) \\ =\left(A(g X) A^{*} \circ A(g X) A^{*}-\frac{1}{4}\left(A(g X) A^{*}, A(g X) A^{*}\right) E, A(g X) A^{*}\right) \\ =\left(g X \circ g X-\frac{1}{4}(g X, g X) E, g X\right) \\ =\left(g X \circ g X-\frac{1}{4}(\gamma X, X) E, g X\right) \\ =(g(\gamma(X \times X)), g X)=(X \times X, X)=3 \operatorname{det} X, \end{gathered}$$
0902.0431_EQ0820 (ii)	137	0.857	\begin{gathered} \left(\frac{1}{\eta} \delta(X \times X)+\eta N\right) \times\left(\frac{1}{\eta} \delta(X \times X)+\eta N\right)=a(X)\left(\beta X+\frac{1}{\eta^{2}}(\operatorname{det} X) M\right), \\ \left(\beta X+\frac{1}{\eta^{2}}(\operatorname{det} X) M, \frac{1}{\eta} \delta(X \times X)+\eta N\right)=3 a(X) \frac{1}{\eta} b(X \times X) \end{gathered}	$$\begin{gathered} \left(\frac{1}{\eta} \delta(X \times X)+\eta N\right) \times\left(\frac{1}{\eta} \delta(X \times X)+\eta N\right)=a(X)\left(\beta X+\frac{1}{\eta^{2}}(\operatorname{det} X) M\right), \\ \left(\beta X+\frac{1}{\eta^{2}}(\operatorname{det} X) M, \frac{1}{\eta} \delta(X \times X)+\eta N\right)=3 a(X) \frac{1}{\eta} b(X \times X) \end{gathered}$$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0772	130	0.859	`\begin{aligned} & \widetilde{\alpha} P \times \widetilde{ \alpha} Q=(\alpha X, \tau \alpha \tau Y, \xi, \eta) \times(\alpha Z, \tau \alpha \tau W, \zeta, \omega) \\ & =\cdots\left(\text { using } \alpha(X \vee Y) \alpha^{-1}=\alpha X \vee \tau \alpha \tau Y,\left(\alpha \phi \alpha^{-1}\right)^{\prime}=(\tau \alpha \tau) \phi^{\prime}\left(\tau \alpha^{-1} \tau\right) \text { etc. }\right) \cdots \\ & =\widetilde{\alpha}(P \times Q) \widetilde{\alpha}^{-1} \end{aligned}`	$\widetilde{\alpha} P \times \widetilde{\alpha} Q=(\alpha X, \tau \alpha \tau Y, \xi, \eta) \times(\alpha Z, \tau \alpha \tau W, \zeta, \omega)$ $=\cdots\left(\text { using } \alpha(X \vee Y) \alpha^{-1}=\alpha X \vee \tau \alpha \tau Y,\left(\alpha \phi \alpha^{-1}\right)^{\prime}=(\tau \alpha \tau) \phi^{\prime}\left(\tau \alpha^{-1} \tau\right) \text { etc. }\right) \cdots$ $=\widetilde{\alpha}(P \times Q) \widetilde{\alpha}^{-1}$	$\widetilde{\alpha} P \times \widetilde{\alpha} Q=(\alpha X, \tau \alpha \tau Y, \xi, \eta) \times(\alpha Z, \tau \alpha \tau W, \zeta, \omega)$ $=\cdots(\text{using } \alpha(X \vee Y) \alpha^{-1}=\alpha X \vee \tau \alpha \tau Y,(\alpha \phi \alpha^{-1})^{\prime}=(\tau \alpha \tau) \phi^{\prime}(\tau \alpha^{-1} \tau) \text{ etc.}) \cdots$ $=\widetilde{\alpha}(P \times Q) \widetilde{\alpha}^{-1}$
0902.0431_EQ0908	151	0.860	`\alpha_{1}\left(a_{1}\right)^{-1} \alpha_{2}\left(a_{2} \right)^{-1} \alpha_{3}\left(a_{3}\right)^{-1} \beta \alpha \dot{1}=\dot{1},`	$\alpha_{1}\left(a_{1}\right)^{-1} \alpha_{2}\left(a_{2}\right)^{-1} \alpha_{3}\left(a_{3}\right)^{-1} \beta \alpha \dot{1}=\dot{1},$	$\alpha_{1}(a_{1})^{-1} \alpha_{2}(a_{2})^{-1} \alpha_{3}(a_{3})^{-1} \beta \alpha \dot{1}=\dot{1},$
0902.0431_EQ1078	183	0.862	`\[\begin{aligned} \varphi_{*} & \left(\left(S_{1} \tau S_{2}-S_{2} \tau S_{1}\right)-\frac{1}{8} \operatorname{tr}\left(S_{1} \tau S_{2}-S_{2} \tau S_{1} \right) E\right) \\ & =4\left(\lambda \gamma \chi^{-1} S_{1} \times \chi^{-1} S_{2}-\lambda \gamma \chi^{-1} S_{2} \times \chi^{-1} S_{1}\right) \end{aligned} \] \end{itemize}`	$\varphi_{*}\left(\left(S_{1} \tau S_{2}-S_{2} \tau S_{1}\right)-\frac{1}{8} \operatorname{tr}\left(S_{1} \tau S_{2}-S_{2} \tau S_{1}\right) E\right)$ $=4\left(\lambda \gamma \chi^{-1} S_{1} \times \chi^{-1} S_{2}-\lambda \gamma \chi^{-1} S_{2} \times \chi^{-1} S_{1}\right)$	$\varphi_{*}\left(\left(S_{1} \tau S_{2}-S_{2} \tau S_{1}\right)-\frac{1}{8} \operatorname{tr}\left(S_{1} \tau S_{2}-S_{2} \tau S_{1}\right) E\right)$ $=4\left(\lambda \gamma \chi^{-1} S_{1} \times \chi^{-1} S_{2}-\lambda \gamma \chi^{-1} S_{2} \times \chi^{-1} S_{1}\right).$
0902.0431_EQ1060	180	0.863	`\mathfrak{W}_{1}=\left\{R \in \mathfrak{e}_{8}{ }^{C} \mid R \times R=0,\langle R, R\rangle=4\right\}`	$\mathfrak{W}_{1}=\left\{R \in \mathfrak{e}_{8}{ }^{C} \mid R \times R=0,\langle R, R\rangle=4\right\}$	$\mathfrak{W}_{1}=\left\{R \in \mathfrak{e}_{8}{ }^{C} \mid R \times R=0,\langle R, R\rangle=4\right\}$
0902.0431_EQ0535	90	0.868	`\begin{aligned} & \xi_{1} \xi_{2} \xi_{3}= \operatorname{det}(\alpha X)=\operatorname{det} X=1, \quad\left(\text { hence } \xi_{i}>0, i=1,2,3\right), \\ & \xi_{1}{ }^{2}+\xi_{2}{ }^{2}+\xi_{3}{ }^{2}= \langle\alpha X, \alpha Y\rangle=\langle X, Y\rangle=3 . \end{aligned}`	$\xi_{1} \xi_{2} \xi_{3}=\operatorname{det}(\alpha X)=\operatorname{det} X=1, \quad\left(\text { hence } \xi_{i}>0, i=1,2,3\right),$ $\xi_{1}{ }^{2}+\xi_{2}{ }^{2}+\xi_{3}{ }^{2}=\langle\alpha X, \alpha Y\rangle=\langle X, Y\rangle=3.$	$\xi_{1} \xi_{2} \xi_{3}=\det(\alpha X)=\det X=1, \quad(\text{hence } \xi_{i}>0, i=1,2,3),$ $\xi_{1}{ }^{2}+\xi_{2}{ }^{2}+\xi_{3}{ }^{2}=\langle\alpha X, \alpha Y\rangle=\langle X, Y\rangle=3.$
0902.0431_EQ0955	159	0.868	`\begin{aligned} & f\left(P_{\boldsymbol{C}}+(M+N) \right)=f\left(P_{\boldsymbol{C}}\right)+\mu^{-1}(M+N), \\ & \quad P_{\boldsymbol{C}}+(M+N) \in\left( \mathfrak{P}_{C}\right)^{C} \oplus\left(M(3, \boldsymbol{C})^{C} \oplus M(3, \boldsymbol{C})^{C} \right)=\mathfrak{P}^{C} . \end{aligned}`	$f\left(P_{\boldsymbol{C}}+(M+N)\right)=f\left(P_{\boldsymbol{C}}\right)+\mu^{-1}(M+N),$ $P_{\boldsymbol{C}}+(M+N) \in\left(\mathfrak{P}_{C}\right)^{C} \oplus\left(M(3, \boldsymbol{C})^{C} \oplus M(3, \boldsymbol{C})^{C}\right)=\mathfrak{P}^{C}.$	$f\left(P_{\boldsymbol{C}}+(M+N)\right)=f\left(P_{\boldsymbol{C}}\right)+\mu^{-1}(M+N),$ $P_{\boldsymbol{C}}+(M+N) \in\left(\mathfrak{P}_{C}\right)^{C} \oplus\left(M(3, \boldsymbol{C})^{C} \oplus M(3, \boldsymbol{C})^{C}\right)=\mathfrak{P}^{C}.$

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0902.0431_EQ0521	86	0.873	`\begin{aligned} B_{6}\left(h, h^{\prime}\right) & = \frac{4}{3} B_{4}\left(\sum_{k=0}^{3} \lambda_{k} H_{k}, \sum_{k=0}^{3} \lambda_{k}{ }^{\prime} H_{k}\right)+12 \left(\sum_{j=1}^{3} \mu_{k} E_{k}, \sum_{j=1}^{3} \mu_{j}{ }^{\prime} E_{j}\right) \\ & =\frac{4}{3} 18 \sum_{k=0}^{3} \lambda_{k} \lambda_{k}{ }^{\prime}+12 \sum_{j=1}^{3} \mu_{j} \mu_{j}{ }^{\prime}(\text { Theorem 2.6.2 }) \\ & =12\left(2 \sum_{k=0}^{3} \lambda_{k} \lambda_{k}{ }^{\prime}+\sum_{j=1}^{3} \mu_{j} \mu_{j}{ }^{\prime}\right) . \end{aligned}`	$\begin{aligned} B_{6}\left(h, h^{\prime}\right) & = \frac{4}{3} B_{4}\left(\sum_{k=0}^{3} \lambda_{k} H_{k}, \sum_{k=0}^{3} \lambda_{k}{ }^{\prime} H_{k}\right)+12 \left(\sum_{j=1}^{3} \mu_{k} E_{k}, \sum_{j=1}^{3} \mu_{j}{ }^{\prime} E_{j}\right) \\ & =\frac{4}{3} 18 \sum_{k=0}^{3} \lambda_{k} \lambda_{k}{ }^{\prime}+12 \sum_{j=1}^{3} \mu_{j} \mu_{j}{ }^{\prime}(\text { Theorem 2.6.2 }) \\ & =12\left(2 \sum_{k=0}^{3} \lambda_{k} \lambda_{k}{ }^{\prime}+\sum_{j=1}^{3} \mu_{j} \mu_{j}{ }^{\prime}\right) . \end{aligned}$	$\begin{aligned} B_{6}(h, h^{\prime}) & = \frac{4}{3} B_{4}\Big(\sum_{k=0}^{3} \lambda_{k} H_{k}, \sum_{k=0}^{3} \lambda_{k}{ }^{\prime} H_{k}\Big)+12\Big(\sum_{j=1}^{3} \mu_{k} E_{k}, \sum_{j=1}^{3} \mu_{j}{ }^{\prime} E_{j}\Big) \\ & = \frac{4}{3} 18 \sum_{k=0}^{3} \lambda_{k} \lambda_{k}{ }^{\prime}+12 \sum_{j=1}^{3} \mu_{j} \mu_{j}{ }^{\prime} \quad \text{(Theorem 2.6.2)} \\ & = 12\Big(2 \sum_{k=0}^{3} \lambda_{k} \lambda_{k}{ }^{\prime}+\sum_{j=1}^{3} \mu_{j} \mu_{j}{ }^{\prime}\Big). \end{aligned}$
0902.0431_EQ0505	83	0.876	`\mathfrak{e}_{6}{ }^{C}=\mathfrak{f}_{4}{ }^{C} \oplus \tilde{\mathfrak{J}}_{0}^{C} .`	$\mathfrak{e}_{6}{}^{C}=\mathfrak{f}_{4}{}^{C} \oplus \tilde{\mathfrak{J}}_{0}^{C} .$	$\mathfrak{e}_{6}{}^{C}=\mathfrak{f}_{4}{}^{C} \oplus \tilde{\mathfrak{J}}_{0}{}^{C} .$
0902.0431_EQ1105	187	0.877	`z\left(\left(E_{8}\right)^{\tilde{\lambda} \gamma} \right)=\{1, \tilde{\lambda} \gamma\} .`	$z\left(\left(E_{8}\right)^{\tilde{\lambda} \gamma}\right)=\{1, \tilde{\lambda} \gamma\} .$	$z\left(\left(E_{8}\right)^{\tilde{\lambda} \gamma}\right)=\{1, \tilde{\lambda} \gamma\} .$
0902.0431_EQ0279	45	0.879	`\begin{aligned} & \left(D_{1} x_{1}, \overline{x_{2} x_{3}}\right)=-\left(x_{1}, D_{1}\left(\overline{x_{2} x_{3}}\right)\right)=-\left(x_{1}, \overline{\left(D_{2} x_{2}\right) x_{3}+x_{2}\left(D_{3} x_{3}\right)}\right) \\ & \quad=-\left(x_{1}, \overline{x_{3}} \overline{\left(D_{2} x_{2}\right)}+\overline{\left(D_{3} x_{3} \right)} \overline{x_{2}}\right)=-\left(x_{3} x_{1}, \overline{D_{2} x_{2}}\right)-\left(x_{1} x_{2}, \overline{D_{3} x_{3}}\right) . \end{aligned}`	$\begin{aligned} & \left(D_{1} x_{1}, \overline{x_{2} x_{3}}\right)=-\left(x_{1}, D_{1}\left(\overline{x_{2} x_{3}}\right)\right)=-\left(x_{1}, \overline{\left(D_{2} x_{2}\right) x_{3}+x_{2}\left(D_{3} x_{3}\right)}\right) \\ & \quad=-\left(x_{1}, \overline{x_{3}} \overline{\left(D_{2} x_{2}\right)}+\overline{\left(D_{3} x_{3} \right)} \overline{x_{2}}\right)=-\left(x_{3} x_{1}, \overline{D_{2} x_{2}}\right)-\left(x_{1} x_{2}, \overline{D_{3} x_{3}}\right) . \end{aligned}$	$\begin{aligned} & \left(D_{1} x_{1}, \overline{x_{2} x_{3}}\right)=-\left(x_{1}, D_{1}\left(\overline{x_{2} x_{3}}\right)\right)=-\left(x_{1}, \overline{\left(D_{2} x_{2}\right) x_{3}+x_{2}\left(D_{3} x_{3}\right)}\right) \\ & \quad=-\left(x_{1}, \overline{x_{3}} \overline{\left(D_{2} x_{2}\right)}+\overline{\left(D_{3} x_{3} \right)} \overline{x_{2}}\right)=-\left(x_{3} x_{1}, \overline{D_{2} x_{2}}\right)-\left(x_{1} x_{2}, \overline{D_{3} x_{3}}\right) . \end{aligned}$
0902.0431_EQ0073	15	0.881	`\begin{array}{llll} e_{1}\left(E_{11}-E_{22}\right), & e_{1}\left(E_{22}-E_{33}\right), & E_{12}-E_{21}, & e_{1}\left(E_{12}+E_{21}\right), \\ E_{13}-E_{31}, & e_{1}\left(E_{13}+E_{31}\right), & E_{23}-E_{32}, & e_{1}\left(E_{23}+E_{32}\right) \end{array}`	$\begin{array}{llll} e_{1}\left(E_{11}-E_{22}\right), & e_{1}\left(E_{22}-E_{33}\right), & E_{12}-E_{21}, & e_{1}\left(E_{12}+E_{21}\right), \\ E_{13}-E_{31}, & e_{1}\left(E_{13}+E_{31}\right), & E_{23}-E_{32}, & e_{1}\left(E_{23}+E_{32}\right) \end{array}$	$\begin{array}{llll} e_{1}\left(E_{11}-E_{22}\right), & e_{1}\left(E_{22}-E_{33}\right), & E_{12}-E_{21}, & e_{1}\left(E_{12}+E_{21}\right), \\ E_{13}-E_{31}, & e_{1}\left(E_{13}+E_{31}\right), & E_{23}-E_{32}, & e_{1}\left(E_{23}+E_{32}\right) \end{array}$
0902.0431_EQ1126	191	0.881	`\left\langle R_{1}, R_{2}\right\rangle=60 \operatorname{tr}\left(D_{1}\left(\tau^{t} D_{2}\right) \right)+\frac{5}{2} B_{6}\left(\phi_{1}, \tau^{t} \phi_{2} \tau\right)+15\left\langle\boldsymbol{X}_{1}, \boldsymbol{X}_{2}\right\rangle+15\left\langle \boldsymbol{Y}_{1}, \boldsymbol{Y}_{2}\right\rangle .`	$\left\langle R_{1}, R_{2}\right\rangle=60 \operatorname{tr}\left(D_{1}\left(\tau^{t} D_{2}\right)\right)+\frac{5}{2} B_{6}\left(\phi_{1}, \tau^{t} \phi_{2} \tau\right)+15\left\langle\boldsymbol{X}_{1}, \boldsymbol{X}_{2}\right\rangle+15\left\langle \boldsymbol{Y}_{1}, \boldsymbol{Y}_{2}\right\rangle .$	$\left\langle R_{1}, R_{2}\right\rangle=60 \operatorname{tr}\left(D_{1}\left(\tau^{t} D_{2}\right)\right)+\frac{5}{2} B_{6}\left(\phi_{1}, \tau^{t} \phi_{2} \tau\right)+15\left\langle\boldsymbol{X}_{1}, \boldsymbol{X}_{2}\right\rangle+15\left\langle \boldsymbol{Y}_{1}, \boldsymbol{Y}_{2}\right\rangle .$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0708	117	0.882	`\begin{aligned} {[} & \Phi, P \times P] \\ = & {\left[\Phi(\phi, A, B, \nu), \Phi\left(-X \vee Y,-\frac{1}{2}(Y \times Y-\xi X), \frac{1}{2}(X \times X-\eta Y), \frac{1}{4}((X, Y)-3 \xi \eta)\right)\right] } \\ = & \cdots\left(\text { using } \phi(X \times Y)=\phi^{ \prime} X \times Y+X \times \phi^{\prime} Y \text { (Lemma 3.4.3.(1)), }[\phi, A \vee B]\right. \\ & =\phi A \vee B+A \vee \phi^{\prime} B \text { (Lemma 3.4.4.(1)), the formula about } A \vee B \text { (Lemma } \\ & 3.4 .1) \text { etc.) } \cdots \\ = & 2 \Phi P \times P . \end{aligned}`	$[\Phi, P \times P]$ $=\left[\Phi(\phi, A, B, \nu), \Phi\left(-X \vee Y,-\frac{1}{2}(Y \times Y-\xi X), \frac{1}{2}(X \times X-\eta Y), \frac{1}{4}((X, Y)-3 \xi \eta)\right)\right]$ $=\cdots($ using $\phi(X \times Y)=\phi^{\prime} X \times Y+X \times \phi^{\prime} Y$ (Lemma 3.4.3.(1)), $[\phi, A \vee B]$ $=\phi A \vee B+A \vee \phi^{\prime} B$ (Lemma 3.4.4.(1)), the formula about $A \vee B$ (Lemma 3.4.1) etc.) $\cdots$ $=2 \Phi P \times P$.	$[\Phi, P \times P]$ $=\left[\Phi(\phi, A, B, \nu), \Phi\left(-X \vee Y,-\frac{1}{2}(Y \times Y-\xi X), \frac{1}{2}(X \times X-\eta Y), \frac{1}{4}((X, Y)-3 \xi \eta)\right)\right]$ $=\cdots$(using $\phi(X \times Y)=\phi^{\prime} X \times Y+X \times \phi^{\prime} Y$ (Lemma 3.4.3.(1)), $[\phi, A \vee B]$ $=\phi A \vee B+A \vee \phi^{\prime} B$ (Lemma 3.4.4.(1)), the formula about $A \vee B$ (Lemma 3.4.1) etc.)$\cdots$ $=2 \Phi P \times P$.
0902.0431_EQ1121	190	0.884	`\left\{\begin{array}{l} D=\left[D_{1}, D_{2}\right]+ \frac{1}{4} \boldsymbol{X}_{1} \cdot \boldsymbol{Y}_{2}- \frac{1}{4} \boldsymbol{X}_{2} \cdot \boldsymbol{Y}_{1} \\ \phi=\left[\phi_{1}, \phi_{2}\right]+\frac{1}{2} \boldsymbol{X}_{1} \vee \boldsymbol{Y}_{2}-\frac{1}{2} \boldsymbol{X}_{2} \vee \boldsymbol{Y}_{1} \\ \boldsymbol{X}=\phi_{1} \boldsymbol{X}_{2}-\phi_{2} \boldsymbol{X}_{1}+D_{1} \boldsymbol{X}_{2}-D_{2} \boldsymbol{X}_{1}-\boldsymbol{Y}_{1} \times \boldsymbol{Y}_{2} \\ \boldsymbol{Y}=-{ }^{t} \phi_{1} \boldsymbol{Y}_{2}+{ }^{t} \phi_{2} \boldsymbol{Y}_{1}-{ }^{t} D_{1} \boldsymbol{Y}_{2}+{ }^{t} D_{2} \boldsymbol{Y}_{1}+\boldsymbol{X}_{1} \times \boldsymbol{X}_{2} \end{array}\right.`	$\left\{\begin{array}{l} D=\left[D_{1}, D_{2}\right]+\frac{1}{4} \boldsymbol{X}_{1} \cdot \boldsymbol{Y}_{2}-\frac{1}{4} \boldsymbol{X}_{2} \cdot \boldsymbol{Y}_{1} \\ \phi=\left[\phi_{1}, \phi_{2}\right]+\frac{1}{2} \boldsymbol{X}_{1} \vee \boldsymbol{Y}_{2}-\frac{1}{2} \boldsymbol{X}_{2} \vee \boldsymbol{Y}_{1} \\ \boldsymbol{X}=\phi_{1} \boldsymbol{X}_{2}-\phi_{2} \boldsymbol{X}_{1}+D_{1} \boldsymbol{X}_{2}-D_{2} \boldsymbol{X}_{1}-\boldsymbol{Y}_{1} \times \boldsymbol{Y}_{2} \\ \boldsymbol{Y}=-{ }^{t} \phi_{1} \boldsymbol{Y}_{2}+{ }^{t} \phi_{2} \boldsymbol{Y}_{1}-{ }^{t} D_{1} \boldsymbol{Y}_{2}+{ }^{t} D_{2} \boldsymbol{Y}_{1}+\boldsymbol{X}_{1} \times \boldsymbol{X}_{2} \end{array}\right.$	$\left\{\begin{array}{l} D=\left[D_{1}, D_{2}\right]+\frac{1}{4} \boldsymbol{X}_{1} \cdot \boldsymbol{Y}_{2}-\frac{1}{4} \boldsymbol{X}_{2} \cdot \boldsymbol{Y}_{1} \\ \phi=\left[\phi_{1}, \phi_{2}\right]+\frac{1}{2} \boldsymbol{X}_{1} \vee \boldsymbol{Y}_{2}-\frac{1}{2} \boldsymbol{X}_{2} \vee \boldsymbol{Y}_{1} \\ \boldsymbol{X}=\phi_{1} \boldsymbol{X}_{2}-\phi_{2} \boldsymbol{X}_{1}+D_{1} \boldsymbol{X}_{2}-D_{2} \boldsymbol{X}_{1}-\boldsymbol{Y}_{1} \times \boldsymbol{Y}_{2} \\ \boldsymbol{Y}=-{ }^{t} \phi_{1} \boldsymbol{Y}_{2}+{ }^{t} \phi_{2} \boldsymbol{Y}_{1}-{ }^{t} D_{1} \boldsymbol{Y}_{2}+{ }^{t} D_{2} \boldsymbol{Y}_{1}+\boldsymbol{X}_{1} \times \boldsymbol{X}_{2}, \end{array}\right.$
0902.0431_EQ0821 (iii)	137	0.887	`\left\{\begin{array}{l} 2 \delta(X \times X) \times N=a(X) \beta X \\ \delta(X \times X) \times \delta(X \times X)=a(X)(\operatorname{det} X) M \\ (\beta X, \delta(X \times X))+\operatorname{det} X=3 a(X) b(X \times X) \quad(\text { use (i) }) \end{array}\right.`	$\left\{\begin{array}{l} 2 \delta(X \times X) \times N=a(X) \beta X \\ \delta(X \times X) \times \delta(X \times X)=a(X)(\operatorname{det} X) M \\ (\beta X, \delta(X \times X))+\operatorname{det} X=3 a(X) b(X \times X) \quad(\text { use (i) }) \end{array}\right.$	$\left\{\begin{array}{l} 2 \delta(X \times X) \times N=a(X) \beta X \\ \delta(X \times X) \times \delta(X \times X)=a(X)(\operatorname{det} X) M \\ (\beta X, \delta(X \times X))+\operatorname{det} X=3 a(X) b(X \times X) \quad(\text { use (i) }). \end{array}\right.$

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0902.0431_EQ0759	126	■ 0.888	`\begin{aligned} & \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3}\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=0 \quad 0 \quad 1 \quad 1 \quad 0 \quad 0 \quad 0 \\ & \frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=1 \quad 2 \quad 3 \quad 3 \quad 2 \quad 1 \quad 1 \\ & \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=0 \quad 1 \quad 2 \quad 3 \quad 2 \quad 1 \quad 1 \\ & \frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=1 \quad 1 \quad 2 \quad 3 \quad 2 \quad 1 \quad 1 \\ & \frac{1}{2}\left(\lambda_{0}+\lambda_{1}-\lambda_{2}+\lambda_{3}\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=1 \quad 2 \quad 2 \quad 3 \quad 2 \quad 1 \quad 1 \\ & \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}-\lambda_{2}+\lambda_{3}\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=0 \quad 0 \quad 0 \quad 1 \quad 0 \quad 0 \quad 0 \\ & \frac{1}{2}\left(\lambda_{0}-\lambda_{1}-\lambda_{2}-\lambda_{3}\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=1 \quad 1 \quad 1 \quad 1 \quad 0 \quad 0 \quad 0 \\ & \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}-\lambda_{2}-\lambda_{3}\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=0 \quad 1 \quad 1 \quad 1 \quad 0 \quad 0 \quad 0 \\ & \frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3}\right)-\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=1 \quad 1 \quad 2 \quad 2 \quad 1 \quad 1 \quad 1 \\ & \frac{1}{2}\left(\lambda_{0}-\lambda_{1}-\lambda_{2}+\lambda_{3}\right)-\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=1 \quad 1 \quad 1 \quad 2 \quad 1 \quad 1 \quad 1 \\ & \frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right)+\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=0 \quad 0 \quad 0 \quad 0 \quad 1 \quad 0 \quad 0 \\ & \frac{1}{2}\left(\lambda_{0}+\lambda_{1}-\lambda_{2}-\lambda_{3}\right)-\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=1 \quad 2 \quad 2 \quad 2 \quad 1 \quad 1 \quad 1 \\ & \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}-\lambda_{2}+\lambda_{3}\right)-\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=0 \quad 1 \quad 1 \quad 2 \quad 1 \quad 1 \quad 1 \\ & \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right)-\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=0 \quad 1 \quad 2 \quad 2 \quad 1 \quad 1 \quad 1 \\ & \frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right)-\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=1 \quad 2 \quad 3 \quad 4 \quad 3 \quad 2 \quad 2 \\ & \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right)-\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=0 \quad 0 \quad 1 \quad 2 \quad 1 \quad 1 \quad 1 \\ & -\mu_{1}-\frac{2}{3}\nu=1 \quad 2 \quad 3 \quad 4 \quad 2 \quad 1 \quad 2 \\ & \mu_{2}+\frac{2}{3}\nu=0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 1 \quad 0 \\ & -\mu_{3}-\frac{2}{3}\nu=0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 1 \end{aligned}`	$\frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3}\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=0 \quad 0 \quad 1 \quad 1 \quad 0 \quad 0 \quad 0$ $\frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=1 \quad 2 \quad 3 \quad 3 \quad 2 \quad 1 \quad 1$ $\frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=0 \quad 1 \quad 2 \quad 3 \quad 2 \quad 1 \quad 1$ $\frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=1 \quad 1 \quad 2 \quad 3 \quad 2 \quad 1 \quad 1$ $\frac{1}{2}\left(\lambda_{0}+\lambda_{1}-\lambda_{2}+\lambda_{3}\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=1 \quad 2 \quad 2 \quad 3 \quad 2 \quad 1 \quad 1$ $\frac{1}{2}\left(-\lambda_{0}-\lambda_{1}-\lambda_{2}+\lambda_{3}\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=0 \quad 0 \quad 0 \quad 1 \quad 0 \quad 0 \quad 0$ $\frac{1}{2}\left(\lambda_{0}-\lambda_{1}-\lambda_{2}-\lambda_{3}\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=1 \quad 1 \quad 1 \quad 1 \quad 0 \quad 0 \quad 0$ $\frac{1}{2}\left(-\lambda_{0}+\lambda_{1}-\lambda_{2}-\lambda_{3}\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=0 \quad 1 \quad 1 \quad 1 \quad 0 \quad 0 \quad 0$ $\frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3}\right)-\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=1 \quad 1 \quad 2 \quad 2 \quad 1 \quad 1 \quad 1$ $\frac{1}{2}\left(\lambda_{0}-\lambda_{1}-\lambda_{2}+\lambda_{3}\right)-\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=1 \quad 1 \quad 1 \quad 2 \quad 1 \quad 1 \quad 1$ $\frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right)+\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=0 \quad 0 \quad 0 \quad 0 \quad 1 \quad 0 \quad 0$ $\frac{1}{2}\left(\lambda_{0}+\lambda_{1}-\lambda_{2}-\lambda_{3}\right)-\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=1 \quad 2 \quad 2 \quad 2 \quad 1 \quad 1 \quad 1$ $\frac{1}{2}\left(-\lambda_{0}+\lambda_{1}-\lambda_{2}+\lambda_{3}\right)-\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=0 \quad 1 \quad 1 \quad 2 \quad 1 \quad 1 \quad 1$ $\frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right)-\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=0 \quad 1 \quad 2 \quad 2 \quad 1 \quad 1 \quad 1$ $\frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right)-\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=1 \quad 2 \quad 3 \quad 4 \quad 3 \quad 2 \quad 2$ $\frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right)-\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=0 \quad 0 \quad 1 \quad 2 \quad 1 \quad 1 \quad 1$ $-\mu_{1}-\frac{2}{3}\nu=1 \quad 2 \quad 3 \quad 4 \quad 2 \quad 1 \quad 2$ $\mu_{2}+\frac{2}{3}\nu=0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 1 \quad 0$ $-\mu_{3}-\frac{2}{3}\nu=0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 1$

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0902.0431_EQ0172 (ii)	30	0.890	`\bar{x}(\bar{y} p)=(\overline{x y}) p, \quad x, y \in \mathfrak{C} .`	$\bar{x}(\bar{y}p) = (\overline{xy})p, \quad x, y \in \mathfrak{C}.$	$\overline{x}(\overline{y}p) = (\overline{xy})p, \quad x, y \in \mathfrak{C}.$
0902.0431_EQ0235	39	0.891	`\begin{aligned} { }^{t} \alpha^{-1}(Y \times & Y) \times{ }^{t} \alpha^{-1}(Y \times Y)=(\alpha Y \times \alpha Y) \times(\alpha Y \times \alpha Y) \quad(\text { Lemma 2.2.2.(4) }) \\ & =(\operatorname{det} \alpha Y) \alpha Y \quad(\text { Lemma 2.1.1.(3)) }=(\operatorname{det} Y) \alpha Y=\alpha((\operatorname{det} Y) Y) \\ & =\alpha((Y \times Y) \times(Y \times Y)), \quad Y \in \mathfrak{J} . \end{aligned}`	$\begin{aligned} {}^{t}\alpha^{-1}(Y \times Y) \times {}^{t}\alpha^{-1}(Y \times Y) &= (\alpha Y \times \alpha Y) \times (\alpha Y \times \alpha Y) \quad (\text{ Lemma 2.2.2.(4) }) \\ &= (\operatorname{det} \alpha Y)\alpha Y \quad (\text{ Lemma 2.1.1.(3)) } = (\operatorname{det} Y)\alpha Y = \alpha((\operatorname{det} Y)Y) \\ &= \alpha((Y \times Y) \times (Y \times Y)), \quad Y \in \mathfrak{J}. \end{aligned}$	$\begin{aligned} {}^{t}\alpha^{-1}(Y \times Y) \times {}^{t}\alpha^{-1}(Y \times Y) &= (\alpha Y \times \alpha Y) \times (\alpha Y \times \alpha Y) \quad (\text{Lemma 2.2.2.(4)}) \\ &= (\operatorname{det} \alpha Y)\alpha Y \quad (\text{Lemma 2.1.1.(3)}) = (\operatorname{det} Y)\alpha Y = \alpha((\operatorname{det} Y)Y) \\ &= \alpha((Y \times Y) \times (Y \times Y)), \quad Y \in \mathfrak{J}. \end{aligned}$
0902.0431_EQ0087	18	0.892	`\begin{array}{lll} {\left[H_{1}, L_{12}\right]=2 L_{21},} & {\left[H_{1}, L_{21}\right]=-2 L_{12},} & {\left[H_{1}, L_{13}\right]=L_{31},} \\ {\left[H_{1}, L_{31} \right]=-L_{13},} & {\left[H_{1}, L_{23}\right]=-L_{32},} & {\left[H_{1}, L_{32}\right]=L_{23} .} \end{array}`	$\begin{array}{lll} {[H_1, L_{12}] = 2L_{21},} & {[H_1, L_{21}] = -2L_{12},} & {[H_1, L_{13}] = L_{31},} \\ {[H_1, L_{31}] = -L_{13},} & {[H_1, L_{23}] = -L_{32},} & {[H_1, L_{32}] = L_{23}.} \end{array}$	$\begin{array}{lll} {[H_1, L_{12}] = 2L_{21},} & {[H_1, L_{21}] = -2L_{12},} & {[H_1, L_{13}] = L_{31},} \\ {[H_1, L_{31}] = -L_{13},} & {[H_1, L_{23}] = -L_{32},} & {[H_1, L_{32}] = L_{23}.} \end{array}$
0902.0431_EQ0417	68	0.894	`\begin{aligned} (X+M) \times(Y+N) & =\left(X \times Y-\frac{1}{2}\left(M^{*} N+N^{*} M\right)\right)-\frac{1}{2}(M Y+N X+\overline{M \times N}), \\ (X+M, Y+N) & =(X, Y)+2(M, N), \\ w(X+M) & =X+\omega_{1} M, \quad\left(\omega_{1}=-\frac{1}{2}+\frac{\sqrt{3}}{2} e_{1}\right), \end{aligned}`	$\begin{aligned} (X+M) \times (Y+N) &= \left(X \times Y - \frac{1}{2}(M^{*}N + N^{*}M)\right) - \frac{1}{2}(MY + NX + \overline{M \times N}), \\ (X+M, Y+N) &= (X, Y) + 2(M, N), \\ w(X+M) &= X + \omega_1 M, \quad \left(\omega_1 = -\frac{1}{2} + \frac{\sqrt{3}}{2} e_1\right), \end{aligned}$	$\begin{aligned} (X+M) \times (Y+N) &= (X \times Y - \frac{1}{2}(M^{*}N + N^{*}M)) - \frac{1}{2}(MY + NX + \overline{M \times N}), \\ (X+M, Y+N) &= (X, Y) + 2(M, N), \\ w(X+M) &= X + \omega_1 M, \quad \left(\omega_1 = -\frac{1}{2} + \frac{\sqrt{3}}{2} e_1\right), \end{aligned}$
0902.0431_EQ0690 (i)	114	0.894	`\begin{cases}\Phi P \times P=0, & P \in \mathfrak{M}^{C} \\ \{\Phi P, Q\}+\{P, \Phi Q\}=0, & P, Q \in \mathfrak{P}^{C} .\end{cases}`	$\begin{cases} \Phi P \times P = 0, & P \in \mathfrak{M}^C \\ \{\Phi P, Q\} + \{P, \Phi Q\} = 0, & P, Q \in \mathfrak{P}^C. \end{cases}$	$\begin{cases} \Phi P \times P = 0, & P \in \mathfrak{M}^C \\ \{\Phi P, Q\} + \{P, \Phi Q\} = 0, & P, Q \in \mathfrak{P}^C. \end{cases}$
0902.0431_EQ0084	17	0.895	`\mathfrak{g}_{2}=\mathfrak{s u}(3) \oplus \mathfrak{S} \quad \text { (Theorem 1.5.1). }`	$\mathfrak{g}_2 = \mathfrak{su}(3) \oplus \mathfrak{S} \quad$ (Theorem 1.5.1).	$\mathfrak{g}_2 = \mathfrak{su}(3) \oplus \mathfrak{S} \quad$ (Theorem 1.5.1).

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0902.0431_EQ0738	122	0.896	\begin{aligned} & (\Phi, P \times Q)_{7}=\left(\Phi \left(\begin{array}{l} \phi \\ A \\ B \\ \nu \end{array} \right), \Phi\left(\begin{array}{c} -\frac{1}{2}(X \vee W+Z \vee Y) \\ -\frac{1}{4}(2 Y \times W-\xi Z-\zeta X) \\ \frac{1}{4}(2 X \times Z-\eta W-\omega Y) \\ \frac{1}{8}((X, W)+(Z, Y)-3(\xi \omega+\zeta \eta)) \end{array}\right)\right)_{7} \\ & =(\phi, X \vee W+Z \vee Y)_{6}-(A, 2 X \times Z-\eta W-\omega Y)+(2 Y \times W-\xi Z-\zeta X, B) \\ & -\frac{1}{3} \nu((X, W)+(Z, Y)-3(\xi \omega+\zeta \eta)) \\ & =(\phi X, W)+(\phi Z, Y)-2(A, X, Z)+\eta(A, W)+\omega(A, Y)+2(Y, W, B) \\ & -\xi(Z, B)-\zeta(X, B)-\frac{1}{3} \nu(X, W)-\frac{1}{3} \nu(Z, Y)+\nu(\xi \omega+\zeta \eta) \\ & =\left\{\left(\begin{array}{c} \phi X-\frac{1}{3} \nu X+2 B \times Y+ \eta A \\ 2 A \times X-{ }^{t} \phi Y+\frac{1}{3} \nu Y+ \xi B \\ (A, Y)+\nu \xi \\ (B, X)-\nu \eta \end{array} \right),\left(\begin{array}{c} Z \\ W \\ \zeta \\ \omega \end{array}\right)\right\}=\{\Phi P, Q\} . \end{aligned}	$$\begin{aligned} & (\Phi, P \times Q)_{7}=\left(\Phi \left(\begin{array}{l} \phi \\ A \\ B \\ \nu \end{array} \right), \Phi\left(\begin{array}{c} -\frac{1}{2}(X \vee W+Z \vee Y) \\ -\frac{1}{4}(2 Y \times W-\xi Z-\zeta X) \\ \frac{1}{4}(2 X \times Z-\eta W-\omega Y) \\ \frac{1}{8}((X, W)+(Z, Y)-3(\xi \omega+\zeta \eta)) \end{array}\right)\right)_{7} \\ & =(\phi, X \vee W+Z \vee Y)_{6}-(A, 2 X \times Z-\eta W-\omega Y)+(2 Y \times W-\xi Z-\zeta X, B) \\ & -\frac{1}{3} \nu((X, W)+(Z, Y)-3(\xi \omega+\zeta \eta)) \\ & =(\phi X, W)+(\phi Z, Y)-2(A, X, Z)+\eta(A, W)+\omega(A, Y)+2(Y, W, B) \\ & -\xi(Z, B)-\zeta(X, B)-\frac{1}{3} \nu(X, W)-\frac{1}{3} \nu(Z, Y)+\nu(\xi \omega+\zeta \eta) \\ & =\left\{\left(\begin{array}{c} \phi X-\frac{1}{3} \nu X+2 B \times Y+ \eta A \\ 2 A \times X-{ }^{t} \phi Y+\frac{1}{3} \nu Y+ \xi B \\ (A, Y)+\nu \xi \\ (B, X)-\nu \eta \end{array} \right),\left(\begin{array}{c} Z \\ W \\ \zeta \\ \omega \end{array}\right)\right\}=\{\Phi P, Q\} . \end{aligned}$$
0902.0431_EQ0122	23	0.896	\alpha e_{1}=e_{1} \quad \text { or } \quad \alpha e_{1}=-e_{1} .	$\alpha e_{1}=e_{1} \quad \text{ or } \quad \alpha e_{1}=-e_{1} .$	$\alpha e_{1}=e_{1} \quad \text{ or } \quad \alpha e_{1}=-e_{1} .$
0902.0431_EQ0587	98	0.896	\begin{aligned} \mathfrak{e}_{6, \boldsymbol{H}} & = \left\{\phi \in \operatorname{Hom}_{C}\left(\left(\mathfrak{J}_{\boldsymbol{H}}\right)^{C}\right) \mid(\phi M, M, M)=0,\langle\phi M, N\rangle+\langle M, \phi N\rangle=0\right\} \\ & =\left\{\delta+i \widetilde{T} \mid \delta \in \mathfrak{f}_{4, \boldsymbol{H}}, T \in \left(\mathfrak{J}_{\boldsymbol{H}}\right)_{0}\right\} \end{aligned}	$$\begin{aligned} \mathfrak{e}_{6, \boldsymbol{H}} & = \left\{\phi \in \operatorname{Hom}_{C}\left(\left(\mathfrak{J}_{\boldsymbol{H}}\right)^{C}\right) \mid(\phi M, M, M)=0,\langle\phi M, N\rangle+\langle M, \phi N\rangle=0\right\} \\ & =\left\{\delta+i \widetilde{T} \mid \delta \in \mathfrak{f}_{4, \boldsymbol{H}}, T \in \left(\mathfrak{J}_{\boldsymbol{H}}\right)_{0}\right\} \end{aligned}$$
0902.0431_EQ0615	102	0.896	\langle g X, g Y\rangle=\langle X, Y\rangle, \quad X, Y \in \mathfrak{J}^{C} .	$\langle g X, g Y\rangle=\langle X, Y\rangle, \quad X, Y \in \mathfrak{J}^{C} .$	$\langle g X, g Y\rangle=\langle X, Y\rangle, \quad X, Y \in \mathfrak{J}^{C} .$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0307	49	0.899	`\begin{aligned} & =\delta(A \circ(B \circ X)-B \circ(A \circ X))-(A \circ(B \circ \delta X)-B \circ(A \circ \delta X)) \\ & =\delta A \circ(B \circ X)+A \circ(\delta B \circ X)+A \circ(B \circ \delta X)-\delta B \circ(A \circ X) \\ & -B \circ(\delta A \circ X)-B \circ(A \circ \delta X)-A \circ(B \circ \delta X)+B \circ(A \circ \delta X) \\ & =\delta A \circ(B \circ X)-B \circ(\delta A \circ X)+A \circ(\delta B \circ X)-\delta B \circ(A \circ X) \\ & =[\widetilde{\delta A}, \widetilde{B}] X+[\widetilde{A}, \widetilde{\delta B}] X, \quad X \in \mathfrak{J}^{C} . \end{aligned}`	$\begin{aligned} & =\delta(A \circ(B \circ X)-B \circ(A \circ X))-(A \circ(B \circ \delta X)-B \circ(A \circ \delta X)) \\ & =\delta A \circ(B \circ X)+A \circ(\delta B \circ X)+A \circ(B \circ \delta X)-\delta B \circ(A \circ X) \\ & -B \circ(\delta A \circ X)-B \circ(A \circ \delta X)-A \circ(B \circ \delta X)+B \circ(A \circ \delta X) \\ & =\delta A \circ(B \circ X)-B \circ(\delta A \circ X)+A \circ(\delta B \circ X)-\delta B \circ(A \circ X) \\ & =[\widetilde{\delta A}, \widetilde{B}] X+[\widetilde{A}, \widetilde{\delta B}] X, \quad X \in \mathfrak{J}^{C} . \end{aligned}$	$\begin{aligned} & =\delta(A \circ(B \circ X)-B \circ(A \circ X))-(A \circ(B \circ \delta X)-B \circ(A \circ \delta X)) \\ & =\delta A \circ(B \circ X)+A \circ(\delta B \circ X)+A \circ(B \circ \delta X)-\delta B \circ(A \circ X) \\ & -B \circ(\delta A \circ X)-B \circ(A \circ \delta X)-A \circ(B \circ \delta X)+B \circ(A \circ \delta X) \\ & =\delta A \circ(B \circ X)-B \circ(\delta A \circ X)+A \circ(\delta B \circ X)-\delta B \circ(A \circ X) \\ & =[\widetilde{\delta A}, \widetilde{B}] X+[\widetilde{A}, \widetilde{\delta B}] X, \quad X \in \mathfrak{J}^{C} . \end{aligned}$
0902.0431_EQ1108	188	0.902	`\left(\mathfrak{e}_{8}^{C}\right)^{\tilde{\lambda} \gamma}=\left\{\sum_{k, l}\left[R_{k}, R_{l}\right] \mid R_{k}, R_{l} \in\left(\mathfrak{e}_{8}^{C}\right)_{-\widetilde{\lambda} \gamma}\right\} .`	$\left(\mathfrak{e}_{8}^{C}\right)^{\tilde{\lambda} \gamma}=\left\{\sum_{k, l}\left[R_{k}, R_{l}\right] \mid R_{k}, R_{l} \in\left(\mathfrak{e}_{8}^{C}\right)_{-\widetilde{\lambda} \gamma}\right\} .$	$\left(\mathfrak{e}_{8}{}^{C}\right)^{\widetilde{\lambda} \gamma}=\left\{\sum_{k, l}\left[R_{k}, R_{l}\right] \mid R_{k}, R_{l} \in\left(\mathfrak{e}_{8}{}^{C}\right)_{-\widetilde{\lambda} \gamma}\right\} .$
0902.0431_EQ0372	62	0.903	`\left\{\begin{array}{l} \xi_{1}+\xi_{2}+\xi_{3}= \operatorname{tr}(X) \\ \xi_{1}{ }^{2}+\xi_{2}{ }^{2}+ \xi_{3}{ }^{2}=(X, X) \\ \xi_{1}{ }^{3}+\xi_{2}{ }^{3}+ \xi_{3}{ }^{3}=\operatorname{tr}(X, X, X) \end{array} \right.`	$\left\{\begin{array}{l} \xi_{1}+\xi_{2}+\xi_{3}= \operatorname{tr}(X) \\ \xi_{1}{ }^{2}+\xi_{2}{ }^{2}+ \xi_{3}{ }^{2}=(X, X) \\ \xi_{1}{ }^{3}+\xi_{2}{ }^{3}+ \xi_{3}{ }^{3}=\operatorname{tr}(X, X, X) \end{array} \right.$	$\left\{\begin{array}{l} \xi_{1}+\xi_{2}+\xi_{3}= \operatorname{tr}(X) \\ \xi_{1}{ }^{2}+\xi_{2}{ }^{2}+ \xi_{3}{ }^{2}=(X, X) \\ \xi_{1}{ }^{3}+\xi_{2}{ }^{3}+ \xi_{3}{ }^{3}=\operatorname{tr}(X, X, X). \end{array} \right.$
0902.0431_EQ0023	9	0.904	`\begin{array}{ll} {\left[F_{i j}, F_{j k}\right]=F_{i k},} & i, j, k \text { are distinct } \\ {\left[F_{i j}, F_{k l}\right]=0,} & i, j, k, l \text { are distinct. } \end{array}`	$\begin{array}{ll} {\left[F_{i j}, F_{j k}\right]=F_{i k},} & i, j, k \text { are distinct } \\ {\left[F_{i j}, F_{k l}\right]=0,} & i, j, k, l \text { are distinct. } \end{array}$	$\begin{array}{ll} {\left[F_{i j}, F_{j k}\right]=F_{i k},} & i, j, k \text { are distinct, } \\ {\left[F_{i j}, F_{k l}\right]=0,} & i, j, k, l \text { are distinct. } \end{array}$
0902.0431_EQ1106	187	0.904	`\alpha R=k R, \quad R \in\left(\mathfrak{e}_{8}{ }^{C} \right)_{-} \widetilde{\lambda}_{\gamma} .`	$\alpha R=k R, \quad R \in\left(\mathfrak{e}_{8}{ }^{C}\right)_{-} \widetilde{\lambda}_{\gamma} .$	$\alpha R=k R, \quad R \in\left(\mathfrak{e}_{8}{}^{C}\right)_{-\widetilde{\lambda}_{\gamma}} .$
0902.0431_EQ0947	157	0.904	`\sum(A \boldsymbol{a} \wedge A \boldsymbol{b} \wedge A \boldsymbol{c})=\overline{\boldsymbol{a}} \wedge \overline{\boldsymbol{b}} \wedge \overline{ \boldsymbol{c}}, \quad \boldsymbol{a}, \boldsymbol{b}, \boldsymbol{c} \in \boldsymbol{C}^{6}`	$\sum(A \boldsymbol{a} \wedge A \boldsymbol{b} \wedge A \boldsymbol{c})=\overline{\boldsymbol{a}} \wedge \overline{\boldsymbol{b}} \wedge \overline{ \boldsymbol{c}}, \quad \boldsymbol{a}, \boldsymbol{b}, \boldsymbol{c} \in \boldsymbol{C}^{6}$	$\sum(A \boldsymbol{a} \wedge A \boldsymbol{b} \wedge A \boldsymbol{c})=\overline{\boldsymbol{a}} \wedge \overline{\boldsymbol{b}} \wedge \overline{ \boldsymbol{c}}, \quad \boldsymbol{a}, \boldsymbol{b}, \boldsymbol{c} \in \boldsymbol{C}^{6}$
0902.0431_EQ1009	168	0.905	`U(248)=U\left(\mathfrak{e}_{8}^{C}\right)=\left\{\alpha \in \operatorname{Iso}_{C}\left(\mathfrak{e}_{8}^{C} \right) \mid\left\langle\alpha R_{1}, \alpha R_{2}\right \rangle=\left\langle R_{1}, R_{2}\right\rangle\right\} .`	$U(248)=U\left(\mathfrak{e}_{8}^{C}\right)=\left\{\alpha \in \operatorname{Iso}_{C}\left(\mathfrak{e}_{8}^{C}\right) \mid\left\langle\alpha R_{1}, \alpha R_{2}\right\rangle=\left\langle R_{1}, R_{2}\right\rangle\right\} .$	$U(248)=U\left(\mathfrak{e}_{8}{}^{C}\right)=\left\{\alpha \in \operatorname{Iso}_{C}\left(\mathfrak{e}_{8}{}^{C}\right) \mid\left\langle\alpha R_{1}, \alpha R_{2}\right\rangle=\left\langle R_{1}, R_{2}\right\rangle\right\} .$
0902.0431_EQ0981	163	0.905	`\begin{aligned} & \mathfrak{a} \ni\left[1,\left[1_{-},[1, R]\right]\right]=\left[1,\left[1_{-},(0, P,-Q, 0,2 s,-2 t)\right]\right] \\ & \quad=[1,(0,0, P,-2 s, 0,0)]=-(0,0, P, 0,0,0)=-P_{-} \end{aligned}`	$\begin{aligned} & \mathfrak{a} \ni\left[1,\left[1_{-},[1, R]\right]\right]=\left[1,\left[1_{-},(0, P,-Q, 0,2 s,-2 t)\right]\right] \\ & \quad=[1,(0,0, P,-2 s, 0,0)]=-(0,0, P, 0,0,0)=-P_{-} \end{aligned}$	$\begin{aligned} & \mathfrak{a} \ni\left[1,\left[1_{-},[1, R]\right]\right]=\left[1,\left[1_{-},(0, P,-Q, 0,2 s,-2 t)\right]\right] \\ & \quad=[1,(0,0, P,-2 s, 0,0)]=-(0,0, P, 0,0,0)=-P_{-} . \end{aligned}$
0902.0431_EQ0459	75	0.908	`\mathfrak{a} \ni\left[\delta_{1}, \delta+\widetilde{T} \right]=\left[\delta_{1}, \delta\right]+\widetilde{ \delta_{1} T} \text { (Theorem 3.2.2), }`	$\mathfrak{a} \ni\left[\delta_{1}, \delta+\widetilde{T}\right]=\left[\delta_{1}, \delta\right]+\widetilde{\delta_{1} T} \text { (Theorem 3.2.2), }$	$\mathfrak{a} \ni\left[\delta_{1}, \delta+\widetilde{T}\right]=\left[\delta_{1}, \delta\right]+\widetilde{\delta_{1} T} \text { (Theorem 3.2.2), }$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ1190	200	0.909	`\begin{gathered} (*(* \boldsymbol{a} \wedge \boldsymbol{x}) \times \boldsymbol{y}) \boldsymbol{v}=(\boldsymbol{y}, \boldsymbol{v}) *(* \boldsymbol{a} \wedge \boldsymbol{x})-\frac{1}{5}(*(* \boldsymbol{a} \wedge \boldsymbol{x}), \boldsymbol{v}) \boldsymbol{y} \ \ =(\boldsymbol{y}, \boldsymbol{v}) *(* \boldsymbol{a} \wedge \boldsymbol{x})-\frac{1}{5}(\boldsymbol{a}, \boldsymbol{x} \wedge \boldsymbol{v}) \boldsymbol{y} \ \ -(*(* \boldsymbol{a} \wedge \boldsymbol{x}) \times \boldsymbol{y}) \boldsymbol{v}=-(\boldsymbol{x}, \boldsymbol{v}) *(* \boldsymbol{a} \wedge \boldsymbol{y})-\frac{1}{5}(\boldsymbol{a}, \boldsymbol{x} \wedge \boldsymbol{v}) \boldsymbol{y} \end{gathered}`	$(*(*\boldsymbol{a} \wedge \boldsymbol{x}) \times \boldsymbol{y})\boldsymbol{v} = (\boldsymbol{y}, \boldsymbol{v}) * (*\boldsymbol{a} \wedge \boldsymbol{x}) - \frac{1}{5}(*(*\boldsymbol{a} \wedge \boldsymbol{x}), \boldsymbol{v})\boldsymbol{y}$ $= (\boldsymbol{y}, \boldsymbol{v}) * (*\boldsymbol{a} \wedge \boldsymbol{x}) - \frac{1}{5}(\boldsymbol{a}, \boldsymbol{x} \wedge \boldsymbol{v})\boldsymbol{y}$ $-(*(*\boldsymbol{a} \wedge \boldsymbol{x}) \times \boldsymbol{y})\boldsymbol{v} = -(\boldsymbol{x}, \boldsymbol{v}) * (*\boldsymbol{a} \wedge \boldsymbol{y}) - \frac{1}{5}(\boldsymbol{a}, \boldsymbol{x} \wedge \boldsymbol{v})\boldsymbol{y}$	$(*(*\boldsymbol{a} \wedge \boldsymbol{x}) \times \boldsymbol{y})\boldsymbol{v} = (\boldsymbol{y}, \boldsymbol{v}) * (*\boldsymbol{a} \wedge \boldsymbol{x}) - \frac{1}{5}(*(*\boldsymbol{a} \wedge \boldsymbol{x}), \boldsymbol{v})\boldsymbol{y},$ $= (\boldsymbol{y}, \boldsymbol{v}) * (*\boldsymbol{a} \wedge \boldsymbol{x}) - \frac{1}{5}(\boldsymbol{a}, \boldsymbol{x} \wedge \boldsymbol{v})\boldsymbol{y},$ $-(*(*\boldsymbol{a} \wedge \boldsymbol{x}) \times \boldsymbol{y})\boldsymbol{v} = -(\boldsymbol{x}, \boldsymbol{v}) * (*\boldsymbol{a} \wedge \boldsymbol{y}) - \frac{1}{5}(\boldsymbol{a}, \boldsymbol{x} \wedge \boldsymbol{v})\boldsymbol{y}.$
0902.0431_EQ1172	197	0.911	`\left(\mathfrak{e}_{8}\right)^{w_{3}}=\left\{R \in \mathfrak{e}_{8}{ }^{C} \mid \tau \widetilde{ \lambda} R=R, w_{3} R=R\right\}=\left\{(D, 0,0) \in \mathfrak{e}_{8}{ }^{C} \mid D \in \mathfrak{s u}(9) \right\} \cong \mathfrak{s u}(9),`	$(\mathfrak{e}_8)^{w_3} = \left\{R \in \mathfrak{e}_8{}^C \mid \tau\widetilde{\lambda}R = R, w_3R = R\right\} = \left\{(D,0,0) \in \mathfrak{e}_8{}^C \mid D \in \mathfrak{su}(9)\right\} \cong \mathfrak{su}(9),$	$(\mathfrak{e}_8)^{w_3} = \{R \in \mathfrak{e}_8{}^C \mid \tau\widetilde{\lambda}R = R, w_3R = R\} = \{(D,0,0) \in \mathfrak{e}_8{}^C \mid D \in \mathfrak{su}(9)\} \cong \mathfrak{su}(9),$
0902.0431_EQ0263	43	0.912	`\begin{aligned} a_{11} & =-\left\{x_{12}, x_{23}, x_{31} \right\}-\left\{x_{13}, x_{32}, x_{21}\right\}, \\ a_{22} & =-\left\{x_{21}, x_{13}, x_{32}\right\}-\left\{x_{23}, x_{31}, x_{12}\right\}, \\ a_{33} & =-\left\{x_{31}, x_{12}, x_{23}\right\}-\left\{x_{32}, x_{21}, x_{13} \right\}, \end{aligned}`	$a_{11} = -\left\{x_{12}, x_{23}, x_{31}\right\} - \left\{x_{13}, x_{32}, x_{21}\right\},$ $a_{22} = -\left\{x_{21}, x_{13}, x_{32}\right\} - \left\{x_{23}, x_{31}, x_{12}\right\},$ $a_{33} = -\left\{x_{31}, x_{12}, x_{23}\right\} - \left\{x_{32}, x_{21}, x_{13}\right\},$	$a_{11} = -\{x_{12}, x_{23}, x_{31}\} - \{x_{13}, x_{32}, x_{21}\},$ $a_{22} = -\{x_{21}, x_{13}, x_{32}\} - \{x_{23}, x_{31}, x_{12}\},$ $a_{33} = -\{x_{31}, x_{12}, x_{23}\} - \{x_{32}, x_{21}, x_{13}\},$
0902.0431_EQ0452	74	0.914	`\begin{aligned} {[\delta, \widetilde{T}] X } & =\delta(T \circ X)-T \circ \delta X=\delta T \circ X+T \circ \delta X-T \circ \delta X \\ & =\delta T \circ X=\widetilde{ \delta T} X, \quad X \in \mathfrak{J}^{C} . \end{aligned}`	$[\delta, \widetilde{T}]X = \delta(T \circ X) - T \circ \delta X = \delta T \circ X + T \circ \delta X - T \circ \delta X$ $= \delta T \circ X = \widetilde{\delta T} X, \quad X \in \mathfrak{J}^C.$	$[\delta, \widetilde{T}]X = \delta(T \circ X) - T \circ \delta X = \delta T \circ X + T \circ \delta X - T \circ \delta X$ $= \delta T \circ X = \widetilde{\delta T} X, \quad X \in \mathfrak{J}^C.$
0902.0431_EQ0689	114	0.914	`\left\{\begin{array}{ll} \alpha P \times \alpha P=0, & P \in \mathfrak{M}^{C} \\ \{\alpha P, \alpha Q\}=\{P, Q \}, & P, Q \in \mathfrak{P}^{C} \end{array} \quad\right. \text { (Proposition 4.2.2.(2)), }`	$\begin{cases} \alpha P \times \alpha P = 0, & P \in \mathfrak{M}^C \\ \{\alpha P, \alpha Q\} = \{P, Q\}, & P, Q \in \mathfrak{P}^C \end{cases}$ (Proposition 4.2.2.(2)),	$\begin{cases} \alpha P \times \alpha P = 0, & P \in \mathfrak{M}^C \\ \{\alpha P, \alpha Q\} = \{P, Q\}, & P, Q \in \mathfrak{P}^C \end{cases}$ (Proposition 4.2.2.(2)),
0902.0431_EQ0344	55	0.915	`\begin{aligned} & H E_{i}=0, \quad i=1,2,3 \\ & H F_{1}(x)=F_{1}(H x), H F_{2}(x)=F_{2}((\nu H) x), H F_{3}(x)=F_{3}((\kappa \pi H) x), \end{aligned}`	$HE_i = 0, \quad i = 1,2,3,$ $HF_1(x) = F_1(Hx), HF_2(x) = F_2((\nu H)x), HF_3(x) = F_3((\kappa\pi H)x),$	$HE_i = 0, \quad i = 1,2,3,$ $HF_1(x) = F_1(Hx),\ HF_2(x) = F_2((\nu H)x),\ HF_3(x) = F_3((\kappa\pi H)x),$

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0902.0431_EQ0404	67	0.915	`\begin{aligned} A M A^{*} \times A N A^{*} & =A(M \times N) A^{*} \\ \left(p \boldsymbol{a} A^{*} \right)^{*}\left(p \boldsymbol{b} A^{*}\right) & =A \boldsymbol{a}^{*} \bar{p} p \boldsymbol{b} A^{*}=A\left(\boldsymbol{a}^{*} \boldsymbol{b}\right) A^{*} \\ \left(p \boldsymbol{a} A^{*}\right)\left(A N A^{*}\right) & =p(\boldsymbol{a} N) A^{*}, \text { etc. } \end{aligned}`	$\begin{aligned} A M A^{*} \times A N A^{*} & =A(M \times N) A^{*} \\ \left(p \boldsymbol{a} A^{*} \right)^{*}\left(p \boldsymbol{b} A^{*}\right) & =A \boldsymbol{a}^{*} \bar{p} p \boldsymbol{b} A^{*}=A\left(\boldsymbol{a}^{*} \boldsymbol{b}\right) A^{*} \\ \left(p \boldsymbol{a} A^{*}\right)\left(A N A^{*}\right) & =p(\boldsymbol{a} N) A^{*}, \text { etc. } \end{aligned}$	$\begin{aligned} A M A^{*} \times A N A^{*} & =A(M \times N) A^{*}, \\ \left(p \boldsymbol{a} A^{*} \right)^{*}\left(p \boldsymbol{b} A^{*}\right) & =A \boldsymbol{a}^{*} \bar{p} p \boldsymbol{b} A^{*}=A\left(\boldsymbol{a}^{*} \boldsymbol{b}\right) A^{*}, \\ \left(p \boldsymbol{a} A^{*}\right)\left(A N A^{*}\right) & =p(\boldsymbol{a} N) A^{*}, \text { etc. } \end{aligned}$
0902.0431_EQ0322	51	0.916	`\begin{aligned} & {\left[\widetilde{A}_{1}(1),\left[\widetilde{A}_{1}(1), G_{i 0}\right]\right]=-\left[\widetilde{A}_{1}(1), \widetilde{A}_{1}\left(e_{i} \right)\right]=-G_{i 0}, \quad i \neq 0} \\ & {\left[\widetilde{A}_{1}(1),\left[\widetilde{A}_{1}(1), \widetilde{A}_{1}\left(e_{i}\right)\right]\right]=\left[\widetilde{A}_{1}(1), G_{i 0}\right]=-\widetilde{A}_{1} \left(e_{i}\right), \quad i \neq 0} \\ & {\left[\widetilde{A}_{1}(1),\left[\widetilde{A}_{1}(1), \widetilde{A}_{2}\left(e_{i}\right)\right]\right]= \frac{1}{2}\left[\widetilde{A}_{1}(1), \widetilde{A}_{3} \left(e_{i}\right)\right]=-\frac{1}{4} \widetilde{A}_{2} \left(e_{i}\right),} \\ & {\left[\widetilde{A}_{1}(1), \left[\widetilde{A}_{1}(1), \widetilde{A}_{3} \left(e_{i}\right)\right]\right]=-\frac{1}{2}\left[\widetilde{A}_{1}(1), \widetilde{A}_{2}\left(e_{i} \right)\right]=-\frac{1}{4} \widetilde{A}_{3}\left(e_{i} \right),} \\ & \text { the others }=0 . \end{aligned}`	$\begin{aligned} & {\left[\widetilde{A}_{1}(1),\left[\widetilde{A}_{1}(1), G_{i 0}\right]\right]=-\left[\widetilde{A}_{1}(1), \widetilde{A}_{1}\left(e_{i} \right)\right]=-G_{i 0}, \quad i \neq 0} \\ & {\left[\widetilde{A}_{1}(1),\left[\widetilde{A}_{1}(1), \widetilde{A}_{1}\left(e_{i}\right)\right]\right]=\left[\widetilde{A}_{1}(1), G_{i 0}\right]=-\widetilde{A}_{1} \left(e_{i}\right), \quad i \neq 0} \\ & {\left[\widetilde{A}_{1}(1),\left[\widetilde{A}_{1}(1), \widetilde{A}_{2}\left(e_{i}\right)\right]\right]= \frac{1}{2}\left[\widetilde{A}_{1}(1), \widetilde{A}_{3} \left(e_{i}\right)\right]=-\frac{1}{4} \widetilde{A}_{2} \left(e_{i}\right),} \\ & {\left[\widetilde{A}_{1}(1), \left[\widetilde{A}_{1}(1), \widetilde{A}_{3} \left(e_{i}\right)\right]\right]=-\frac{1}{2}\left[\widetilde{A}_{1}(1), \widetilde{A}_{2}\left(e_{i} \right)\right]=-\frac{1}{4} \widetilde{A}_{3}\left(e_{i} \right),} \\ & \text { the others }=0 . \end{aligned}$	$\begin{aligned} & {\left[\widetilde{A}_{1}(1),\left[\widetilde{A}_{1}(1), G_{i 0}\right]\right]=-\left[\widetilde{A}_{1}(1), \widetilde{A}_{1}\left(e_{i} \right)\right]=-G_{i 0}, \quad i \neq 0} \\ & {\left[\widetilde{A}_{1}(1),\left[\widetilde{A}_{1}(1), \widetilde{A}_{1}\left(e_{i}\right)\right]\right]=\left[\widetilde{A}_{1}(1), G_{i 0}\right]=-\widetilde{A}_{1} \left(e_{i}\right), \quad i \neq 0} \\ & {\left[\widetilde{A}_{1}(1),\left[\widetilde{A}_{1}(1), \widetilde{A}_{2}\left(e_{i}\right)\right]\right]= \frac{1}{2}\left[\widetilde{A}_{1}(1), \widetilde{A}_{3} \left(e_{i}\right)\right]=-\frac{1}{4} \widetilde{A}_{2} \left(e_{i}\right),} \\ & {\left[\widetilde{A}_{1}(1), \left[\widetilde{A}_{1}(1), \widetilde{A}_{3} \left(e_{i}\right)\right]\right]=-\frac{1}{2}\left[\widetilde{A}_{1}(1), \widetilde{A}_{2}\left(e_{i} \right)\right]=-\frac{1}{4} \widetilde{A}_{3}\left(e_{i} \right),} \\ & \text { the others }=0 . \end{aligned}$
0902.0431_EQ1210	203	0.918	`\begin{aligned} & \varphi_{1}(A)(C, D, \boldsymbol{x} \otimes \boldsymbol{a}, \boldsymbol{b} \otimes \boldsymbol{y}, \boldsymbol{c} \otimes \boldsymbol{z}, \boldsymbol{w} \otimes \boldsymbol{d}) \\ & \quad=\left(A C A^{-1}, D,(A \boldsymbol{x}) \otimes \boldsymbol{a},(A \boldsymbol{b}) \otimes \boldsymbol{y},(\left.{ }^{t} A^{-1} \boldsymbol{c}\right) \otimes \boldsymbol{z},(\left.{ }^{t} A^{-1} \boldsymbol{w}\right) \otimes \boldsymbol{d}\right) . \\ & \varphi_{2}(B)(C, D, \boldsymbol{x} \otimes \boldsymbol{a}, \boldsymbol{b} \otimes \boldsymbol{y}, \boldsymbol{c} \otimes \boldsymbol{z}, \boldsymbol{w} \otimes \boldsymbol{d}) \\ & \quad=\left(C, B D B^{-1}, \boldsymbol{x} \otimes(B \boldsymbol{a}), \boldsymbol{b} \otimes(\left.{ }^{t} B^{-1} \boldsymbol{y}\right), \boldsymbol{c} \otimes(B \boldsymbol{z}), \boldsymbol{w} \otimes(\left.{ }^{t} B^{-1} \boldsymbol{d}\right)\right) . \end{aligned}`	$\begin{aligned} & \varphi_{1}(A)(C, D, \boldsymbol{x} \otimes \boldsymbol{a}, \boldsymbol{b} \otimes \boldsymbol{y}, \boldsymbol{c} \otimes \boldsymbol{z}, \boldsymbol{w} \otimes \boldsymbol{d}) \\ & \quad=\left(A C A^{-1}, D,(A \boldsymbol{x}) \otimes \boldsymbol{a},(A \boldsymbol{b}) \otimes \boldsymbol{y},(\left.{ }^{t} A^{-1} \boldsymbol{c}\right) \otimes \boldsymbol{z},(\left.{ }^{t} A^{-1} \boldsymbol{w}\right) \otimes \boldsymbol{d}\right) . \\ & \varphi_{2}(B)(C, D, \boldsymbol{x} \otimes \boldsymbol{a}, \boldsymbol{b} \otimes \boldsymbol{y}, \boldsymbol{c} \otimes \boldsymbol{z}, \boldsymbol{w} \otimes \boldsymbol{d}) \\ & \quad=\left(C, B D B^{-1}, \boldsymbol{x} \otimes(B \boldsymbol{a}), \boldsymbol{b} \otimes(\left.{ }^{t} B^{-1} \boldsymbol{y}\right), \boldsymbol{c} \otimes(B \boldsymbol{z}), \boldsymbol{w} \otimes(\left.{ }^{t} B^{-1} \boldsymbol{d}\right)\right) . \end{aligned}$	$\begin{aligned} & \varphi_{1}(A)(C, D, \boldsymbol{x} \otimes \boldsymbol{a}, \boldsymbol{b} \otimes \boldsymbol{y}, \boldsymbol{c} \otimes \boldsymbol{z}, \boldsymbol{w} \otimes \boldsymbol{d}) \\ & \quad=\left(A C A^{-1}, D,(A \boldsymbol{x}) \otimes \boldsymbol{a},(A \boldsymbol{b}) \otimes \boldsymbol{y},(\left.{ }^{t} A^{-1} \boldsymbol{c}\right) \otimes \boldsymbol{z},(\left.{ }^{t} A^{-1} \boldsymbol{w}\right) \otimes \boldsymbol{d}\right) . \\ & \varphi_{2}(B)(C, D, \boldsymbol{x} \otimes \boldsymbol{a}, \boldsymbol{b} \otimes \boldsymbol{y}, \boldsymbol{c} \otimes \boldsymbol{z}, \boldsymbol{w} \otimes \boldsymbol{d}) \\ & \quad=\left(C, B D B^{-1}, \boldsymbol{x} \otimes(B \boldsymbol{a}), \boldsymbol{b} \otimes(\left.{ }^{t} B^{-1} \boldsymbol{y}\right), \boldsymbol{c} \otimes(B \boldsymbol{z}), \boldsymbol{w} \otimes(\left.{ }^{t} B^{-1} \boldsymbol{d}\right)\right) . \end{aligned}$

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0902.0431_EQ0889	147	0.919	`\begin{array}{ll} B=D_{1}+e_{1} T_{1}, & D_{1}^{*}=-D_{1}, J D_{1}=\bar{D}_{1} J \\ & T_{1}^{*}=T_{1}, J T_{1}=\bar{T}_{1} J, \operatorname{tr}\left(T_{1}\right)=0 . \end{array}`	$B=D_1+e_1T_1, \quad \begin{array}{l} D_1^*=-D_1, JD_1=\bar{D}_1J \\ T_1^*=T_1, JT_1=\bar{T}_1J, \operatorname{tr}(T_1)=0. \end{array}$	$B=D_1+e_1T_1, \quad \begin{array}{l} {D_1}^*=-D_1, JD_1=\overline{D}_1J, \\ {T_1}^*=T_1, JT_1=\overline{T}_1J, \operatorname{tr}(T_1)=0. \end{array}$
0902.0431_EQ0151	28	0.919	`G_{2(2)} \simeq(S p(1) \times S p(1)) / \boldsymbol{Z}_{2} \times \boldsymbol{R}^{8} .`	$G_{2(2)} \simeq(Sp(1) \times Sp(1))/\boldsymbol{Z}_2 \times \boldsymbol{R}^8.$	$G_{2(2)} \simeq(Sp(1) \times Sp(1))/\boldsymbol{Z}_2 \times \boldsymbol{R}^8.$
0902.0431_EQ1202	202	0.920	`\begin{aligned} & B\left(R_{1}, R_{2}\right)= \operatorname{tr}\left(C_{1} C_{2}\right)+ \operatorname{tr}\left(D_{1} D_{2}\right)-\left(\boldsymbol{x}_{1}, \boldsymbol{w}_{2}\right)\left(\boldsymbol{a}_{1}, \boldsymbol{d}_{2}\right)-\left(\boldsymbol{x}_{2}, \boldsymbol{w}_{1}\right)\left(\boldsymbol{a}_{2}, \boldsymbol{d}_{1}\right) \\ & -\left(\boldsymbol{y}_{1}, \boldsymbol{z}_{2}\right) \left(\boldsymbol{b}_{1}, \boldsymbol{c}_{2}\right)-\left(\boldsymbol{y}_{2}, \boldsymbol{z}_{1}\right) \left(\boldsymbol{b}_{2}, \boldsymbol{c}_{1}\right) . \end{aligned}`	$\begin{aligned} & B\left(R_1, R_2\right)=\operatorname{tr}\left(C_1 C_2\right)+\operatorname{tr}\left(D_1 D_2\right)-\left(\boldsymbol{x}_1, \boldsymbol{w}_2\right)\left(\boldsymbol{a}_1, \boldsymbol{d}_2\right)-\left(\boldsymbol{x}_2, \boldsymbol{w}_1\right)\left(\boldsymbol{a}_2, \boldsymbol{d}_1\right) \\ & -\left(\boldsymbol{y}_1, \boldsymbol{z}_2\right)\left(\boldsymbol{b}_1, \boldsymbol{c}_2\right)-\left(\boldsymbol{y}_2, \boldsymbol{z}_1\right)\left(\boldsymbol{b}_2, \boldsymbol{c}_1\right) . \end{aligned}$	$\begin{aligned} B(R_1, R_2) & =\operatorname{tr}(C_1C_2)+\operatorname{tr}(D_1D_2)-(\boldsymbol{x}_1, \boldsymbol{w}_2)(\boldsymbol{a}_1, \boldsymbol{d}_2)-(\boldsymbol{x}_2, \boldsymbol{w}_1)(\boldsymbol{a}_2, \boldsymbol{d}_1) \\ & -(\boldsymbol{y}_1, \boldsymbol{z}_2)(\boldsymbol{b}_1, \boldsymbol{c}_2)-(\boldsymbol{y}_2, \boldsymbol{z}_1)(\boldsymbol{b}_2, \boldsymbol{c}_1). \end{aligned}$
0902.0431_EQ1021	170	0.921	`\begin{array}{ll} \text { the root } \mu_{k}-\frac{1}{3} \nu+r & \text { by letting } X=E_{k}, \\ \text { the root } \pm \lambda_{k}-\frac{1}{2} \mu_{1}-\frac{1}{3} \nu+r & \text { by letting } X=F_{1}(a), a=e_{k} \pm i e_{4+k} . \end{array}`	$\begin{array}{ll} \text{the root } \mu_k-\frac{1}{3}\nu+r & \text{by letting } X=E_k, \\ \text{the root } \pm\lambda_k-\frac{1}{2}\mu_1-\frac{1}{3}\nu+r & \text{by letting } X=F_1(a), a=e_k\pm ie_{4+k}. \end{array}$	$\begin{array}{ll} \text{the root } \mu_k-\dfrac{1}{3}\nu+r & \text{by letting } X=E_k, \\ \text{the root } \pm\lambda_k-\dfrac{1}{2}\mu_1-\dfrac{1}{3}\nu+r & \text{by letting } X=F_1(a), a=e_k\pm ie_{4+k}. \end{array}$
0902.0431_EQ1217	204	0.922	`E_{8(8)} \cong\left(E_{8}^{C}\right)^{\tau \gamma}, \quad E_{8(-24)} \cong\left(E_{8}^{C}\right)^{\tau} .`	$E_{8(8)} \cong\left(E_8^C\right)^{\tau\gamma}, \quad E_{8(-24)} \cong\left(E_8^C\right)^{\tau}.$	$E_{8(8)} \cong({E_8}^C)^{\tau\gamma}, \quad E_{8(-24)} \cong({E_8}^C)^{\tau}.$
0902.0431_EQ0302	48	0.925	`\widetilde{A}_{1}\left(a_{1}\right)+\widetilde{A}_{2} \left(a_{2}\right)+\widetilde{A_{3}}\left(a_{3}\right) \in \widetilde{\mathfrak{A}}^{C} \cap \mathfrak{a} \subset \mathfrak{a} .`	$\widetilde{A}_1\left(a_1\right)+\widetilde{A}_2\left(a_2\right)+\widetilde{A_3}\left(a_3\right) \in \widetilde{\mathfrak{A}}^C \cap \mathfrak{a} \subset \mathfrak{a}.$	$\widetilde{A}_1(a_1)+\widetilde{A}_2(a_2)+\widetilde{A_3}(a_3) \in \widetilde{\mathfrak{A}}^C \cap \mathfrak{a} \subset \mathfrak{a}.$
0902.0431_EQ0480	79	0.925	`\begin{aligned} B_{6}\left(\phi_{1}, \phi_{2}\right) & =12\left(\phi_{1}, \phi_{2}\right)_{6} \\ & =12\left(\delta_{1}, \delta_{2}\right)_{4}+12\left(T_{1}, T_{2} \right) \\ & =\frac{4}{3} B_{4}\left(\delta_{1}, \delta_{2}\right)+12\left(T_{1}, T_{2}\right) \\ & =4 \operatorname{tr}\left(\phi_{1} \phi_{2}\right) \end{aligned}`	$\begin{aligned} B_6\left(\phi_1, \phi_2\right) & =12\left(\phi_1, \phi_2\right)_6 \\ & =12\left(\delta_1, \delta_2\right)_4+12\left(T_1, T_2\right) \\ & =\frac{4}{3} B_4\left(\delta_1, \delta_2\right)+12\left(T_1, T_2\right) \\ & =4 \operatorname{tr}\left(\phi_1 \phi_2\right) \end{aligned}$	$\begin{aligned} B_6(\phi_1, \phi_2) & = 12(\phi_1, \phi_2)_6 \\ & = 12(\delta_1, \delta_2)_4+12(T_1, T_2) \\ & = \frac{4}{3} B_4(\delta_1, \delta_2)+12(T_1, T_2) \\ & = 4\operatorname{tr}(\phi_1\phi_2), \end{aligned}$
0902.0431_EQ0853	142	0.925	`(P, P)_{\mu}=\frac{1}{2}\{\mu P, P\}=\bar{x} x+(\tau \xi) \xi+(\tau \eta) \eta .`	$(P, P)_\mu=\frac{1}{2}\{\mu P, P\}=\bar{x} x+(\tau \xi) \xi+(\tau \eta) \eta.$	$(P, P)_\mu=\frac{1}{2}\{\mu P, P\}=\overline{x} x+(\tau \xi) \xi+(\tau \eta) \eta.$
0902.0431_EQ0591	98	0.926	`\varphi(A) M=k_{J}^{-1}\left(A\left(k_{J}(M)\right)^{t} A \right), \quad M \in\left(\mathfrak{J}_{\boldsymbol{H}} \right)^{C} .`	$\varphi(A) M=k_J^{-1}\left(A\left(k_J(M)\right)^t A\right), \quad M \in\left(\mathfrak{J}_{\boldsymbol{H}}\right)^C.$	$\varphi(A) M={k_J}^{-1}(A(k_J(M))^t A), \quad M \in\left(\mathfrak{J}_{\boldsymbol{H}}\right)^C.$

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0902.0431_EQ0508	83	■0.928	\begin{aligned} {[h, S] } & =\left[h_{\delta}+ \widetilde{H}, S\right]=\left[h_{\delta}, S\right]-[S, \widetilde{H}] \\ & =\alpha\left(h_{\delta}\right) S- \widetilde{S H}(\text { Lemma 3.6.3.(1)) } \\ & =\alpha \left(h_{\delta}\right) S=\left(\pm \lambda_{k} \pm \lambda_{l}\right) S \end{aligned}	$\begin{aligned} {[h, S] } & =\left[h_{\delta}+ \widetilde{H}, S\right]=\left[h_{\delta}, S\right]-[S, \widetilde{H}] \\ & =\alpha\left(h_{\delta}\right) S- \widetilde{S H}(\text { Lemma 3.6.3.(1)) } \\ & =\alpha \left(h_{\delta}\right) S=\left(\pm \lambda_{k} \pm \lambda_{l}\right) S \end{aligned}$	$\begin{aligned} {[h, S] } & =\left[h_{\delta}+ \widetilde{H}, S\right]=\left[h_{\delta}, S\right]-[S, \widetilde{H}] \\ & =\alpha\left(h_{\delta}\right) S- \widetilde{S H}(\text { Lemma 3.6.3.(1)) } \\ & =\alpha \left(h_{\delta}\right) S=\left(\pm \lambda_{k} \pm \lambda_{l}\right) S \end{aligned}$
0902.0431_EQ0665	110	■0.935	E_{6(6)} \cong\left(E_{6}^{C}\right)^{\tau \gamma}, E_{6(2)} \cong\left(E_{6}^{C}\right)^{\tau \lambda \gamma}, E_{6(-14)} \cong\left(E_{6}^{C}\right)^{\tau \lambda \sigma}, E_{6(-26)} \cong\left(E_{6}^{C}\right)^{ \tau} .	$E_{6(6)} \cong\left(E_{6}^{C}\right)^{\tau \gamma}, E_{6(2)} \cong\left(E_{6}^{C}\right)^{\tau \lambda \gamma}, E_{6(-14)} \cong\left(E_{6}^{C}\right)^{\tau \lambda \sigma}, E_{6(-26)} \cong\left(E_{6}^{C}\right)^{ \tau} .$	$E_{6(6)} \cong\left(E_{6}^{C}\right)^{\tau \gamma}, E_{6(2)} \cong\left(E_{6}^{C}\right)^{\tau \lambda \gamma}, E_{6(-14)} \cong\left(E_{6}^{C}\right)^{\tau \lambda \sigma}, E_{6(-26)} \cong\left(E_{6}^{C}\right)^{ \tau} .$
0902.0431_EQ1052	179	■0.936	\left\{\beta_{2} P, \beta_{3} Q\right\}=\left\{\beta_{2} P, \beta_{2} Q\right\}, \quad P, Q \in \mathfrak{P}^{C},	$\left\{\beta_{2} P, \beta_{3} Q\right\}=\left\{\beta_{2} P, \beta_{2} Q\right\}, \quad P, Q \in \mathfrak{P}^{C},$	$\left\{\beta_{2} P, \beta_{3} Q\right\}=\left\{\beta_{2} P, \beta_{2} Q\right\}, \quad P, Q \in \mathfrak{P}^{C},$
0902.0431_EQ0512	84	■0.938	\begin{aligned} \nu h_{\delta} & =\frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3} \right) H_{0}+\frac{1}{2}\left(\lambda_{0}+\lambda_{1}+ \lambda_{2}-\lambda_{3}\right) H_{1} \\ & +\frac{1}{2} \left(-\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3} \right) H_{2}+\frac{1}{2}\left(\lambda_{0}-\lambda_{1}+ \lambda_{2}+\lambda_{3}\right) H_{3} \\ \kappa \pi h_{ \delta} & =\frac{1}{2}\left(-\lambda_{0}+\lambda_{1}- \lambda_{2}+\lambda_{3}\right) H_{0}+\frac{1}{2}\left(- \lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right) H_{1} \\ & +\frac{1}{2}\left(\lambda_{0}+\lambda_{1}+ \lambda_{2}+\lambda_{3}\right) H_{2}+\frac{1}{2}\left(- \lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right) H_{3} \end{aligned}	$\begin{aligned} \nu h_{\delta} & =\frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3} \right) H_{0}+\frac{1}{2}\left(\lambda_{0}+\lambda_{1}+ \lambda_{2}-\lambda_{3}\right) H_{1} \\ & +\frac{1}{2} \left(-\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3} \right) H_{2}+\frac{1}{2}\left(\lambda_{0}-\lambda_{1}+ \lambda_{2}+\lambda_{3}\right) H_{3} \\ \kappa \pi h_{ \delta} & =\frac{1}{2}\left(-\lambda_{0}+\lambda_{1}- \lambda_{2}+\lambda_{3}\right) H_{0}+\frac{1}{2}\left(- \lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right) H_{1} \\ & +\frac{1}{2}\left(\lambda_{0}+\lambda_{1}+ \lambda_{2}+\lambda_{3}\right) H_{2}+\frac{1}{2}\left(- \lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right) H_{3} \end{aligned}$	$\begin{aligned} \nu h_{\delta} & =\frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3} \right) H_{0}+\frac{1}{2}\left(\lambda_{0}+\lambda_{1}+ \lambda_{2}-\lambda_{3}\right) H_{1} \\ & +\frac{1}{2} \left(-\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3} \right) H_{2}+\frac{1}{2}\left(\lambda_{0}-\lambda_{1}+ \lambda_{2}+\lambda_{3}\right) H_{3}, \\ \kappa \pi h_{ \delta} & =\frac{1}{2}\left(-\lambda_{0}+\lambda_{1}- \lambda_{2}+\lambda_{3}\right) H_{0}+\frac{1}{2}\left(- \lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right) H_{1} \\ & +\frac{1}{2}\left(\lambda_{0}+\lambda_{1}+ \lambda_{2}+\lambda_{3}\right) H_{2}+\frac{1}{2}\left(- \lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right) H_{3} \end{aligned}$

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0902.0431_EQ0582	97	0.938	`\begin{aligned} & \operatorname{det}\left(k_{J}(M) \right)=\operatorname{det}\left(\begin{array}{cccccc} 0 & \xi_{1} & -n_{3} & m_{3} & n_{2} & \tau\left(m_{2} \right) \\ -\xi_{1} & 0 & -\tau\left(m_{3}\right) & -\tau\left(n_{3}\right) & -m_{2} & \tau\left(n_{2}\right) \\ n_{3} & \tau\left(m_{3}\right) & 0 & \xi_{2} & -n_{1} & m_{1} \\ -m_{3} & \tau\left(n_{3}\right) & -\xi_{2} & 0 & -\tau\left(m_{1}\right) & -\tau\left(n_{1}\right) \\ -n_{2} & m_{2} & n_{1} & \tau\left(m_{1}\right) & 0 & \xi_{3} \\ -\tau\left(m_{2}\right) & -\tau\left(n_{2}\right) & -m_{1} & \tau\left(n_{1}\right) & -\xi_{3} & 0 \end{array}\right) \\ & =\left(\xi_{1} \xi_{2} \xi_{3}-\xi_{1} n_{1} \tau\left(n_{1}\right)-\xi_{1} m_{1} \tau\left(m_{1}\right)-n_{3} \tau\left(n_{3}\right) \xi_{3}-n_{3} m_{2} \tau\left(n_{1}\right)-n_{3} \tau \left(n_{2}\right) \tau\left(m_{1}\right)\right. \\ & -m_{3} \tau\left(m_{3}\right) \xi_{3}+m_{3} m_{2} m_{1}-m_{3} \tau\left(n_{2}\right) n_{1}-n_{2} \tau \left(m_{3}\right) \tau\left(n_{1}\right)-n_{2} \tau\left(n_{3}\right) m_{1}-n_{2} \tau\left(n_{2} \right) \xi_{2} \\ & \left.+\tau\left(m_{2}\right) \tau \left(m_{3}\right) \tau\left(m_{1}\right)-\tau\left(m_{2} \right) \tau\left(n_{3}\right) n_{1}-\tau\left(m_{2} \right) m_{2} \xi_{2}\right)^{2} \end{aligned}`	$\operatorname{det}\left(k_{J}(M) \right)=\operatorname{det}\left(\begin{array}{cccccc} 0 & \xi_{1} & -n_{3} & m_{3} & n_{2} & \tau\left(m_{2} \right) \\ -\xi_{1} & 0 & -\tau\left(m_{3}\right) & -\tau\left(n_{3}\right) & -m_{2} & \tau\left(n_{2}\right) \\ n_{3} & \tau\left(m_{3}\right) & 0 & \xi_{2} & -n_{1} & m_{1} \\ -m_{3} & \tau\left(n_{3}\right) & -\xi_{2} & 0 & -\tau\left(m_{1}\right) & -\tau\left(n_{1}\right) \\ -n_{2} & m_{2} & n_{1} & \tau\left(m_{1}\right) & 0 & \xi_{3} \\ -\tau\left(m_{2}\right) & -\tau\left(n_{2}\right) & -m_{1} & \tau\left(n_{1}\right) & -\xi_{3} & 0 \end{array}\right)$ $=\left(\xi_{1} \xi_{2} \xi_{3}-\xi_{1} n_{1} \tau\left(n_{1}\right)-\xi_{1} m_{1} \tau\left(m_{1}\right)-n_{3} \tau\left(n_{3}\right) \xi_{3}-n_{3} m_{2} \tau\left(n_{1}\right)-n_{3} \tau\left(n_{2}\right) \tau\left(m_{1}\right)\right.$ $-m_{3} \tau\left(m_{3}\right) \xi_{3}+m_{3} m_{2} m_{1}-m_{3} \tau\left(n_{2}\right) n_{1}-n_{2} \tau\left(m_{3}\right) \tau\left(n_{1}\right)-n_{2} \tau\left(n_{3}\right) m_{1}-n_{2} \tau\left(n_{2}\right) \xi_{2}$ $\left.+\tau\left(m_{2}\right) \tau\left(m_{3}\right) \tau\left(m_{1}\right)-\tau\left(m_{2}\right) \tau\left(n_{3}\right) n_{1}-\tau\left(m_{2}\right) m_{2} \xi_{2}\right)^{2}$	$\operatorname{det}(k_J(M)) = \operatorname{det}\begin{pmatrix} 0 & \xi_1 & -n_3 & m_3 & n_2 & \tau(m_2) \\ -\xi_1 & 0 & -\tau(m_3) & -\tau(n_3) & -m_2 & \tau(n_2) \\ n_3 & \tau(m_3) & 0 & \xi_2 & -n_1 & m_1 \\ -m_3 & \tau(n_3) & -\xi_2 & 0 & -\tau(m_1) & -\tau(n_1) \\ -n_2 & m_2 & n_1 & \tau(m_1) & 0 & \xi_3 \\ -\tau(m_2) & -\tau(n_2) & -m_1 & \tau(n_1) & -\xi_3 & 0 \end{pmatrix}$ $= (\xi_1\xi_2\xi_3 - \xi_1 n_1\tau(n_1) - \xi_1 m_1\tau(m_1) - n_3\tau(n_3)\xi_3 - n_3 m_2\tau(n_1) - n_3\tau(n_2)\tau(m_1)$ $-m_3\tau(m_3)\xi_3 + m_3 m_2 m_1 - m_3\tau(n_2)n_1 - n_2\tau(m_3)\tau(n_1) - n_2\tau(n_3)m_1 - n_2\tau(n_2)\xi_2$ $+\tau(m_2)\tau(m_3)\tau(m_1) - \tau(m_2)\tau(n_3)n_1 - \tau(m_2)m_2\xi_2)^2.$
0902.0431_EQ0892	148	0.939	`\left[\Phi\left(\phi_{1}, A_{1},-\gamma A_{1}, 0\right), \Phi\left(\phi_{2}, A_{2},-\gamma A_{2}, 0\right)\right]= \Phi(\phi, A,-\gamma A, 0),`	$\left[\Phi\left(\phi_{1}, A_{1},-\gamma A_{1}, 0\right), \Phi\left(\phi_{2}, A_{2},-\gamma A_{2}, 0\right)\right]= \Phi(\phi, A,-\gamma A, 0),$	$\left[\Phi\left(\phi_{1}, A_{1},-\gamma A_{1}, 0\right), \Phi\left(\phi_{2}, A_{2},-\gamma A_{2}, 0\right)\right]= \Phi(\phi, A,-\gamma A, 0),$
0902.0431_EQ0737	122	0.939	`\begin{aligned} & =\cdots\left(\text { using } \left([ \phi, A \vee B]=\phi A \vee B+A \vee \phi^{\prime} B \text { (Lemma 3.4.4) etc.) } \cdots\right.\right. \\ & =-\left(\Phi_{1},\left[\Phi, \Phi_{2}\right]\right)_{7} \end{aligned}`	$=\cdots\left(\text { using } \left([\phi, A \vee B]=\phi A \vee B+A \vee \phi^{\prime} B \text { (Lemma 3.4.4) etc.) } \cdots\right.\right.$ $=-\left(\Phi_{1},\left[\Phi, \Phi_{2}\right]\right)_{7}$	$=\cdots\left(\text { using } \left([\phi, A \vee B]=\phi A \vee B+A \vee \phi^{\prime} B \text { (Lemma 3.4.4) etc.) } \cdots\right.\right.$ $=-\left(\Phi_{1},\left[\Phi, \Phi_{2}\right]\right)_{7}.$
0902.0431_EQ1073	182	0.940	`\begin{aligned} & J l(S) I=l(S) J I=-l(S) I J \\ & { }^{t}(l(S) I)={ }^{t} I^{t}(l(S))=I l\left(\tau^{t} S \right)=-I l(\tau S)=-l(S) I \end{aligned}`	$J l(S) I=l(S) J I=-l(S) I J$ $\quad {}^{t}(l(S) I)={}^{t} I^{t}(l(S))=I l\left(\tau^{t} S\right)=-I l(\tau S)=-l(S) I$	$J l(S) I=l(S) J I=-l(S) I J,$ $\quad {}^{t}(l(S) I)={}^{t} I^{t}(l(S))=I l(\tau {}^{t} S)=-I l(\tau S)=-l(S) I.$

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0902.0431_EQ1175	198	0.940	\begin{array}{ll} {\left[\mathfrak{g}_{0}, \mathfrak{g}_{0}\right] \subset \mathfrak{g}_{0}} & { \left[\left(C_{1}, D_{1}\right),\left(C_{2}, D_{2}\right) \right]=\left(\left[C_{1}, C_{2}\right],\left[D_{1}, D_{2}\right]\right),} \\ {\left[\mathfrak{g}_{0}, \mathfrak{g}_{1}\right] \subset \mathfrak{g}_{1}} & {[(C, D), \boldsymbol{x} \otimes \boldsymbol{a}]=(C \boldsymbol{x}) \otimes \boldsymbol{a}+\boldsymbol{x} \otimes(D \boldsymbol{a}),} \\ {\left[\mathfrak{g}_{0}, \mathfrak{g}_{2}\right] \subset \mathfrak{g}_{2}} & {[(C, D), \boldsymbol{b} \otimes \boldsymbol{y}]=(C \boldsymbol{b}) \otimes \boldsymbol{y}+\boldsymbol{b} \otimes\left(-{ }^{t} D \boldsymbol{a}\right),} \\ {\left[\mathfrak{g}_{0}, \mathfrak{g}_{-2}\right] \subset \mathfrak{g}_{-2}} & {[(C, D), \boldsymbol{c} \otimes \boldsymbol{z}]=\left(-{ }^{t} C \boldsymbol{c}\right) \otimes \boldsymbol{z}+\boldsymbol{c} \otimes(D \boldsymbol{z}),} \\ {\left[\mathfrak{g}_{0}, \mathfrak{g}_{-1}\right] \subset \mathfrak{g}_{-1}} & {[(C, D), \boldsymbol{w} \otimes \boldsymbol{d}]=\left(-{ }^{t} C \boldsymbol{w}\right) \otimes \boldsymbol{z}+\boldsymbol{c} \otimes\left(-{ }^{t} D \boldsymbol{z}\right),} \\ {\left[\mathfrak{g}_{1}, \mathfrak{g}_{-1}\right] \subset \mathfrak{g}_{0}} & {[\boldsymbol{x} \otimes \boldsymbol{a}, \boldsymbol{w} \otimes \boldsymbol{d}]=(-(\boldsymbol{a}, \boldsymbol{d}) \boldsymbol{x} \times \boldsymbol{w},(\boldsymbol{x}, \boldsymbol{w}) \boldsymbol{a} \times \boldsymbol{d}),} \\ {\left[\mathfrak{g}_{2}, \mathfrak{g}_{-2}\right] \subset \mathfrak{g}_{0}} & {[\boldsymbol{b} \otimes \boldsymbol{y}, \boldsymbol{c} \otimes \boldsymbol{z}]=((\boldsymbol{y}, \boldsymbol{z}) \boldsymbol{b} \times \boldsymbol{c},(\boldsymbol{b}, \boldsymbol{c}) \boldsymbol{z} \times \boldsymbol{y}),} \\ {\left[\mathfrak{g}_{1}, \mathfrak{g}_{1}\right] \subset \mathfrak{g}_{2}} & {[\boldsymbol{x}_{1} \otimes \boldsymbol{a}_{1}, \boldsymbol{x}_{2} \otimes \boldsymbol{a}_{2}]=\left(\boldsymbol{x}_{1} \wedge \boldsymbol{x}_{2}\right) \otimes *\left(\boldsymbol{a}_{1} \wedge \boldsymbol{a}_{2}\right),} \\ {\left[\mathfrak{g}_{-1}, \mathfrak{g}_{-1}\right] \subset \mathfrak{g}_{-2}} & \\ {\left[\mathfrak{g}_{2}, \mathfrak{g}_{2}\right] \subset \mathfrak{g}_{-1}} & {[\boldsymbol{b}_{1} \otimes \boldsymbol{y}_{1}, \boldsymbol{b}_{2} \otimes \boldsymbol{y}_{2}]=*\left(\boldsymbol{b}_{1} \wedge \boldsymbol{b}_{2}\right) \otimes\left(\boldsymbol{y}_{1} \wedge \boldsymbol{y}_{2}\right),} \\ {\left[\mathfrak{g}_{-2}, \mathfrak{g}_{-2}\right] \subset \mathfrak{g}_{1}} & \\ {\left[\mathfrak{g}_{1}, \mathfrak{g}_{2}\right] \subset \mathfrak{g}_{-2}} & {[\boldsymbol{x} \otimes \boldsymbol{a}, \boldsymbol{b} \otimes \boldsymbol{y}]=*(\boldsymbol{b} \wedge \boldsymbol{x}) \otimes *(*\boldsymbol{a} \wedge \boldsymbol{y}),} \\ {\left[\mathfrak{g}_{-1}, \mathfrak{g}_{-2}\right] \subset \mathfrak{g}_{2}} & \\ {\left[\mathfrak{g}_{2}, \mathfrak{g}_{-1}\right] \subset \mathfrak{g}_{1}} & {[\boldsymbol{b} \otimes \boldsymbol{y}, \boldsymbol{w} \otimes \boldsymbol{d}]=*(*\boldsymbol{b} \wedge \boldsymbol{w}) \otimes *(\boldsymbol{d} \wedge \boldsymbol{y}).} \\ {\left[\mathfrak{g}_{-2}, \mathfrak{g}_{1}\right] \subset \mathfrak{g}_{-1}} & \end{array}	$[\mathfrak{g}_0,\mathfrak{g}_0]\subset\mathfrak{g}_0$ $[(C_1,D_1),(C_2,D_2)]=([C_1,C_2],[D_1,D_2])$, $[\mathfrak{g}_0,\mathfrak{g}_1]\subset\mathfrak{g}_1$ $[(C,D),\boldsymbol{x}\otimes\boldsymbol{a}]=(C\boldsymbol{x})\otimes\boldsymbol{a}+\boldsymbol{x}\otimes(D\boldsymbol{a})$, $[\mathfrak{g}_0,\mathfrak{g}_2]\subset\mathfrak{g}_2$ $[(C,D),\boldsymbol{b}\otimes\boldsymbol{y}]=(C\boldsymbol{b})\otimes\boldsymbol{y}+\boldsymbol{b}\otimes(-{}^tD\boldsymbol{a})$, $[\mathfrak{g}_0,\mathfrak{g}_{-2}]\subset\mathfrak{g}_{-2}$ $[(C,D),\boldsymbol{c}\otimes\boldsymbol{z}]=(-{}^tC\boldsymbol{c})\otimes\boldsymbol{z}+\boldsymbol{c}\otimes(D\boldsymbol{z})$, $[\mathfrak{g}_0,\mathfrak{g}_{-1}]\subset\mathfrak{g}_{-1}$ $[(C,D),\boldsymbol{w}\otimes\boldsymbol{d}]=(-{}^tC\boldsymbol{w})\otimes\boldsymbol{z}+\boldsymbol{c}\otimes(-{}^tD\boldsymbol{z})$, $[\mathfrak{g}_1,\mathfrak{g}_{-1}]\subset\mathfrak{g}_0$ $[\boldsymbol{x}\otimes\boldsymbol{a},\boldsymbol{w}\otimes\boldsymbol{d}]=(-(\boldsymbol{a},\boldsymbol{d})\boldsymbol{x}\times\boldsymbol{w},(\boldsymbol{x},\boldsymbol{w})\boldsymbol{a}\times\boldsymbol{d})$, $[\mathfrak{g}_2,\mathfrak{g}_{-2}]\subset\mathfrak{g}_0$ $[\boldsymbol{b}\otimes\boldsymbol{y},\boldsymbol{c}\otimes\boldsymbol{z}]=((\boldsymbol{y},\boldsymbol{z})\boldsymbol{b}\times\boldsymbol{c},(\boldsymbol{b},\boldsymbol{c})\boldsymbol{z}\times\boldsymbol{y})$, $[\mathfrak{g}_1,\mathfrak{g}_1]\subset\mathfrak{g}_2$ $[\mathfrak{g}_{-1},\mathfrak{g}_{-1}]\subset\mathfrak{g}_{-2}$ $[\boldsymbol{x}_1\otimes\boldsymbol{a}_1,\boldsymbol{x}_2\otimes\boldsymbol{a}_2]=(\boldsymbol{x}_1\wedge\boldsymbol{x}_2)\otimes*(\boldsymbol{a}_1\wedge\boldsymbol{a}_2)$, $[\mathfrak{g}_2,\mathfrak{g}_2]\subset\mathfrak{g}_{-1}$ $[\mathfrak{g}_{-2},\mathfrak{g}_{-2}]\subset\mathfrak{g}_1$ $[\boldsymbol{b}_1\otimes\boldsymbol{y}_1,\boldsymbol{b}_2\otimes\boldsymbol{y}_2]=*(\boldsymbol{b}_1\wedge\boldsymbol{b}_2)\otimes(\boldsymbol{y}_1\wedge\boldsymbol{y}_2)$, $[\mathfrak{g}_1,\mathfrak{g}_2]\subset\mathfrak{g}_{-2}$ $[\mathfrak{g}_{-1},\mathfrak{g}_{-2}]\subset\mathfrak{g}_2$ $[\boldsymbol{x}\otimes\boldsymbol{a},\boldsymbol{b}\otimes\boldsymbol{y}]=*(\boldsymbol{b}\wedge\boldsymbol{x})\otimes*(*\boldsymbol{a}\wedge\boldsymbol{y})$, $[\mathfrak{g}_2,\mathfrak{g}_{-1}]\subset\mathfrak{g}_1$ $[\mathfrak{g}_{-2},\mathfrak{g}_1]\subset\mathfrak{g}_{-1}$ $[\boldsymbol{b}\otimes\boldsymbol{y},\boldsymbol{w}\otimes\boldsymbol{d}]=*(*\boldsymbol{b}\wedge\boldsymbol{w})\otimes*(\boldsymbol{d}\wedge\boldsymbol{y})$.

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0413	68	0.941	`\left(\begin{array}{lll} \xi_{1} & a_{3} & \bar{a}_{2} \\ \bar{a}_{3} & \xi_{2} & a_{1} \\ a_{2} & \bar{a}_{1} & \xi_{3} \end{array}\right)+\left(\boldsymbol{m}_{1}, \boldsymbol{m}_{2}, \boldsymbol{m}_{3}\right)`	$\left(\begin{array}{lll} \xi_{1} & a_{3} & \bar{a}_{2} \\ \bar{a}_{3} & \xi_{2} & a_{1} \\ a_{2} & \bar{a}_{1} & \xi_{3} \end{array}\right)+\left(\boldsymbol{m}_{1}, \boldsymbol{m}_{2}, \boldsymbol{m}_{3}\right)$	$\left(\begin{array}{lll} \xi_{1} & a_{3} & \bar{a}_{2} \\ \bar{a}_{3} & \xi_{2} & a_{1} \\ a_{2} & \bar{a}_{1} & \xi_{3} \end{array}\right)+\left(\boldsymbol{m}_{1}, \boldsymbol{m}_{2}, \boldsymbol{m}_{3}\right)$
0902.0431_EQ0017	8	0.942	`\left\{\begin{array} { l } { 2 F _ { 0 1 } = G _ { 0 1 } + G _ { 2 3 } + G _ { 4 5 } + G _ { 6 7 } } \\ { 2 F _ { 2 3 } = G _ { 0 1 } + G _ { 2 3 } - G _ { 4 5 } - G _ { 6 7 } } \\ { 2 F _ { 4 5 } = G _ { 0 1 } - G _ { 2 3 } + G _ { 4 5 } - G _ { 6 7 } } \\ { 2 F _ { 6 7 } = G _ { 0 1 } - G _ { 2 3 } - G _ { 4 5 } + G _ { 6 7 } , } \end{array} \left\{ \begin{array}{l} 2 F_{02}=G_{02}-G_{13}-G_{46}+G_{57} \\ 2 F_{13}=-G_{02}+G_{13}-G_{46}+G_{57} \\ 2 F_{46}=-G_{02}-G_{13}+G_{46}+G_{57} \\ 2 F_{57}=G_{02}+G_{13}+G_{46}+G_{57}, \end{array}\right. \right.`	$\left\{\begin{array} { l } { 2 F _ { 0 1 } = G _ { 0 1 } + G _ { 2 3 } + G _ { 4 5 } + G _ { 6 7 } } \\ { 2 F _ { 2 3 } = G _ { 0 1 } + G _ { 2 3 } - G _ { 4 5 } - G _ { 6 7 } } \\ { 2 F _ { 4 5 } = G _ { 0 1 } - G _ { 2 3 } + G _ { 4 5 } - G _ { 6 7 } } \\ { 2 F _ { 6 7 } = G _ { 0 1 } - G _ { 2 3 } - G _ { 4 5 } + G _ { 6 7 } , } \end{array} \left\{ \begin{array}{l} 2 F_{02}=G_{02}-G_{13}-G_{46}+G_{57} \\ 2 F_{13}=-G_{02}+G_{13}-G_{46}+G_{57} \\ 2 F_{46}=-G_{02}-G_{13}+G_{46}+G_{57} \\ 2 F_{57}=G_{02}+G_{13}+G_{46}+G_{57}, \end{array}\right. \right.$	$\left\{\begin{array} { l } { 2 F _ { 0 1 } = G _ { 0 1 } + G _ { 2 3 } + G _ { 4 5 } + G _ { 6 7 } } \\ { 2 F _ { 2 3 } = G _ { 0 1 } + G _ { 2 3 } - G _ { 4 5 } - G _ { 6 7 } } \\ { 2 F _ { 4 5 } = G _ { 0 1 } - G _ { 2 3 } + G _ { 4 5 } - G _ { 6 7 } } \\ { 2 F _ { 6 7 } = G _ { 0 1 } - G _ { 2 3 } - G _ { 4 5 } + G _ { 6 7 } , } \end{array} \left\{ \begin{array}{l} 2 F_{02}=G_{02}-G_{13}-G_{46}+G_{57} \\ 2 F_{13}=-G_{02}+G_{13}-G_{46}+G_{57} \\ 2 F_{46}=-G_{02}-G_{13}+G_{46}+G_{57} \\ 2 F_{57}=G_{02}+G_{13}+G_{46}+G_{57}, \end{array}\right. \right.$
0902.0431_EQ0927	153	0.942	`D=\left(\begin{array}{cc} B & L \\ -L^{*} & C \end{array}\right)+\frac{\nu}{3}\left(\begin{array}{cc} E & 0 \\ 0 & -E \end{array}\right), \quad B, C \in \mathfrak{s u}(3), L \in M(3, \boldsymbol{C}), \nu \in e_{1} \boldsymbol{R} .`	$D=\left(\begin{array}{cc} B & L \\ -L^{*} & C \end{array}\right)+\frac{\nu}{3}\left(\begin{array}{cc} E & 0 \\ 0 & -E \end{array}\right), \quad B, C \in \mathfrak{s u}(3), L \in M(3, \boldsymbol{C}), \nu \in e_{1} \boldsymbol{R} .$	$D=\left(\begin{array}{cc} B & L \\ -L^{*} & C \end{array}\right)+\frac{\nu}{3}\left(\begin{array}{cc} E & 0 \\ 0 & -E \end{array}\right), \quad B, C \in \mathfrak{s u}(3), L \in M(3, \boldsymbol{C}), \nu \in e_{1} \boldsymbol{R} .$
0902.0431_EQ0421	69	0.942	`\varphi(A, 1) X=A X A^{*}, \quad \varphi(A, \epsilon) X=A \bar{X} A^{*}, \quad X \in \mathfrak{J}_{\boldsymbol{C}} .`	$\varphi(A, 1) X=A X A^{*}, \quad \varphi(A, \epsilon) X=A \bar{X} A^{*}, \quad X \in \mathfrak{J}_{\boldsymbol{C}} .$	$\varphi(A, 1) X=A X A^{*}, \quad \varphi(A, \epsilon) X=A \bar{X} A^{*}, \quad X \in \mathfrak{J}_{\boldsymbol{C}} .$
0902.0431_EQ0257	42	0.943	`\begin{aligned} \mathfrak{f}_{4} & =\left\{\delta \in \operatorname{Hom}_{\boldsymbol{R}}(\mathfrak{J}) \mid \delta(X \circ Y)=\delta X \circ Y+X \circ \delta Y \right\} \\ & =\left\{\delta \in \operatorname{Hom}_{ \boldsymbol{R}}(\mathfrak{J}) \left\lvert\, \begin{array}{c} \operatorname{tr}(\delta X, Y, Z)+ \operatorname{tr}(X, \delta Y, Z)+\operatorname{tr}(X, Y, \delta Z)=0 \\ (\delta X, Y)+(X, \delta Y)=0 \end{array}\right.\right\} \\ & =\left\{\delta \in \operatorname{Hom}_{\boldsymbol{R}}(\mathfrak{J}) \mid(\delta X, X, X)=0,(\delta X, Y)+(X, \delta Y)=0 \right\} \\ & =\left\{\delta \in \operatorname{Hom}_{ \boldsymbol{R}}(\mathfrak{J}) \mid(\delta X, X, X)=0, \delta E=0\right\} \\ & =\left\{\delta \in \operatorname{Hom}_{\boldsymbol{R}}(\mathfrak{J}) \mid \delta(X \times Y)=\delta X \times Y+X \times \delta Y \right\} . \end{aligned}`	$\begin{aligned} \mathfrak{f}_{4} & =\left\{\delta \in \operatorname{Hom}_{\boldsymbol{R}}(\mathfrak{J}) \mid \delta(X \circ Y)=\delta X \circ Y+X \circ \delta Y \right\} \\ & =\left\{\delta \in \operatorname{Hom}_{ \boldsymbol{R}}(\mathfrak{J}) \left\lvert\, \begin{array}{c} \operatorname{tr}(\delta X, Y, Z)+ \operatorname{tr}(X, \delta Y, Z)+\operatorname{tr}(X, Y, \delta Z)=0 \\ (\delta X, Y)+(X, \delta Y)=0 \end{array}\right.\right\} \\ & =\left\{\delta \in \operatorname{Hom}_{\boldsymbol{R}}(\mathfrak{J}) \mid(\delta X, X, X)=0,(\delta X, Y)+(X, \delta Y)=0 \right\} \\ & =\left\{\delta \in \operatorname{Hom}_{ \boldsymbol{R}}(\mathfrak{J}) \mid(\delta X, X, X)=0, \delta E=0\right\} \\ & =\left\{\delta \in \operatorname{Hom}_{\boldsymbol{R}}(\mathfrak{J}) \mid \delta(X \times Y)=\delta X \times Y+X \times \delta Y \right\} . \end{aligned}$	$\begin{aligned} \mathfrak{f}_{4} & =\left\{\delta \in \operatorname{Hom}_{\boldsymbol{R}}(\mathfrak{J}) \mid \delta(X \circ Y)=\delta X \circ Y+X \circ \delta Y \right\} \\ & =\left\{\delta \in \operatorname{Hom}_{ \boldsymbol{R}}(\mathfrak{J}) \left\lvert\, \begin{array}{c} \operatorname{tr}(\delta X, Y, Z)+ \operatorname{tr}(X, \delta Y, Z)+\operatorname{tr}(X, Y, \delta Z)=0 \\ (\delta X, Y)+(X, \delta Y)=0 \end{array}\right.\right\} \\ & =\left\{\delta \in \operatorname{Hom}_{\boldsymbol{R}}(\mathfrak{J}) \mid(\delta X, X, X)=0,(\delta X, Y)+(X, \delta Y)=0 \right\} \\ & =\left\{\delta \in \operatorname{Hom}_{ \boldsymbol{R}}(\mathfrak{J}) \mid(\delta X, X, X)=0, \delta E=0\right\} \\ & =\left\{\delta \in \operatorname{Hom}_{\boldsymbol{R}}(\mathfrak{J}) \mid \delta(X \times Y)=\delta X \times Y+X \times \delta Y \right\} . \end{aligned}$

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0902.0431_EQ0431	71	■0.943	`\begin{aligned} F_{4}^{C} & =\left\{\alpha \in \operatorname{Iso}_{C}\left(\mathfrak{J}^{C}\right) \mid \alpha(X \circ Y)=\alpha X \circ \alpha Y\right\} \\ & =\left\{\alpha \in \operatorname{Iso}_{C}\left(\mathfrak{J}^{C}\right) \mid \operatorname{det}(\alpha X)=\operatorname{det} X,(\alpha X, \alpha Y)=(X, Y)\right\} \\ & =\left\{\alpha \in \operatorname{Iso}_{C}\left(\mathfrak{J}^{C}\right) \mid \operatorname{det}(\alpha X)=\operatorname{det} X, \alpha E=E\right\} \\ & =\left\{\alpha \in \operatorname{Iso}_{C}\left(\mathfrak{J}^{C}\right) \mid \alpha(X \times Y)=\alpha X \times \alpha Y\right\} . \end{aligned}`	$\begin{aligned} F_4^C &= \left\{\alpha \in \operatorname{Iso}_C\left(\mathfrak{J}^C\right) \mid \alpha(X \circ Y) = \alpha X \circ \alpha Y\right\} \\ &= \left\{\alpha \in \operatorname{Iso}_C\left(\mathfrak{J}^C\right) \mid \operatorname{det}(\alpha X) = \operatorname{det} X, (\alpha X, \alpha Y) = (X, Y)\right\} \\ &= \left\{\alpha \in \operatorname{Iso}_C\left(\mathfrak{J}^C\right) \mid \operatorname{det}(\alpha X) = \operatorname{det} X, \alpha E = E\right\} \\ &= \left\{\alpha \in \operatorname{Iso}_C\left(\mathfrak{J}^C\right) \mid \alpha(X \times Y) = \alpha X \times \alpha Y\right\}. \end{aligned}$	$\begin{aligned} {F_4}^C &= \{\alpha \in \operatorname{Iso}_C(\mathfrak{J}^C) \mid \alpha(X \circ Y) = \alpha X \circ \alpha Y\} \\ &= \{\alpha \in \operatorname{Iso}_C(\mathfrak{J}^C) \mid \det(\alpha X) = \det X,\ (\alpha X, \alpha Y) = (X, Y)\} \\ &= \{\alpha \in \operatorname{Iso}_C(\mathfrak{J}^C) \mid \det(\alpha X) = \det X, \alpha E = E\} \\ &= \{\alpha \in \operatorname{Iso}_C(\mathfrak{J}^C) \mid \alpha(X \times Y) = \alpha X \times \alpha Y\}. \end{aligned}$
0902.0431_EQ0645	106	■0.946	`\epsilon(A, B)=(\bar{B}, \bar{A}),`	$\epsilon(A, B) = (\bar{B}, \bar{A}),$	$\epsilon(A, B) = (\overline{B}, \overline{A}),$
0902.0431_EQ1049 (i)	179	■0.948	`\beta_{1}(P \times Q)=\beta_{2} P \times \beta_{3} Q, \quad\left\{\beta_{2} P, \beta_{3} Q\right\}=\{P, Q\},`	$\beta_1(P \times Q) = \beta_2 P \times \beta_3 Q, \quad \left\{\beta_2 P, \beta_3 Q\right\} = \{P, Q\},$	$\beta_1(P \times Q) = \beta_2 P \times \beta_3 Q, \quad \{\beta_2 P, \beta_3 Q\} = \{P, Q\},$
0902.0431_EQ0435	72	■0.948	`F_{4}{ }^{C} \simeq\left(F_{4}{ }^{C} \cap U \left(\mathfrak{J}^{C}\right)\right) \times \boldsymbol{R}^{d}=F_{4} \times \boldsymbol{R}^{d},`	${F_4}^C \simeq \left({F_4}^C \cap U\left(\mathfrak{J}^C\right)\right) \times \boldsymbol{R}^d = F_4 \times \boldsymbol{R}^d,$	${F_4}^C \simeq ({F_4}^C \cap U(\mathfrak{J}^C)) \times \boldsymbol{R}^d = F_4 \times \boldsymbol{R}^d,$
0902.0431_EQ0105	20	■0.950	`\begin{aligned} & \left(\alpha_{1}, \alpha_{1}\right)=B_{2}\left(H_{\alpha_{1}}, H_{\alpha_{1}}\right)=8 \frac{1}{8} \frac{1}{8}(1+1)=\frac{1}{4} \\ & \left(\alpha_{2}, \alpha_{2}\right)=B_{2}\left(H_{\alpha_{2}}, H_{\alpha_{2}}\right)=8 \frac{1}{24} \frac{1}{24}(1+4+1)=\frac{1}{12} \\ & \left(\alpha_{1}, \alpha_{2}\right)=B_{2}\left(H_{\alpha_{1}}, H_{\alpha_{2}}\right)=8 \frac{1}{8} \frac{1}{24}(-1-2)=-\frac{1}{8} \\ & (-\mu,-\mu)=\frac{1}{4}, \quad\left(-\mu, \alpha_{1}\right)=-\frac{1}{8}, \quad\left(-\mu, \alpha_{2}\right)=0 \end{aligned}`	$\begin{aligned} &(\alpha_1, \alpha_1) = B_2\left(H_{\alpha_1}, H_{\alpha_1}\right) = 8\frac{1}{8}\frac{1}{8}(1+1) = \frac{1}{4} \\ &(\alpha_2, \alpha_2) = B_2\left(H_{\alpha_2}, H_{\alpha_2}\right) = 8\frac{1}{24}\frac{1}{24}(1+4+1) = \frac{1}{12} \\ &(\alpha_1, \alpha_2) = B_2\left(H_{\alpha_1}, H_{\alpha_2}\right) = 8\frac{1}{8}\frac{1}{24}(-1-2) = -\frac{1}{8} \\ &(-\mu, -\mu) = \frac{1}{4}, \quad (-\mu, \alpha_1) = -\frac{1}{8}, \quad (-\mu, \alpha_2) = 0 \end{aligned}$	$\begin{aligned} &(\alpha_1, \alpha_1) = B_2(H_{\alpha_1}, H_{\alpha_1}) = 8\frac{1}{8}\frac{1}{8}(1+1) = \frac{1}{4}, \\ &(\alpha_2, \alpha_2) = B_2(H_{\alpha_2}, H_{\alpha_2}) = 8\frac{1}{24}\frac{1}{24}(1+4+1) = \frac{1}{12}, \\ &(\alpha_1, \alpha_2) = B_2(H_{\alpha_1}, H_{\alpha_2}) = 8\frac{1}{8}\frac{1}{24}(-1-2) = -\frac{1}{8}, \\ &(-\mu, -\mu) = \frac{1}{4}, \quad (-\mu, \alpha_1) = -\frac{1}{8}, \quad (-\mu, \alpha_2) = 0. \end{aligned}$
0902.0431_EQ0272	44	■0.950	`\left\{\begin{array} { l } { \widetilde { A } _ { i } (a) E _ { i } = 0 } \\ { \widetilde { A } _ { i } (a) E _ { i + 1 } = - \frac { 1 } { 2 } F _ { i } (a) } \\ { \widetilde { A } _ { i } (a) E _ { i + 2 } = \frac { 1 } { 2 } F _ { i } (a) , } \end{array} \quad \left\{\begin{array}{l} \widetilde{A}_{i}(a) F_{i}(x)=(a, x) \left(E_{i+1}-E_{i+2}\right) \\ \widetilde{A}_{i}(a) F_{i+1}(x)=\frac{1}{2} F_{i+2}(\overline{a x}) \\ \widetilde{A}_{i}(a) F_{i+2}(x)=-\frac{1}{2} F_{i+1}(\overline{x a}) . \end{array}\right.\right.`	$\left\{\begin{array} { l } { \widetilde { A } _ { i } (a) E _ { i } = 0 } \\ { \widetilde { A } _ { i } (a) E _ { i + 1 } = - \frac { 1 } { 2 } F _ { i } (a) } \\ { \widetilde { A } _ { i } (a) E _ { i + 2 } = \frac { 1 } { 2 } F _ { i } (a) , } \end{array} \right. \quad \left\{\begin{array}{l} \widetilde{A}_{i}(a) F_{i}(x)=(a, x)\left(E_{i+1}-E_{i+2}\right) \\ \widetilde{A}_{i}(a) F_{i+1}(x)=\frac{1}{2} F_{i+2}(\overline{a x}) \\ \widetilde{A}_{i}(a) F_{i+2}(x)=-\frac{1}{2} F_{i+1}(\overline{x a}). \end{array}\right.$	$\left\{\begin{array} { l } { \widetilde { A } _ { i } (a) E _ { i } = 0 } \\ { \widetilde { A } _ { i } (a) E _ { i + 1 } = - \frac { 1 } { 2 } F _ { i } (a) } \\ { \widetilde { A } _ { i } (a) E _ { i + 2 } = \frac { 1 } { 2 } F _ { i } (a) , } \end{array} \right. \quad \left\{\begin{array}{l} \widetilde{A}_{i}(a) F_{i}(x)=(a, x)(E_{i+1}-E_{i+2}) \\ \widetilde{A}_{i}(a) F_{i+1}(x)=\frac{1}{2} F_{i+2}(\overline{a x}) \\ \widetilde{A}_{i}(a) F_{i+2}(x)=-\frac{1}{2} F_{i+1}(\overline{x a}). \end{array}\right.$
0902.0431_EQ0473	78	■0.951	`\left(\phi_{1}, \phi_{2}\right)_{6}=\left(\delta_{1}, \delta_{2}\right)_{4}+\left(T_{1}, T_{2}\right),`	$\left(\phi_1, \phi_2\right)_6 = \left(\delta_1, \delta_2\right)_4 + \left(T_1, T_2\right),$	$(\phi_1, \phi_2)_6 = (\delta_1, \delta_2)_4 + (T_1, T_2),$

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0902.0431_EQ0726	120	0.951	\[\begin{aligned} & \mathfrak{a} \ni\left[\Phi(0, A, B, \nu), \Phi\left(0,0,0,-\frac{3}{2}\right)\right]= \Phi(0, A,-B, 0), \\ & \mathfrak{a} \ni\left[\Phi(0, A,-B, 0), \Phi\left(0,0, B_{1}, 0\right)\right]=\Phi \left(2 A \vee B_{1}, 0,0,\left(A, B_{1}\right)\right), \\ & \mathfrak{a} \ni\left[\Phi\left(2 A \vee B_{1}, 0,0,\left(A, B_{1}\right)\right), \Phi(\phi, 0,0,0) \right]=\Phi\left(2\left[A \vee B_{1} . \phi\right], 0,0,0\right), \end{aligned} \] \end{itemize}	$\mathfrak{a} \ni \left[\Phi(0, A, B, \nu), \Phi\left(0,0,0,-\frac{3}{2}\right)\right] = \Phi(0, A,-B, 0),$ $\mathfrak{a} \ni [\Phi(0, A,-B, 0), \Phi(0,0, B_1, 0)] = \Phi(2A \vee B_1, 0,0,(A, B_1)),$ $\mathfrak{a} \ni [\Phi(2A \vee B_1, 0,0,(A, B_1)), \Phi(\phi, 0,0,0)] = \Phi(2[A \vee B_1.\phi], 0,0,0),$	$\mathfrak{a} \ni \left[\Phi(0, A, B, \nu), \Phi\left(0,0,0,-\frac{3}{2}\right)\right] = \Phi(0, A,-B, 0),$ $\mathfrak{a} \ni [\Phi(0, A,-B, 0), \Phi(0,0, B_1, 0)] = \Phi(2A \vee B_1, 0,0,(A, B_1)),$ $\mathfrak{a} \ni [\Phi(2A \vee B_1, 0,0,(A, B_1)), \Phi(\phi, 0,0,0)] = \Phi(2[A \vee B_1.\phi], 0,0,0),$
0902.0431_EQ0323	51	0.953	B_{4}(\delta, \delta)=\operatorname{tr}\left(\left(\operatorname{ad} \widetilde{A}_{1}(1)\right)^{2} \right)=(-1) \times 7 \times 2+\left(-\frac{1}{4}\right) \times 8 \times 2=-18 .	$B_4(\delta, \delta)=\operatorname{tr}\left(\left(\operatorname{ad} \widetilde{A}_1(1)\right)^2\right)=(-1) \times 7 \times 2+\left(-\frac{1}{4}\right) \times 8 \times 2=-18.$	$B_4(\delta, \delta)=\operatorname{tr}((\operatorname{ad}\widetilde{A}_1(1))^2)=(-1) \times 7 \times 2+\left(-\frac{1}{4}\right) \times 8 \times 2=-18.$
0902.0431_EQ0161	29	0.953	\left(\alpha_{1} x\right)\left(\alpha_{2} y\right)=x y, \quad x, y \in \mathfrak{C} .	$\left(\alpha_1 x\right)\left(\alpha_2 y\right)=x y, \quad x, y \in \mathfrak{C}.$	$\left(\alpha_1 x\right)\left(\alpha_2 y\right)=x y, \quad x, y \in \mathfrak{C}.$
0902.0431_EQ0489	80	0.954	\begin{aligned} & =2\left(\phi^{\prime} A \times A, A \right)(\text { Lemma } 3.4 .3 .(1))=2\left(\phi^{\prime} A, A \times A\right)=-2(A, \phi(A \times A)) \\ & =-2(\phi,(A \times A) \vee A)_{6} . \end{aligned}	$=2\left(\phi^{\prime} A \times A, A\right)(\text{ Lemma } 3.4.3.(1))=2\left(\phi^{\prime} A, A \times A\right)=-2(A, \phi(A \times A))$ $=-2(\phi,(A \times A) \vee A)_6.$	$=2(\phi^{\prime} A \times A, A)\ (\text{Lemma } 3.4.3.(1))\ =2(\phi^{\prime} A, A \times A)=-2(A, \phi(A \times A))$ $=-2(\phi,(A \times A) \vee A)_6.$
0902.0431_EQ0178	31	0.954	(a x \bar{a})(a y \bar{a})=a(x y) \bar{a}, \quad x, y \in \mathfrak{C} .	$(a x \bar{a})(a y \bar{a})=a(x y) \bar{a}, \quad x, y \in \mathfrak{C}.$	$(a x \bar{a})(a y \bar{a})=a(x y) \bar{a}, \quad x, y \in \mathfrak{C}.$
0902.0431_EQ0343	55	0.954	B_{4}\left(H, H^{\prime}\right)=18 \sum_{k=0}^{3} \lambda_{k} \lambda_{k}{ }^{\prime}, \quad H= \sum_{k=0}^{3} \lambda_{k} H_{k}, H^{\prime}= \sum_{k=0}^{3} \lambda_{k}{ }^{\prime} H_{k} \in \mathfrak{h}_{\boldsymbol{R}} .	$B_4\left(H, H^{\prime}\right)=18 \sum_{k=0}^{3} \lambda_k \lambda_k{}^{\prime}, \quad H=\sum_{k=0}^{3} \lambda_k H_k, H^{\prime}=\sum_{k=0}^{3} \lambda_k{}^{\prime} H_k \in \mathfrak{h}_{\boldsymbol{R}}.$	$B_4(H, H^{\prime})=18 \sum_{k=0}^{3} \lambda_k \lambda_k{}^{\prime}, \quad H=\sum_{k=0}^{3} \lambda_k H_k, H^{\prime}=\sum_{k=0}^{3} \lambda_k{}^{\prime} H_k \in \mathfrak{h}_{\boldsymbol{R}}.$
0902.0431_EQ0495	81	0.956	\begin{aligned} & R\left(\sum_{k=1}^{3}\left(\left(\sigma_{i k} x_{i k}\right) y_{k i}+\bar{y}_{k i} \left(\overline{\sigma_{i k} x_{i k}}\right)\right)+ \sum_{k=1}^{3}\left(x_{i k}\left(\sigma_{k i} y_{k i} \right)+\left(\overline{\sigma_{k i} y_{k i}}\right) \bar{x}_{i k}\right)\right) \\ & \quad=2 R\left(\sum_{k} \left(\left(\sigma_{i k} x_{i k}\right) y_{k i}+x_{i k}\left(\sigma_{k i} y_{k i} \right)\right)\right) \\ & \quad=2 \sum_{k}\left(\left(\sigma_{i k} x_{i k}, \bar{y}_{k i}\right)+\left(x_{i k}, \overline{\sigma_{k i} y_{k i}}\right)\right) \\ & \quad=2 \sum_{k}\left(\left(x_{i k},-\sigma_{i k} \bar{y}_{k i}\right)+\left(x_{i k}, \sigma_{i k} \bar{y}_{k i}\right)\right)=0 . \end{aligned}	$R\left(\sum_{k=1}^{3}\left(\left(\sigma_{ik} x_{ik}\right) y_{ki}+\bar{y}_{ki}\left(\overline{\sigma_{ik} x_{ik}}\right)\right)+\sum_{k=1}^{3}\left(x_{ik}\left(\sigma_{ki} y_{ki}\right)+\left(\overline{\sigma_{ki} y_{ki}}\right) \bar{x}_{ik}\right)\right)$ $=2R\left(\sum_k\left(\left(\sigma_{ik} x_{ik}\right) y_{ki}+x_{ik}\left(\sigma_{ki} y_{ki}\right)\right)\right)$ $=2\sum_k\left(\left(\sigma_{ik} x_{ik}, \bar{y}_{ki}\right)+\left(x_{ik}, \overline{\sigma_{ki} y_{ki}}\right)\right)$ $=2\sum_k\left(\left(x_{ik},-\sigma_{ik} \bar{y}_{ki}\right)+\left(x_{ik}, \sigma_{ik} \bar{y}_{ki}\right)\right)=0.$	$R(\sum_{k=1}^{3}((\sigma_{ik} x_{ik}) y_{ki}+\overline{y}_{ki}(\overline{\sigma_{ik} x_{ik}}))+\sum_{k=1}^{3}(x_{ik}(\sigma_{ki} y_{ki})+(\overline{\sigma_{ki} y_{ki}})\overline{x}_{ik}))$ $=2R(\sum_k((\sigma_{ik} x_{ik}) y_{ki}+x_{ik}(\sigma_{ki} y_{ki})))$ $=2\sum_k((\sigma_{ik} x_{ik}, \overline{y}_{ki})+(x_{ik}, \overline{\sigma_{ki} y_{ki}}))$ $=2\sum_k((x_{ik},-\sigma_{ik} \overline{y}_{ki})+(x_{ik}, \sigma_{ik} \overline{y}_{ki}))=0.$

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0902.0431_EQ0226	38	0.957	`\left\{\begin{array} { l } { E _ { i } \times E _ { i } = 0 } \\ { E _ { i } \times F _ { i } (x) = - \frac { 1 } { 2 } F _ { i } (x) } \\ { F _ { i } (x) \times F _ { i } (y) = - (x , y) E _ { i } , } \end{array} \left\{ \begin{array}{l} E_{i} \times E_{i+1}=\frac{1}{2} E_{i+2} \\ E_{i} \times F_{j}(x)=0, \quad i \neq j \\ F_{i}(x) \times F_{i+1}(y)=\frac{1}{2} F_{i+2}(\overline{x y}), \end{array}\right.\right.`	$\left\{\begin{array} { l } { E _ { i } \times E _ { i } = 0 } \\ { E _ { i } \times F _ { i } (x) = - \frac { 1 } { 2 } F _ { i } (x) } \\ { F _ { i } (x) \times F _ { i } (y) = - (x , y) E _ { i } , } \end{array} \left\{\begin{array}{l} E_{i} \times E_{i+1}=\frac{1}{2} E_{i+2} \\ E_{i} \times F_{j}(x)=0, \quad i \neq j \\ F_{i}(x) \times F_{i+1}(y)=\frac{1}{2} F_{i+2}(\overline{x y}), \end{array}\right.\right.$	$\left\{\begin{array} { l } { E _ { i } \times E _ { i } = 0 } \\ { E _ { i } \times F _ { i } (x) = - \frac { 1 } { 2 } F _ { i } (x) } \\ { F _ { i } (x) \times F _ { i } (y) = - (x , y) E _ { i } , } \end{array} \left\{\begin{array} { l } { E _ { i } \times E _ { i+1 } = \frac { 1 } { 2 } E _ { i+2 } } \\ { E _ { i } \times F _ { j } (x) = 0 , \quad i \neq j } \\ { F _ { i } (x) \times F _ { i+1 } (y) = \frac { 1 } { 2 } F _ { i+2 } (\overline { x y }) , } \end{array}\right.\right.$
0902.0431_EQ0862	143	0.957	`\begin{aligned} & \alpha(t)\left(\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array} \right),\left(\begin{array}{ccc} \eta_{1} & y_{3} & \bar{y}_{2} \\ \bar{y}_{3} & \eta_{2} & y_{1} \\ y_{2} & \bar{y}_{1} & \eta_{3} \end{array}\right), \xi, \eta\right) \\ & =\left(\left(\begin{array}{ccc} e^{2 i t} \xi_{1} & e^{i t} x_{3} & e^{i t} \bar{x}_{2} \\ e^{i t} \bar{x}_{3} & \xi_{2} & x_{1} \\ e^{i t} x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right),\left(\begin{array}{ccc} e^{-2 i t} \eta_{1} & e^{-i t} y_{3} & e^{-i t} \bar{y}_{2} \\ e^{-i t} \bar{y}_{3} & \eta_{2} & y_{1} \\ e^{-i t} y_{2} & \bar{y}_{1} & \eta_{3} \end{array}\right), e^{-2 i t} \xi, e^{2 i t} \eta \right), \end{aligned}`	$\begin{aligned} & \alpha(t)\left(\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array} \right),\left(\begin{array}{ccc} \eta_{1} & y_{3} & \bar{y}_{2} \\ \bar{y}_{3} & \eta_{2} & y_{1} \\ y_{2} & \bar{y}_{1} & \eta_{3} \end{array}\right), \xi, \eta\right) \\ & =\left(\left(\begin{array}{ccc} e^{2 i t} \xi_{1} & e^{i t} x_{3} & e^{i t} \bar{x}_{2} \\ e^{i t} \bar{x}_{3} & \xi_{2} & x_{1} \\ e^{i t} x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right),\left(\begin{array}{ccc} e^{-2 i t} \eta_{1} & e^{-i t} y_{3} & e^{-i t} \bar{y}_{2} \\ e^{-i t} \bar{y}_{3} & \eta_{2} & y_{1} \\ e^{-i t} y_{2} & \bar{y}_{1} & \eta_{3} \end{array}\right), e^{-2 i t} \xi, e^{2 i t} \eta \right), \end{aligned}$	$\begin{aligned} & \alpha(t)\left(\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array} \right),\left(\begin{array}{ccc} \eta_{1} & y_{3} & \bar{y}_{2} \\ \bar{y}_{3} & \eta_{2} & y_{1} \\ y_{2} & \bar{y}_{1} & \eta_{3} \end{array}\right), \xi, \eta\right) \\ & =\left(\left(\begin{array}{ccc} e^{2 i t} \xi_{1} & e^{i t} x_{3} & e^{i t} \bar{x}_{2} \\ e^{i t} \bar{x}_{3} & \xi_{2} & x_{1} \\ e^{i t} x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right),\left(\begin{array}{ccc} e^{-2 i t} \eta_{1} & e^{-i t} y_{3} & e^{-i t} \bar{y}_{2} \\ e^{-i t} \bar{y}_{3} & \eta_{2} & y_{1} \\ e^{-i t} y_{2} & \bar{y}_{1} & \eta_{3} \end{array}\right), e^{-2 i t} \xi, e^{2 i t} \eta \right), \end{aligned}$
0902.0431_EQ0216	36	0.960	`X=X(\xi, x)=\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right), \quad \xi_{i} \in \boldsymbol{R}, x_{i} \in \mathfrak{C} .`	$X=X(\xi, x)=\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right), \quad \xi_{i} \in \boldsymbol{R}, x_{i} \in \mathfrak{C} .$	$X=X(\xi, x)=\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right), \quad \xi_{i} \in \boldsymbol{R}, x_{i} \in \mathfrak{C} .$
0902.0431_EQ0164	29	0.960	`\left(\alpha_{1} x\right)\left(\alpha_{2} y\right)= \overline{\alpha_{3}(\overline{x y})}, \quad x, y \in \mathfrak{C}`	$\left(\alpha_{1} x\right)\left(\alpha_{2} y\right)=\overline{\alpha_{3}(\overline{x y})}, \quad x, y \in \mathfrak{C}$	$\left(\alpha_{1} x\right)\left(\alpha_{2} y\right) = \overline{\alpha_{3}(\overline{x y})}, \quad x, y \in \mathfrak{C}$
0902.0431_EQ0656	108	0.960	`\begin{aligned} \langle\alpha X, \alpha M\rangle & =0= \langle X, M\rangle, \\ \langle\alpha M, \alpha N\rangle & =(\tau \alpha M, \alpha N)=\left(P \tau M h(A, B)^{*}, P N \tau h(A, B)^{*}\right) \\ & =(\tau M, N)=\langle M, N\rangle, \end{aligned}`	$\begin{aligned} \langle\alpha X, \alpha M\rangle & =0= \langle X, M\rangle, \\ \langle\alpha M, \alpha N\rangle & =(\tau \alpha M, \alpha N)=\left(P \tau M h(A, B)^{*}, P N \tau h(A, B)^{*}\right) \\ & =(\tau M, N)=\langle M, N\rangle, \end{aligned}$	$\begin{aligned} \langle\alpha X, \alpha M\rangle & =0= \langle X, M\rangle, \\ \langle\alpha M, \alpha N\rangle & =(\tau \alpha M, \alpha N)=\left(P \tau M h(A, B)^{*}, P N \tau h(A, B)^{*}\right) \\ & =(\tau M, N)=\langle M, N\rangle, \end{aligned}$
0902.0431_EQ1197	201	0.960	`\begin{aligned} & {\left[(C, 0),\left(C, D, g_{1}, g_{2}, g_{-2}, g_{-1}\right)\right]} \\ & \quad=\left(0,0, \left[C, g_{1}\right],\left[C, g_{2}\right],\left[C, g_{-2}\right],\left[C, g_{-1}\right]\right) \in \mathfrak{q} \cap \mathfrak{a}=\{0\} \end{aligned}`	$\begin{aligned} & {\left[(C, 0),\left(C, D, g_{1}, g_{2}, g_{-2}, g_{-1}\right)\right]} \\ & \quad=\left(0,0, \left[C, g_{1}\right],\left[C, g_{2}\right],\left[C, g_{-2}\right],\left[C, g_{-1}\right]\right) \in \mathfrak{q} \cap \mathfrak{a}=\{0\} \end{aligned}$	$\begin{aligned} & {\left[(C, 0),\left(C, D, g_{1}, g_{2}, g_{-2}, g_{-1}\right)\right]} \\ & \quad=\left(0,0, \left[C, g_{1}\right],\left[C, g_{2}\right],\left[C, g_{-2}\right],\left[C, g_{-1}\right]\right) \in \mathfrak{q} \cap \mathfrak{a}=\{0\} \end{aligned}$

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0902.0431_EQ0465	77	■0.962	`\begin{aligned} A & \circ(B \circ X)+B \circ(X \circ A)+X \circ(A \circ B)-\operatorname{tr}(A) B \circ X-\operatorname{tr}(B) A \circ X \\ & -\operatorname{tr}(X) A \circ B+\frac{1}{2}(\operatorname{tr}(A) \operatorname{tr}(B) X+\operatorname{tr}(B) \operatorname{tr}(X) A+\operatorname{tr}(X) \operatorname{tr}(A) B) \\ & -\frac{1}{2}((A, B) X+(B, X) A+(X, A) B)=(A, B, X) E . \end{aligned}`	$\begin{aligned} A & \circ(B \circ X)+B \circ(X \circ A)+X \circ(A \circ B)-\operatorname{tr}(A) B \circ X-\operatorname{tr}(B) A \circ X \\ & -\operatorname{tr}(X) A \circ B+\frac{1}{2}(\operatorname{tr}(A) \operatorname{tr}(B) X+\operatorname{tr}(B) \operatorname{tr}(X) A+\operatorname{tr}(X) \operatorname{tr}(A) B) \\ & -\frac{1}{2}((A, B) X+(B, X) A+(X, A) B)=(A, B, X) E . \end{aligned}$	$\begin{aligned} A & \circ(B \circ X)+B \circ(X \circ A)+X \circ(A \circ B)-\operatorname{tr}(A) B \circ X-\operatorname{tr}(B) A \circ X \\ & -\operatorname{tr}(X) A \circ B+\frac{1}{2}(\operatorname{tr}(A) \operatorname{tr}(B) X+\operatorname{tr}(B) \operatorname{tr}(X) A+\operatorname{tr}(X) \operatorname{tr}(A) B) \\ & -\frac{1}{2}((A, B) X+(B, X) A+(X, A) B)=(A, B, X) E . \end{aligned}$
0902.0431_EQ0076	16	■0.963	`\mathfrak{g}_{2}=\mathfrak{s} \mathfrak{u}(3) \oplus \mathfrak{S} .`	$\mathfrak{g}_{2}=\mathfrak{s} \mathfrak{u}(3) \oplus \mathfrak{S} .$	$\mathfrak{g}_{2}=\mathfrak{s} \mathfrak{u}(3) \oplus \mathfrak{S} .$
0902.0431_EQ0520	86	■0.963	`B_{6}\left(h, h^{\prime}\right)=12\left(2 \sum_{k=0}^{3} \lambda_{k} \lambda_{k}^{\prime}+\sum_{j=1}^{3} \mu_{j} \mu_{j}^{\prime}\right)`	$B_{6}\left(h, h^{\prime}\right)=12\left(2 \sum_{k=0}^{3} \lambda_{k} \lambda_{k}^{\prime}+\sum_{j=1}^{3} \mu_{j} \mu_{j}^{\prime}\right)$	$B_{6}\left(h, h^{\prime}\right)=12\left(2 \sum_{k=0}^{3} \lambda_{k} \lambda_{k}^{\prime}+\sum_{j=1}^{3} \mu_{j} \mu_{j}^{\prime}\right)$
0902.0431_EQ0898	149	■0.964	`\begin{aligned} P= & (X, Y, \xi, \eta) \\ & \xrightarrow{\chi} k\left(g X-\frac{\xi}{2} E\right) J+e_{1} k\left(g(\gamma Y)-\frac{\eta}{2} E\right) J \\ & \longrightarrow k(D) k\left(g X-\frac{\xi}{2} E\right) J+e_{1} k(D) k\left(g(\gamma Y)-\frac{\eta}{2} E\right) J \\ & +k\left(g X-\frac{\xi}{2} E\right) J^{t} k(D)+e_{1} k\left(g(\gamma Y)-\frac{\eta}{2} E\right) J^{t} k(D) \\ = & k\left(D\left(g X-\frac{\xi}{2} E\right)\right) J+e_{1} k\left(D\left(g(\gamma Y)-\frac{\eta}{2} E\right)\right) J \\ & +k\left(\left(g X-\frac{\xi}{2} E\right) D^{*}\right) J+e_{1} k\left(\left(g(\gamma Y)-\frac{\eta}{2} E\right) D^{*}\right) J \\ = & k(D(g X)+(g X) D^{*}) J+e_{1} k(D(g(\gamma Y)+(g(\gamma Y)) D^{*}) J \\ = & k(g(\varphi_{*}(D) X)) J+e_{1} k(g(\varphi_{*}(D)(\gamma Y))) J \end{aligned}`	$\begin{aligned} P= & (X, Y, \xi, \eta) \\ & \xrightarrow{\chi} k\left(g X-\frac{\xi}{2} E\right) J+e_{1} k\left(g(\gamma Y)-\frac{\eta}{2} E\right) J \\ & \longrightarrow k(D) k\left(g X-\frac{\xi}{2} E\right) J+e_{1} k(D) k\left(g(\gamma Y)-\frac{\eta}{2} E\right) J \\ & +k\left(g X-\frac{\xi}{2} E\right) J^{t} k(D)+e_{1} k\left(g(\gamma Y)-\frac{\eta}{2} E\right) J^{t} k(D) \\ = & k\left(D\left(g X-\frac{\xi}{2} E\right)\right) J+e_{1} k\left(D\left(g(\gamma Y)-\frac{\eta}{2} E\right)\right) J \\ & +k\left(\left(g X-\frac{\xi}{2} E\right) D^{*}\right) J+e_{1} k\left(\left(g(\gamma Y)-\frac{\eta}{2} E\right) D^{*}\right) J \\ = & k(D(g X)+(g X) D^{*}) J+e_{1} k(D(g(\gamma Y)+(g(\gamma Y)) D^{*}) J \\ = & k(g(\varphi_{*}(D) X)) J+e_{1} k(g(\varphi_{*}(D)(\gamma Y))) J \end{aligned}$	$\begin{aligned} P= & (X, Y, \xi, \eta) \\ & \xrightarrow{\chi} k\left(g X-\frac{\xi}{2} E\right) J+e_{1} k\left(g(\gamma Y)-\frac{\eta}{2} E\right) J \\ & \longrightarrow k(D) k\left(g X-\frac{\xi}{2} E\right) J+e_{1} k(D) k\left(g(\gamma Y)-\frac{\eta}{2} E\right) J \\ & +k\left(g X-\frac{\xi}{2} E\right) J^{t} k(D)+e_{1} k\left(g(\gamma Y)-\frac{\eta}{2} E\right) J^{t} k(D) \\ = & k\left(D\left(g X-\frac{\xi}{2} E\right)\right) J+e_{1} k\left(D\left(g(\gamma Y)-\frac{\eta}{2} E\right)\right) J \\ & +k\left(\left(g X-\frac{\xi}{2} E\right) D^{*}\right) J+e_{1} k\left(\left(g(\gamma Y)-\frac{\eta}{2} E\right) D^{*}\right) J \\ = & k(D(g X)+(g X) D^{*}) J+e_{1} k(D(g(\gamma Y)+(g(\gamma Y)) D^{*}) J \\ = & k(g(\varphi_{*}(D) X)) J+e_{1} k(g(\varphi_{*}(D)(\gamma Y))) J \end{aligned}$
0902.0431_EQ0145	27	■0.964	`G_{2}=\left\{\alpha \in G_{2}^{C} \mid \tau \alpha=\alpha \tau\right\} .`	$G_{2}=\left\{\alpha \in G_{2}^{C} \mid \tau \alpha=\alpha \tau\right\} .$	$G_{2}=\left\{\alpha \in G_{2}^{C} \mid \tau \alpha=\alpha \tau\right\} .$
0902.0431_EQ1092 (2)	185	■0.964	`\begin{aligned} & \zeta[l(D), l(S) I)]=\zeta(l(D S-S \tau D) I)=\zeta\left(l\left(D S+S^{t} D\right) I\right) \\ & \quad=\Theta\left(0,2 \lambda \gamma \chi^{-1}\left(D S+S^{t} D\right), 2 \chi^{-1}\left(D S+S^{t} D\right), 0,0,0\right) \end{aligned}`	$\begin{aligned} & \zeta[l(D), l(S) I)]=\zeta(l(D S-S \tau D) I)=\zeta\left(l\left(D S+S^{t} D\right) I\right) \\ & \quad=\Theta\left(0,2 \lambda \gamma \chi^{-1}\left(D S+S^{t} D\right), 2 \chi^{-1}\left(D S+S^{t} D\right), 0,0,0\right) \end{aligned}$	$\begin{aligned} & \zeta[l(D), l(S) I)]=\zeta(l(D S-S \tau D) I)=\zeta\left(l\left(D S+S^{t} D\right) I\right) \\ & \quad=\Theta\left(0,2 \lambda \gamma \chi^{-1}\left(D S+S^{t} D\right), 2 \chi^{-1}\left(D S+S^{t} D\right), 0,0,0\right) \end{aligned}$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0494	81	0.964	`\begin{array}{lll} \sigma_{23}=\delta_{1}, & \sigma_{31}= \delta_{2}, & \sigma_{12}=\delta_{3} \\ \sigma_{32}= \kappa \delta_{1}, & \sigma_{13}=\kappa \delta_{2}, & \sigma_{21}=\kappa \delta_{3} . \end{array}`	$\begin{array}{lll} \sigma_{23}=\delta_{1}, & \sigma_{31}= \delta_{2}, & \sigma_{12}=\delta_{3} \\ \sigma_{32}= \kappa \delta_{1}, & \sigma_{13}=\kappa \delta_{2}, & \sigma_{21}=\kappa \delta_{3} . \end{array}$	$\begin{array}{lll} \sigma_{23}=\delta_{1}, & \sigma_{31}= \delta_{2}, & \sigma_{12}=\delta_{3}, \\ \sigma_{32}= \kappa \delta_{1}, & \sigma_{13}=\kappa \delta_{2}, & \sigma_{21}=\kappa \delta_{3} . \end{array}$
0902.0431_EQ0760	127	0.964	`\begin{array}{lllllll} \lambda_{0}-\frac{1}{2} \mu_{1}+ \frac{2}{3} \nu=1 & 1 & 1 & 1 & 1 & 1 & 0 \\ \lambda_{1}- \frac{1}{2} \mu_{1}+\frac{2}{3} \nu=0 & 1 & 1 & 1 & 1 & 1 & 0 \\ \lambda_{2}-\frac{1}{2} \mu_{1}+\frac{2}{3} \nu=0 & 0 & 1 & 1 & 1 & 1 & 0 \\ \lambda_{3}-\frac{1}{2} \mu_{1}+\frac{2}{3} \nu=0 & 0 & 0 & 1 & 1 & 1 & 0 \\ \lambda_{0}+\frac{1}{2} \mu_{1}-\frac{2}{3} \nu=1 & 1 & 1 & 1 & 1 & 0 & 1 \\ \lambda_{1}+\frac{1}{2} \mu_{1}- \frac{2}{3} \nu=0 & 1 & 1 & 1 & 1 & 0 & 1 \\ \lambda_{2}+ \frac{1}{2} \mu_{1}-\frac{2}{3} \nu=0 & 0 & 1 & 1 & 1 & 0 & 1 \\ \lambda_{3}+\frac{1}{2} \mu_{1}-\frac{2}{3} \nu=0 & 0 & 0 & 1 & 1 & 0 & 1 \end{array}`	$\begin{array}{lllllll} \lambda_{0}-\frac{1}{2} \mu_{1}+ \frac{2}{3} \nu=1 & 1 & 1 & 1 & 1 & 1 & 0 \\ \lambda_{1}- \frac{1}{2} \mu_{1}+\frac{2}{3} \nu=0 & 1 & 1 & 1 & 1 & 1 & 0 \\ \lambda_{2}-\frac{1}{2} \mu_{1}+\frac{2}{3} \nu=0 & 0 & 1 & 1 & 1 & 1 & 0 \\ \lambda_{3}-\frac{1}{2} \mu_{1}+\frac{2}{3} \nu=0 & 0 & 0 & 1 & 1 & 1 & 0 \\ \lambda_{0}+\frac{1}{2} \mu_{1}-\frac{2}{3} \nu=1 & 1 & 1 & 1 & 1 & 0 & 1 \\ \lambda_{1}+\frac{1}{2} \mu_{1}- \frac{2}{3} \nu=0 & 1 & 1 & 1 & 1 & 0 & 1 \\ \lambda_{2}+ \frac{1}{2} \mu_{1}-\frac{2}{3} \nu=0 & 0 & 1 & 1 & 1 & 0 & 1 \\ \lambda_{3}+\frac{1}{2} \mu_{1}-\frac{2}{3} \nu=0 & 0 & 0 & 1 & 1 & 0 & 1 \end{array}$	$\begin{array}{lllllll} \lambda_{0}-\frac{1}{2} \mu_{1}+ \frac{2}{3} \nu=1 & 1 & 1 & 1 & 1 & 1 & 0 \\ \lambda_{1}- \frac{1}{2} \mu_{1}+\frac{2}{3} \nu=0 & 1 & 1 & 1 & 1 & 1 & 0 \\ \lambda_{2}-\frac{1}{2} \mu_{1}+\frac{2}{3} \nu=0 & 0 & 1 & 1 & 1 & 1 & 0 \\ \lambda_{3}-\frac{1}{2} \mu_{1}+\frac{2}{3} \nu=0 & 0 & 0 & 1 & 1 & 1 & 0 \\ \lambda_{0}+\frac{1}{2} \mu_{1}-\frac{2}{3} \nu=1 & 1 & 1 & 1 & 1 & 0 & 1 \\ \lambda_{1}+\frac{1}{2} \mu_{1}- \frac{2}{3} \nu=0 & 1 & 1 & 1 & 1 & 0 & 1 \\ \lambda_{2}+ \frac{1}{2} \mu_{1}-\frac{2}{3} \nu=0 & 0 & 1 & 1 & 1 & 0 & 1 \\ \lambda_{3}+\frac{1}{2} \mu_{1}-\frac{2}{3} \nu=0 & 0 & 0 & 1 & 1 & 0 & 1 \end{array}$
0902.0431_EQ0433	71	0.965	`F_{4}=\left\{\alpha \in F_{4}{ }^{C} \mid \tau \alpha= \alpha \tau\right\} .`	$F_{4}=\left\{\alpha \in F_{4}{ }^{C} \mid \tau \alpha= \alpha \tau\right\} .$	$F_{4}=\left\{\alpha \in F_{4}{ }^{C} \mid \tau \alpha= \alpha \tau\right\} .$
0902.0431_EQ0713	118	0.965	`\alpha \in E_{7} \quad \text { if and only if } \quad \tau \lambda \alpha=\alpha \tau \lambda .`	$\alpha \in E_{7} \quad \text { if and only if } \quad \tau \lambda \alpha=\alpha \tau \lambda .$	$\alpha \in E_{7} \quad \text { if and only if } \quad \tau \lambda \alpha=\alpha \tau \lambda .$
0902.0431_EQ0511	84	0.965	`\begin{aligned} & {\left[h, \widetilde{F}_{31}(a) \right]=\left(h_{\delta} F_{31}(a)\right)^{\sim}+ \frac{1}{2}\left[\widetilde{H}, \widetilde{F}_{31}(a) \right]=\widetilde{F}_{31}\left(\left(\nu h_{\delta} \right) a\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1} \right) \widetilde{F}_{31}(a),} \\ & {\left[h, \widetilde{F}_{12}(a)\right]=\left(h_{\delta} F_{12}(a) \right)^{\sim}+\frac{1}{2}\left[\widetilde{H}, \widetilde{F}_{12}(a)\right]=\widetilde{F}_{12}\left(\left(\kappa \pi h_{\delta}\right) a\right)+\frac{1}{2} \left(\mu_{1}-\mu_{2}\right) \widetilde{F}_{12}(a),} \end{aligned}`	$\begin{aligned} & {\left[h, \widetilde{F}_{31}(a) \right]=\left(h_{\delta} F_{31}(a)\right)^{\sim}+ \frac{1}{2}\left[\widetilde{H}, \widetilde{F}_{31}(a) \right]=\widetilde{F}_{31}\left(\left(\nu h_{\delta} \right) a\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1} \right) \widetilde{F}_{31}(a),} \\ & {\left[h, \widetilde{F}_{12}(a)\right]=\left(h_{\delta} F_{12}(a) \right)^{\sim}+\frac{1}{2}\left[\widetilde{H}, \widetilde{F}_{12}(a)\right]=\widetilde{F}_{12}\left(\left(\kappa \pi h_{\delta}\right) a\right)+\frac{1}{2} \left(\mu_{1}-\mu_{2}\right) \widetilde{F}_{12}(a),} \end{aligned}$	$\begin{aligned} & {\left[h, \widetilde{F}_{31}(a) \right]=\left(h_{\delta} F_{31}(a)\right)^{\sim}+ \frac{1}{2}\left[\widetilde{H}, \widetilde{F}_{31}(a) \right]=\widetilde{F}_{31}\left(\left(\nu h_{\delta} \right) a\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1} \right) \widetilde{F}_{31}(a),} \\ & {\left[h, \widetilde{F}_{12}(a)\right]=\left(h_{\delta} F_{12}(a) \right)^{\sim}+\frac{1}{2}\left[\widetilde{H}, \widetilde{F}_{12}(a)\right]=\widetilde{F}_{12}\left(\left(\kappa \pi h_{\delta}\right) a\right)+\frac{1}{2} \left(\mu_{1}-\mu_{2}\right) \widetilde{F}_{12}(a),} \end{aligned}$

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0902.0431_EQ0906	151	■0.966	`\begin{gathered} \gamma \varphi(D) \gamma Y=g^{-1} \left(D(g(\gamma Y)) D^{*}\right) \quad \text { is real diagonal, } \\ \varphi(D) X=\varphi(D)\left(\frac{1}{\xi} Y \times Y\right)=\frac{1}{\xi}(\gamma \varphi(D) \gamma Y \times \gamma \varphi(D) \gamma Y) \text { is real diagonal. } \end{gathered}`	$\gamma\varphi(D)\gamma Y = g^{-1}\left(D(g(\gamma Y))D^{*}\right) \quad \text{ is real diagonal,}$ $\varphi(D)X = \varphi(D)\left(\frac{1}{\xi}Y \times Y\right) = \frac{1}{\xi}(\gamma\varphi(D)\gamma Y \times \gamma\varphi(D)\gamma Y) \text{ is real diagonal.}$	$\gamma\varphi(D)\gamma Y = g^{-1}(D(g(\gamma Y))D^{*}) \quad \text{ is real diagonal,}$ $\varphi(D)X = \varphi(D)\Big(\frac{1}{\xi}Y \times Y\Big) = \frac{1}{\xi}(\gamma\varphi(D)\gamma Y \times \gamma\varphi(D)\gamma Y) \text{ is real diagonal.}$
0902.0431_EQ0191	33	■0.966	`\widetilde{\alpha} e_{i}=b_{i}, \quad i=0,1, \cdots, 7`	$\widetilde{\alpha} e_i = b_i, \quad i = 0, 1, \cdots, 7$	$\widetilde{\alpha} e_i = b_i, \quad i = 0, 1, \cdots, 7$
0902.0431_EQ0614	102	■0.967	`\begin{aligned} g X \circ g Y & =g(\gamma(X \times Y))+\frac{1}{4}(\gamma X, Y) E, \quad X, Y \in \mathfrak{J}^{C} \\ (g X, g Y) & =(\gamma X, Y) \end{aligned}`	$gX \circ gY = g(\gamma(X \times Y)) + \frac{1}{4}(\gamma X, Y)E, \quad X, Y \in \mathfrak{J}^{C}$ $(gX, gY) = (\gamma X, Y)$	$gX \circ gY = g(\gamma(X \times Y)) + \frac{1}{4}(\gamma X, Y)E, \quad X, Y \in \mathfrak{J}^{C}.$ $(gX, gY) = (\gamma X, Y),$
0902.0431_EQ0730	120	■0.969	`\[ W \ni \Phi\left(0,0, X_{1}, 0\right)(X, 0,0,3 \eta)=\left(0,0,0,\left(X_{1}, X\right)\right), \] \end{itemize}`	$W \ni \Phi\left(0,0,X_1,0\right)\left(X,0,0,3\eta\right) = \left(0,0,0,\left(X_1,X\right)\right),$	$W \ni \Phi(0,0,X_1,0)(X,0,0,3\eta) = (0,0,0,(X_1,X)),$
0902.0431_EQ1004	167	■0.969	`\begin{aligned} & \left\langle R_{1}, R_{2}\right\rangle \\ & =\left(\tau \lambda \Phi_{1} \lambda^{-1} \tau, \Phi_{2}\right)_{7}+\left\langle P_{1}, P_{2}\right\rangle+\left\langle Q_{1}, Q_{2}\right\rangle+8\left(\tau r_{1}\right) r_{2}+4\left(\tau s_{1}\right) s_{2}+4\left(\tau t_{1}\right) t_{2} . \end{aligned}`	$\left\langle R_1, R_2\right\rangle$ $= \left(\tau\lambda\Phi_1\lambda^{-1}\tau, \Phi_2\right)_7 + \left\langle P_1, P_2\right\rangle + \left\langle Q_1, Q_2\right\rangle + 8\left(\tau r_1\right) r_2 + 4\left(\tau s_1\right) s_2 + 4\left(\tau t_1\right) t_2.$	$\left\langle R_1, R_2\right\rangle$ $= (\tau\lambda\Phi_1\lambda^{-1}\tau, \Phi_2)_7 + \langle P_1, P_2\rangle + \langle Q_1, Q_2\rangle + 8(\tau r_1)r_2 + 4(\tau s_1)s_2 + 4(\tau t_1)t_2.$

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0902.0431_EQ0595	99	0.969	\begin{aligned} 2\left\langle\tau^{t}\right. & \varphi(p, A) \tau(M+\boldsymbol{a}), N+\boldsymbol{b} \rangle \quad M+\boldsymbol{a}, N+\boldsymbol{b} \in \mathfrak{J}^{C} \\ & =2\langle M+\boldsymbol{a}, \varphi(p, A)(N+\boldsymbol{b})\rangle \\ & =2 \left\langle M+\boldsymbol{a}, k_{J}{ }^{-1}\left(A \left(k_{J}(N)\right)^{t} A\right)+p \boldsymbol{b} k^{-1}\left(\tau^{t} A\right)\right\rangle \\ & =2\left\langle M, k_{J}{ }^{-1}\left(A\left(k_{J}(N)\right)^{t} A\right)\right\rangle+4\left\langle\boldsymbol{a}, p \boldsymbol{b} k^{-1}\left(\tau^{t} A\right)\right\rangle \\ & =\left\langle k_{J} M, A\left(k_{J}(N)\right)^{t} A\right\rangle+2\left\langle k(\bar{p} \boldsymbol{a}),(k \boldsymbol{b}) \tau^{t} A\right\rangle \\ & =\left\langle\tau^{t} A\left(k_{J}(M)\right) \tau A, k_{J}(N)\right\rangle+2\langle k(\bar{p} \boldsymbol{a}) A, k \boldsymbol{b}\rangle \\ & =2\left\langle k_{J}{ }^{-1}\left(\tau^{t} A\left(k_{J}(M)\right) \tau A\right), N\right\rangle+4\left\langle\bar{p} \boldsymbol{a} k^{-1}(A), \boldsymbol{b}\right\rangle \\ & =2\left\langle k_{J}{ }^{-1}\left(\tau^{t} A\left(k_{J}(M)\right) \tau A+\bar{p} \boldsymbol{a} k^{-1}(A)\right), N+\boldsymbol{b}\right\rangle \\ & =2\left\langle\varphi \left(\bar{p}, \tau^{t} A\right)(M+\boldsymbol{a}), N+\boldsymbol{b}\right\rangle, \end{aligned}	$2 \left\langle\tau^{t} \varphi(p, A)\tau(M+\boldsymbol{a}), N+\boldsymbol{b}\right\rangle \quad M+\boldsymbol{a}, N+\boldsymbol{b} \in \mathfrak{J}^{C}$ $= 2\langle M+\boldsymbol{a}, \varphi(p, A)(N+\boldsymbol{b})\rangle$ $= 2 \left\langle M+\boldsymbol{a}, k_{J}{}^{-1}\left(A \left(k_{J}(N)\right)^{t} A\right)+p \boldsymbol{b} k^{-1}\left(\tau^{t} A\right)\right\rangle$ $= 2\left\langle M, k_{J}{}^{-1}\left(A\left(k_{J}(N)\right)^{t} A\right)\right\rangle+4\left\langle\boldsymbol{a}, p \boldsymbol{b} k^{-1}\left(\tau^{t} A\right)\right\rangle$ $= \left\langle k_{J} M, A\left(k_{J}(N)\right)^{t} A\right\rangle+2\left\langle k(\bar{p} \boldsymbol{a}),(k \boldsymbol{b}) \tau^{t} A\right\rangle$ $= \left\langle\tau^{t} A\left(k_{J}(M)\right) \tau A, k_{J}(N)\right\rangle+2\langle k(\bar{p} \boldsymbol{a}) A, k \boldsymbol{b}\rangle$ $= 2\left\langle k_{J}{}^{-1}\left(\tau^{t} A\left(k_{J}(M)\right) \tau A\right), N\right\rangle+4\left\langle\bar{p} \boldsymbol{a} k^{-1}(A), \boldsymbol{b}\right\rangle$ $= 2\left\langle k_{J}{}^{-1}\left(\tau^{t} A\left(k_{J}(M)\right) \tau A+\bar{p} \boldsymbol{a} k^{-1}(A)\right), N+\boldsymbol{b}\right\rangle$ $= 2\left\langle\varphi \left(\bar{p}, \tau^{t} A\right)(M+\boldsymbol{a}), N+\boldsymbol{b}\right\rangle,$	$2\langle\tau^{t}\varphi(p, A)\tau(M+\boldsymbol{a}), N+\boldsymbol{b}\rangle \qquad M+\boldsymbol{a}, N+\boldsymbol{b} \in \mathfrak{J}^{C}$ $= 2\langle M+\boldsymbol{a}, \varphi(p, A)(N+\boldsymbol{b})\rangle$ $= 2\langle M+\boldsymbol{a}, k_{J}{}^{-1}(A(k_{J}(N))\,{}^{t}A)+p\boldsymbol{b}k^{-1}(\tau\,{}^{t}A)\rangle$ $= 2\langle M, k_{J}{}^{-1}(A(k_{J}(N))\,{}^{t}A)\rangle+4\langle\boldsymbol{a}, p\boldsymbol{b}k^{-1}(\tau\,{}^{t}A)\rangle$ $= \langle k_{J}M, A(k_{J}(N))\,{}^{t}A\rangle+2\langle k(\overline{p}\boldsymbol{a}), (k\boldsymbol{b})\tau\,{}^{t}A\rangle$ $= \langle\tau\,{}^{t}A(k_{J}(M))\tau A, k_{J}(N)\rangle+2\langle k(\overline{p}\boldsymbol{a})A, k\boldsymbol{b}\rangle$ $= 2\langle k_{J}{}^{-1}(\tau\,{}^{t}A(k_{J}(M))\tau A), N\rangle+4\langle\overline{p}\boldsymbol{a}k^{-1}(A), \boldsymbol{b}\rangle$ $= 2\langle k_{J}{}^{-1}(\tau\,{}^{t}A(k_{J}(M))\tau A+\overline{p}\boldsymbol{a}k^{-1}(A)), N+\boldsymbol{b}\rangle$ $= 2\langle\varphi(\overline{p}, \tau\,{}^{t}A)(M+\boldsymbol{a}), N+\boldsymbol{b}\rangle,$
0902.0431_EQ0253	41	0.969	O(27)=O(\mathfrak{J})=\left\{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}(\mathfrak{J}) \mid(\alpha X, \alpha Y)=(X, Y)\right\} \quad \text { (Lemma 2.2.4.(2)). }	$O(27)=O(\mathfrak{J})=\left\{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}(\mathfrak{J}) \mid(\alpha X, \alpha Y)=(X, Y)\right\} \quad$ (Lemma 2.2.4.(2)).	$O(27)=O(\mathfrak{J})=\left\{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}(\mathfrak{J}) \mid(\alpha X, \alpha Y)=(X, Y)\right\}$ (Lemma 2.2.4.(2)).
0902.0431_EQ0997	166	0.970	(R \times R) R_{1}=\Theta(R)^{2} R_{1}+\frac{1}{30} B_{8}\left(R, R_{1}\right) R, \quad R_{1} \in \mathfrak{e}_{8}^{C},	$(R \times R) R_{1}=\Theta(R)^{2} R_{1}+\frac{1}{30} B_{8}\left(R, R_{1}\right) R, \quad R_{1} \in \mathfrak{e}_{8}^{C},$	$(R \times R) R_{1}=\Theta(R)^{2} R_{1}+\frac{1}{30} B_{8}(R, R_{1}) R, \quad R_{1} \in \mathfrak{e}_{8}{}^{C},$

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0902.0431_EQ1016	170	0.971	`\begin{gathered} \pm \frac{1}{2}\left(\quad \lambda_{0}+ \lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{2}+\frac{1}{3} \nu\right) \pm r, \\ \pm \frac{1}{2}\left(\quad \lambda_{0}+\lambda_{1}- \lambda_{2}+\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{2}+\frac{1}{3} \nu\right) \pm r, \\ \pm \frac{1}{2} \left(\quad \lambda_{0}+\lambda_{1}+\lambda_{2}+ \lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{3}+ \frac{1}{3} \nu\right) \pm r \\ \pm \frac{1}{2}\left(\quad \lambda_{0}+\lambda_{1}-\lambda_{2}-\lambda_{3} \right) \pm\left(\frac{1}{2} \mu_{3}+\frac{1}{3} \nu \right) \pm r, \\ \pm \frac{1}{2}\left(\quad \lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{3}+\frac{1}{3} \nu \right) \pm r, \\ \pm \frac{1}{2}\left(\quad \lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{3}+\frac{2}{3} \nu\right) \pm r, \\ \pm 2 r, \\ \pm \nu \pm r \end{gathered}`	$\begin{gathered} \pm \frac{1}{2}\left(\quad \lambda_{0}+ \lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{2}+\frac{1}{3} \nu\right) \pm r, \\ \pm \frac{1}{2}\left(\quad \lambda_{0}+\lambda_{1}- \lambda_{2}+\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{2}+\frac{1}{3} \nu\right) \pm r, \\ \pm \frac{1}{2} \left(\quad \lambda_{0}+\lambda_{1}+\lambda_{2}+ \lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{3}+ \frac{1}{3} \nu\right) \pm r \\ \pm \frac{1}{2}\left(\quad \lambda_{0}+\lambda_{1}-\lambda_{2}-\lambda_{3} \right) \pm\left(\frac{1}{2} \mu_{3}+\frac{1}{3} \nu \right) \pm r, \\ \pm \frac{1}{2}\left(\quad \lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{3}+\frac{1}{3} \nu \right) \pm r, \\ \pm \frac{1}{2}\left(\quad \lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{3}+\frac{2}{3} \nu\right) \pm r, \\ \pm 2 r, \\ \pm \nu \pm r \end{gathered}$	$\begin{gathered} \pm \frac{1}{2}\left(\quad \lambda_{0}+ \lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{2}+\frac{1}{3} \nu\right) \pm r, \\ \pm \frac{1}{2}\left(\quad \lambda_{0}+\lambda_{1}- \lambda_{2}+\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{2}+\frac{1}{3} \nu\right) \pm r, \\ \pm \frac{1}{2} \left(\quad \lambda_{0}+\lambda_{1}+\lambda_{2}+ \lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{3}+ \frac{1}{3} \nu\right) \pm r \\ \pm \frac{1}{2}\left(\quad \lambda_{0}+\lambda_{1}-\lambda_{2}-\lambda_{3} \right) \pm\left(\frac{1}{2} \mu_{3}+\frac{1}{3} \nu \right) \pm r, \\ \pm \frac{1}{2}\left(\quad \lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{3}+\frac{1}{3} \nu \right) \pm r, \\ \pm \frac{1}{2}\left(\quad \lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{3}+\frac{2}{3} \nu\right) \pm r, \\ \pm 2 r, \\ \pm \nu \pm r \end{gathered}$
0902.0431_EQ0230	38	0.971	`\begin{aligned} (\operatorname{tr}(\alpha X) & -\operatorname{tr}(X)) X^{2}+\frac{1}{2}\left(\operatorname{tr}(X)^{2}-\operatorname{tr}(\alpha X)^{2}+\operatorname{tr}\left((\alpha X)^{2}\right)-\operatorname{tr}\left(X^{2}\right)\right) X \\ & =(\operatorname{det} X-\operatorname{det}(\alpha X)) E \end{aligned}`	$\begin{aligned} (\operatorname{tr}(\alpha X) & -\operatorname{tr}(X)) X^{2}+\frac{1}{2}\left(\operatorname{tr}(X)^{2}-\operatorname{tr}(\alpha X)^{2}+\operatorname{tr}\left((\alpha X)^{2}\right)-\operatorname{tr}\left(X^{2}\right)\right) X \\ & =(\operatorname{det} X-\operatorname{det}(\alpha X)) E \end{aligned}$	$\begin{aligned} (\operatorname{tr}(\alpha X) & -\operatorname{tr}(X)) X^{2}+\frac{1}{2}\left(\operatorname{tr}(X)^{2}-\operatorname{tr}(\alpha X)^{2}+\operatorname{tr}\left((\alpha X)^{2}\right)-\operatorname{tr}\left(X^{2}\right)\right) X \\ & =(\operatorname{det} X-\operatorname{det}(\alpha X)) E . \end{aligned}$
0902.0431_EQ0944	157	0.971	`\overline{f^{-1}(A(f P))}=f^{-1}\left(\left(\overline{ \left(\mathrm{Ad} J_{3}\right) A} f \bar{P}\right) \right), \quad A \in S U(6), P \in\left(\mathfrak{P}_{ \boldsymbol{C}}\right)^{C} .`	$\overline{f^{-1}(A(f P))}=f^{-1}\left(\left(\overline{\left(\mathrm{Ad} J_{3}\right) A} f \bar{P}\right)\right), \quad A \in S U(6), P \in\left(\mathfrak{P}_{\boldsymbol{C}}\right)^{C} .$	$\overline{f^{-1}(A(f P))}=f^{-1}((\overline{(\mathrm{Ad} J_{3}) A} f \overline{P})), \quad A \in S U(6), P \in\left(\mathfrak{P}_{\boldsymbol{C}}\right)^{C} .$
0902.0431_EQ0979	163	0.974	`\mathfrak{a} \ni\left[\Phi_{1},(\Phi, P, Q, r, s, t) \right]=\left(\left[\Phi_{1}, \Phi\right], \Phi_{1} P, \Phi_{1} Q, 0,0,0\right),`	$\mathfrak{a} \ni\left[\Phi_{1},(\Phi, P, Q, r, s, t)\right]=\left(\left[\Phi_{1}, \Phi\right], \Phi_{1} P, \Phi_{1} Q, 0,0,0\right),$	$\mathfrak{a} \ni\left[\Phi_{1},(\Phi, P, Q, r, s, t)\right]=\left(\left[\Phi_{1}, \Phi\right], \Phi_{1} P, \Phi_{1} Q, 0,0,0\right),$

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0902.0431_EQ0751	124	0.975	`\begin{aligned} & {\left[\Phi\left(h_{\delta}+ \widetilde{H}, 0,0, \nu\right), \Phi\left(0, E_{j}, 0,0\right)\right]} \\ & \quad=\Phi\left(0,\left(h_{ \delta}+\widetilde{H}+\frac{2}{3} \nu\right) E_{j}, 0,0 \right)=\left(\mu_{j}+\frac{2}{3} \nu\right) \Phi\left(0, E_{j}, 0,0\right), \\ & {\left[\Phi\left(\left(h_{ \delta}+\widetilde{H}, 0,0, \nu\right), \Phi\left(0,0, E_{j}, 0\right)\right]=\Phi\left(0,0,\left(\left(h_{ \delta}+\widetilde{H}\right)^{\prime}-\frac{2}{3} \nu \right) E_{j}, 0\right)\right.} \\ & \quad=\Phi\left(0,0, \left(h_{\delta}-\widetilde{H}-\frac{2}{3} \nu\right) E_{j}, 0\right)=\left(-\mu_{j}-\frac{2}{3} \nu\right) \Phi\left(0,0, E_{j}, 0\right) . \end{aligned}`	$\left[\Phi\left(h_\delta+\widetilde{H}, 0,0, \nu\right), \Phi\left(0, E_j, 0,0\right)\right]$ $= \Phi\left(0,\left(h_\delta+\widetilde{H}+\frac{2}{3} \nu\right) E_j, 0,0\right)=\left(\mu_j+\frac{2}{3} \nu\right) \Phi\left(0, E_j, 0,0\right),$ $\left[\Phi\left(\left(h_\delta+\widetilde{H}, 0,0, \nu\right), \Phi\left(0,0, E_j, 0\right)\right]=\Phi\left(0,0,\left(\left(h_\delta+\widetilde{H}\right)^{\prime}-\frac{2}{3} \nu \right) E_j, 0\right)\right.$ $= \Phi\left(0,0, \left(h_\delta-\widetilde{H}-\frac{2}{3} \nu\right) E_j, 0\right)=\left(-\mu_j-\frac{2}{3} \nu\right) \Phi\left(0,0, E_j, 0\right) .$	$[\Phi(h_\delta+\widetilde{H}, 0,0, \nu), \Phi(0, E_j, 0,0)]$ $= \Phi\Big(0,\Big(h_\delta+\widetilde{H}+\frac{2}{3} \nu\Big) E_j, 0,0\Big)=\Big(\mu_j+\frac{2}{3} \nu\Big) \Phi(0, E_j, 0,0),$ $[\Phi((h_\delta+\widetilde{H}, 0,0, \nu), \Phi(0,0, E_j, 0)]=\Phi\Big(0,0,\Big((h_\delta+\widetilde{H})^{\prime}-\frac{2}{3} \nu\Big) E_j, 0\Big)$ $= \Phi\Big(0,0, \Big(h_\delta-\widetilde{H}-\frac{2}{3} \nu\Big) E_j, 0\Big)=\Big(-\mu_j-\frac{2}{3} \nu\Big) \Phi(0,0, E_j, 0).$
0902.0431_EQ0894	148	0.975	`\mathfrak{S}(8, \boldsymbol{C})=\left\{S \in M(8, \boldsymbol{C}) \mid{ }^{t} S=-S\right\},`	$\mathfrak{S}(8, \boldsymbol{C})=\left\{S \in M(8, \boldsymbol{C}) \mid{ }^t S=-S\right\},$	$\mathfrak{S}(8, \boldsymbol{C})=\{S \in M(8, \boldsymbol{C}) \mid{ }^t S=-S\},$
0902.0431_EQ0608	101	0.976	`\begin{aligned} \boldsymbol{H} P_{3} & =\left\{P \in \mathfrak{J}(4, \boldsymbol{H}) \mid P^{2}=P, \operatorname{tr}(P)=1\right\} \\ & =\left\{A E_{1} A^{*} \mid A \in \operatorname{Sp}(4), E_{1}= \operatorname{diag}(1,0,0,0) \in M(4, \boldsymbol{H}) \right\} . \end{aligned}`	$\boldsymbol{H} P_3=\left\{P \in \mathfrak{J}(4, \boldsymbol{H}) \mid P^2=P, \operatorname{tr}(P)=1\right\}$ $=\{A E_1 A^* \mid A \in \mathrm{Sp}(4), E_1=\mathrm{diag}(1,0,0,0) \in M(4, \boldsymbol{H})\}.$	$\boldsymbol{H} P_3 = \{P \in \mathfrak{J}(4, \boldsymbol{H}) \mid P^2=P, \operatorname{tr}(P)=1\}$ $= \Big\{A E_1 A^* \mid A \in Sp(4), E_1=\operatorname{diag}(1,0,0,0) \in M(4, \boldsymbol{H})\Big\}.$
0902.0431_EQ0813	136	0.976	`\widetilde{\iota}(\alpha)=\iota \alpha \iota^{-1}, \quad \alpha \in E_{7} .`	$\widetilde{\iota}(\alpha)=\iota \alpha \iota^{-1}, \quad \alpha \in E_7.$	$\widetilde{\iota}(\alpha)=\iota \alpha \iota^{-1}, \quad \alpha \in E_7.$
0902.0431_EQ0414	68	0.976	`M \times N=\left(\begin{array}{ccc} \boldsymbol{m}_{2} \times \boldsymbol{n}_{3} & \boldsymbol{m}_{3} \times \boldsymbol{n}_{1} & \boldsymbol{m}_{1} \times \boldsymbol{n}_{2} \\ + & + & + \\ \boldsymbol{n}_{2} \times \boldsymbol{m}_{3} & \boldsymbol{n}_{3} \times \boldsymbol{m}_{1} & \boldsymbol{n}_{1} \times \boldsymbol{m}_{2} \end{array}\right) \in M(3, C),`	$M \times N=\left(\begin{array}{ccc} \boldsymbol{m}_2 \times \boldsymbol{n}_3 & \boldsymbol{m}_3 \times \boldsymbol{n}_1 & \boldsymbol{m}_1 \times \boldsymbol{n}_2 \\ + & + & + \\ \boldsymbol{n}_2 \times \boldsymbol{m}_3 & \boldsymbol{n}_3 \times \boldsymbol{m}_1 & \boldsymbol{n}_1 \times \boldsymbol{m}_2 \end{array}\right) \in M(3, C),$	$M \times N=\begin{pmatrix} \boldsymbol{m}_2 \times \boldsymbol{n}_3 & \boldsymbol{m}_3 \times \boldsymbol{n}_1 & \boldsymbol{m}_1 \times \boldsymbol{n}_2 \\ + & + & + \\ \boldsymbol{n}_2 \times \boldsymbol{m}_3 & \boldsymbol{n}_3 \times \boldsymbol{m}_1 & \boldsymbol{n}_1 \times \boldsymbol{m}_2 \end{pmatrix} \in M(3, \boldsymbol{C}),$
0902.0431_EQ1008	167	0.976	`\begin{aligned} E_{8} & =\left\{\alpha \in E_{8}^{C} \mid\left\langle\alpha R_{1}, \alpha R_{2}\right\rangle= \left\langle R_{1}, R_{2}\right\rangle\right\} \\ & =\left\{\alpha \in E_{8}^{C} \mid \tau \widetilde{ \lambda} \alpha=\alpha \tau \widetilde{\lambda}\right \} . \end{aligned}`	$E_8=\left\{\alpha \in E_8^C \mid \langle\alpha R_1, \alpha R_2\rangle=\langle R_1, R_2\rangle\right\}$ $=\left\{\alpha \in E_8^C \mid \tau \widetilde{\lambda} \alpha=\alpha \tau \widetilde{\lambda}\right\}.$	$E_8 = \{\alpha \in {E_8}^C \mid \langle\alpha R_1, \alpha R_2\rangle=\langle R_1, R_2\rangle\}$ $= \{\alpha \in {E_8}^C \mid \tau \widetilde{\lambda} \alpha=\alpha \tau \widetilde{\lambda}\}.$
0902.0431_EQ0088	18	0.976	`B_{2}\left(D_{1}, D_{2}\right)=4 \operatorname{tr} \left(D_{1} D_{2}\right), \quad D_{i} \in \mathfrak{g}_{2}^{C} .`	$B_2\left(D_1, D_2\right)=4 \operatorname{tr}\left(D_1 D_2\right), \quad D_i \in \mathfrak{g}_2^C.$	$B_2(D_1, D_2)=4\operatorname{tr}(D_1 D_2), \quad D_i \in {\mathfrak{g}_2}^C.$

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0902.0431_EQ0669	111	0.977	`\begin{aligned} (P, Q) & =(X, Z)+(Y, W)+\xi \zeta+\eta \omega, \\ \langle P, Q\rangle & =\langle X, Z\rangle+ \langle Y, W\rangle+(\tau \xi) \zeta+(\tau \eta) \omega, \\ \{P, Q\} & =(X, W)-(Z, Y)+\xi \omega-\zeta \eta, \end{aligned}`	$(P, Q) = (X, Z)+(Y, W)+\xi \zeta+\eta \omega,$ $\langle P, Q\rangle = \langle X, Z\rangle+\langle Y, W\rangle+(\tau \xi) \zeta+(\tau \eta) \omega,$ $\{P, Q\} = (X, W)-(Z, Y)+\xi \omega-\zeta \eta,$	$(P, Q) = (X, Z)+(Y, W)+\xi \zeta+\eta \omega,$ $\langle P, Q\rangle = \langle X, Z\rangle+\langle Y, W\rangle+(\tau \xi) \zeta+(\tau \eta) \omega,$ $\{P, Q\} = (X, W)-(Z, Y)+\xi \omega-\zeta \eta,$
0902.0431_EQ0684	113	0.977	`\mathfrak{e}_{7}^{C}=\left\{\Phi(\phi, A, B, \nu) \in \operatorname{Hom}_{C}\left(\mathfrak{P}^{C}\right) \mid \phi \in \mathfrak{e}_{6}^{C}, A, B \in \mathfrak{J}^{C}, \nu \in C\right\} .`	$\mathfrak{e}_{7}^{C}=\left\{\Phi(\phi, A, B, \nu) \in \operatorname{Hom}_{C}\left(\mathfrak{P}^{C}\right) \mid \phi \in \mathfrak{e}_{6}^{C}, A, B \in \mathfrak{J}^{C}, \nu \in C\right\} .$	$\mathfrak{e}_{7}^{C}=\left\{\Phi(\phi, A, B, \nu) \in \operatorname{Hom}_{C}\left(\mathfrak{P}^{C}\right) \mid \phi \in \mathfrak{e}_{6}^{C}, A, B \in \mathfrak{J}^{C}, \nu \in C\right\}.$
0902.0431_EQ0948	157	0.979	`((X, Y, \xi, \eta),(M, N))=(X+M, Y+N, \xi, \eta) .`	$((X, Y, \xi, \eta),(M, N))=(X+M, Y+N, \xi, \eta).$	$((X, Y, \xi, \eta),(M, N))=(X+M, Y+N, \xi, \eta).$
0902.0431_EQ0094	19	0.979	`\begin{array}{ll} f_{*}(A)=\varepsilon A-\bar{ \varepsilon}^{t} A, & \varepsilon=\frac{1}{2} \left(1+i e_{1}\right) \\ \varphi_{*}(D)(a+ \boldsymbol{m})=D \boldsymbol{m}, & a+\boldsymbol{m} \in \boldsymbol{C}^{C} \oplus\left(\boldsymbol{C}^{3} \right)^{C}=\mathfrak{C}^{C} \end{array}`	$f_{*}(A)=\varepsilon A-\bar{\varepsilon}^{t} A, \qquad \varepsilon=\frac{1}{2}\left(1+i e_{1}\right)$ $\varphi_{*}(D)(a+\boldsymbol{m})=D \boldsymbol{m}, \quad a+\boldsymbol{m} \in \boldsymbol{C}^{C} \oplus\left(\boldsymbol{C}^{3}\right)^{C}=\mathfrak{C}^{C}$	$f_{*}(A)=\varepsilon A-\bar{\varepsilon}^{t} A, \qquad \varepsilon=\frac{1}{2}\left(1+i e_{1}\right),$ $\varphi_{*}(D)(a+\boldsymbol{m})=D \boldsymbol{m}, \quad a+\boldsymbol{m} \in \boldsymbol{C}^{C} \oplus\left(\boldsymbol{C}^{3}\right)^{C}=\mathfrak{C}^{C},$
0902.0431_EQ0381	63	0.979	`\begin{aligned} \alpha E_{2} & =\alpha\left(-F_{2}(1) \times F_{2}(1)\right)=-\alpha F_{2}(1) \times \alpha F_{2}(1) \\ & =-\left(F_{2}\left(x_{2}\right)+F_{3} \left(x_{3}\right)\right) \times\left(F_{2}\left(x_{2} \right)+F_{3}\left(x_{3}\right)\right) \quad\left(\text { for some } x_{2}, x_{3} \in \mathfrak{C}\right) \\ & =\left(x_{2}, x_{2}\right) E_{2}+\left(x_{3}, x_{3}\right) E_{3}-F_{1}\left(\overline{x_{2} x_{3}}\right) \in \mathfrak{J}(2, \mathfrak{C}) \end{aligned}`	$\alpha E_{2}=\alpha\left(-F_{2}(1) \times F_{2}(1)\right)=-\alpha F_{2}(1) \times \alpha F_{2}(1)$ $=-\left(F_{2}\left(x_{2}\right)+F_{3}\left(x_{3}\right)\right) \times\left(F_{2}\left(x_{2}\right)+F_{3}\left(x_{3}\right)\right) \quad\left(\text{ for some } x_{2}, x_{3} \in \mathfrak{C}\right)$ $=\left(x_{2}, x_{2}\right) E_{2}+\left(x_{3}, x_{3}\right) E_{3}-F_{1}\left(\overline{x_{2} x_{3}}\right) \in \mathfrak{J}(2, \mathfrak{C})$	$\alpha E_{2} = \alpha(-F_2(1) \times F_2(1)) = -\alpha F_2(1) \times \alpha F_2(1)$ $= -(F_2(x_2)+F_3(x_3)) \times (F_2(x_2)+F_3(x_3)) \quad (\text{for some } x_2, x_3 \in \mathfrak{C})$ $= (x_2, x_2)E_2+(x_3, x_3)E_3-F_1(\overline{x_2 x_3}) \in \mathfrak{J}(2, \mathfrak{C}).$
0902.0431_EQ1171	197	0.979	`\begin{aligned} & \exp (\operatorname{ad}(X, 0,0))(D, \boldsymbol{u}, \boldsymbol{v})=\left(\exp \left(\operatorname{ad}(X) D,(\exp X) \boldsymbol{u},\left(\exp \left(-{ }^{t} X\right)\right) \boldsymbol{v} \right)\right. \\ & \quad=\left(\operatorname{Ad}(\exp X) D,(\exp X) \boldsymbol{u},{ }^{t}(\exp X)^{-1} \boldsymbol{v}\right) \\ & \quad=\varphi(\exp X)(D, \boldsymbol{u}, \boldsymbol{v}) . \end{aligned}`	$\exp(\operatorname{ad}(X, 0,0))(D, \boldsymbol{u}, \boldsymbol{v})=\left(\exp \left(\operatorname{ad}(X) D,(\exp X) \boldsymbol{u},\left(\exp \left(-{}^{t} X\right)\right) \boldsymbol{v}\right)\right.$ $=\left(\operatorname{Ad}(\exp X) D,(\exp X) \boldsymbol{u},{}^{t}(\exp X)^{-1} \boldsymbol{v}\right)$ $=\varphi(\exp X)(D, \boldsymbol{u}, \boldsymbol{v}).$	$\exp(\operatorname{ad}(X, 0,0))(D, \boldsymbol{u}, \boldsymbol{v})=\left(\exp(\operatorname{ad}(X) D,(\exp X) \boldsymbol{u},(\exp(-{}^{t} X)) \boldsymbol{v}\right.$ $=\left(\operatorname{Ad}(\exp X) D,(\exp X) \boldsymbol{u},{}^{t}(\exp X)^{-1} \boldsymbol{v}\right)$ $=\varphi(\exp X)(D, \boldsymbol{u}, \boldsymbol{v}).$
0902.0431_EQ0632	105	0.979	`\alpha=\varphi(A) \beta=\varphi(A) \varphi(B)=\varphi(A B), \quad A B \in \operatorname{Sp}(4),`	$\alpha=\varphi(A) \beta=\varphi(A) \varphi(B)=\varphi(A B), \quad A B \in \operatorname{Sp}(4),$	$\alpha=\varphi(A) \beta=\varphi(A) \varphi(B)=\varphi(A B), \quad A B \in Sp(4),$

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0902.0431_EQ0599	100	0.980	\begin{aligned} (\alpha \boldsymbol{a})^{*}(\alpha \boldsymbol{b}) & =\left(p \boldsymbol{a} k^{-1}\left(\tau^{t} A\right)\right)^{*}\left(p \boldsymbol{b} k^{-1}\left(\tau^{t} A\right)\right) \\ & =k^{-1}(A) \boldsymbol{a}^{*} \boldsymbol{b} k^{-1}\left(\tau^{t} A\right), \\ \tau \alpha \tau\left(\boldsymbol{a}^{*} \boldsymbol{b}\right) & =\tau\left(k_{J}^{-1}\left(A \left(k_{J} \tau\left(\boldsymbol{a}^{*} \boldsymbol{b} \right)\right)^{t} A\right)\right) \\ & =-\tau k^{-1}\left(J \tau\left(A\left(k\left(\tau\left(\boldsymbol{a}^{*} \boldsymbol{b}\right)\right) \right) J^{t} A\right)\right) \\ & =-\tau k^{-1} \left(J \tau\left(A J \tau k\left(\boldsymbol{a}^{*} \boldsymbol{b}\right)^{t} A\right)\right) \\ & =-\tau k^{-1}\left(J \tau A J k\left(\boldsymbol{a}^{*} \boldsymbol{b}\right) \tau^{t} A\right) \\ & =-k^{-1}\left(A \tau k\left(\boldsymbol{a}^{*} \boldsymbol{b}\right) J^{t} A J\right)=k^{-1}(A) \boldsymbol{a}^{*} \boldsymbol{b} k^{-1}\left(\tau^{t} A\right), \\ (\alpha \boldsymbol{a})(\alpha N) & =\left(p \boldsymbol{a} k^{-1}\left(\tau^{t} A\right)\right) k_{J}^{-1}\left(A\left(k_{J}(N)\right)^{t} A\right) \\ & =-p \boldsymbol{a} k^{-1}\left(\tau^{t} A\right) k^{-1}\left(A(k(N)) J^{t} A J\right) \\ & =-p \boldsymbol{a} N k^{-1}\left(J^{t} A J\right)=p \boldsymbol{a} N \tau k^{-1}\left(\tau^{t} A\right), \\ \tau \alpha \tau(\boldsymbol{a} N) & =\tau\left(p \tau(\boldsymbol{a} N) k^{-1}\left(\tau^{t} A\right)\right)=p \boldsymbol{a} N \tau k^{-1}\left(\tau^{t} A\right) . \end{aligned}	$$\begin{aligned} (\alpha \boldsymbol{a})^{*}(\alpha \boldsymbol{b}) & =\left(p \boldsymbol{a} k^{-1}\left(\tau^{t} A\right)\right)^{*}\left(p \boldsymbol{b} k^{-1}\left(\tau^{t} A\right)\right) \\ & =k^{-1}(A) \boldsymbol{a}^{*} \boldsymbol{b} k^{-1}\left(\tau^{t} A\right), \\ \tau \alpha \tau\left(\boldsymbol{a}^{*} \boldsymbol{b}\right) & =\tau\left(k_{J}^{-1}\left(A \left(k_{J} \tau\left(\boldsymbol{a}^{*} \boldsymbol{b} \right)\right)^{t} A\right)\right) \\ & =-\tau k^{-1}\left(J \tau\left(A\left(k\left(\tau\left(\boldsymbol{a}^{*} \boldsymbol{b}\right)\right) \right) J^{t} A\right)\right) \\ & =-\tau k^{-1} \left(J \tau\left(A J \tau k\left(\boldsymbol{a}^{*} \boldsymbol{b}\right)^{t} A\right)\right) \\ & =-\tau k^{-1}\left(J \tau A J k\left(\boldsymbol{a}^{*} \boldsymbol{b}\right) \tau^{t} A\right) \\ & =-k^{-1}\left(A \tau k\left(\boldsymbol{a}^{*} \boldsymbol{b}\right) J^{t} A J\right)=k^{-1}(A) \boldsymbol{a}^{*} \boldsymbol{b} k^{-1}\left(\tau^{t} A\right), \\ (\alpha \boldsymbol{a})(\alpha N) & =\left(p \boldsymbol{a} k^{-1}\left(\tau^{t} A\right)\right) k_{J}^{-1}\left(A\left(k_{J}(N)\right)^{t} A\right) \\ & =-p \boldsymbol{a} k^{-1}\left(\tau^{t} A\right) k^{-1}\left(A(k(N)) J^{t} A J\right) \\ & =-p \boldsymbol{a} N k^{-1}\left(J^{t} A J\right)=p \boldsymbol{a} N \tau k^{-1}\left(\tau^{t} A\right), \\ \tau \alpha \tau(\boldsymbol{a} N) & =\tau\left(p \tau(\boldsymbol{a} N) k^{-1}\left(\tau^{t} A\right)\right)=p \boldsymbol{a} N \tau k^{-1}\left(\tau^{t} A\right) . \end{aligned}$$
0902.0431_EQ1089	185	0.980	\begin{aligned} \left(\mathfrak{e}_{8}\right)^{ \widetilde{\lambda} \gamma} & =\left\{\Theta \in \Theta \left(\mathfrak{e}_{8}^{C}\right) \mid \widetilde{ \lambda} \gamma \Theta=\Theta \widetilde{\lambda} \gamma\right\} \\ & =\left\{\Theta(\Phi, P, -\lambda \gamma P, 0, s,-s) \mid \Phi \in\left(\mathfrak{e}_{7}\right)^{\lambda \gamma}, P \in\left(\mathfrak{P}^{C}\right)_{\lambda \gamma}, s \in \boldsymbol{R}\right\} \end{aligned}	$$\begin{aligned} \left(\mathfrak{e}_{8}\right)^{ \widetilde{\lambda} \gamma} & =\left\{\Theta \in \Theta \left(\mathfrak{e}_{8}^{C}\right) \mid \widetilde{ \lambda} \gamma \Theta=\Theta \widetilde{\lambda} \gamma\right\} \\ & =\left\{\Theta(\Phi, P, -\lambda \gamma P, 0, s,-s) \mid \Phi \in\left(\mathfrak{e}_{7}\right)^{\lambda \gamma}, P \in\left(\mathfrak{P}^{C}\right)_{\lambda \gamma}, s \in \boldsymbol{R}\right\} \end{aligned}$$

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0902.0431_EQ0506	83	0.980	`\mathfrak{h}=\left\{\begin{array}{l|l} h=h_{\delta}+ \widetilde{H} \in \mathfrak{e}_{6}^{C} & \begin{array}{l} h_{\delta}=\sum_{k=0}^{3} \lambda_{k} H_{k}=- \sum_{k=0}^{3} \lambda_{k} i G_{k 4+k}, \lambda_{k} \in C \\ H=\sum_{j=1}^{3} \mu_{j} E_{j}, \mu_{j} \in C, \mu_{1}+\mu_{2}+\mu_{3}=0 \end{array} \end{array}\right \},`	$\mathfrak{h}=\left\{\begin{array}{l\|l} h=h_{\delta}+ \widetilde{H} \in \mathfrak{e}_{6}^{C} & \begin{array}{l} h_{\delta}=\sum_{k=0}^{3} \lambda_{k} H_{k}=- \sum_{k=0}^{3} \lambda_{k} i G_{k 4+k}, \lambda_{k} \in C \\ H=\sum_{j=1}^{3} \mu_{j} E_{j}, \mu_{j} \in C, \mu_{1}+\mu_{2}+\mu_{3}=0 \end{array} \end{array}\right \},$	$\mathfrak{h}=\left\{\begin{array}{l\|l} h=h_{\delta}+ \widetilde{H} \in \mathfrak{e}_{6}^{C} & \begin{array}{l} h_{\delta}=\sum_{k=0}^{3} \lambda_{k} H_{k}=- \sum_{k=0}^{3} \lambda_{k} i G_{k 4+k}, \lambda_{k} \in C \\ H=\sum_{j=1}^{3} \mu_{j} E_{j}, \mu_{j} \in C, \mu_{1}+\mu_{2}+\mu_{3}=0 \end{array} \end{array}\right \},$
0902.0431_EQ0831	139	0.980	`\begin{aligned} \left(E_{7}\right)^{\kappa, \mu} & =\left \{\alpha \in E_{7} \mid \kappa \alpha=\alpha \kappa, \mu \alpha=\alpha \mu\right\}, \\ \left(\left(E_{7}\right)^{ \kappa, \mu}\right)_{\left(0, E_{1}, 0,1\right)} & =\left \{\alpha \in\left(E_{7}\right)^{\kappa, \mu} \mid \alpha \left(0, E_{1}, 0,1\right)=\left(0, E_{1}, 0,1\right) \right\} . \end{aligned}`	$\begin{aligned} \left(E_{7}\right)^{\kappa, \mu} & =\left \{\alpha \in E_{7} \mid \kappa \alpha=\alpha \kappa, \mu \alpha=\alpha \mu\right\}, \\ \left(\left(E_{7}\right)^{ \kappa, \mu}\right)_{\left(0, E_{1}, 0,1\right)} & =\left \{\alpha \in\left(E_{7}\right)^{\kappa, \mu} \mid \alpha \left(0, E_{1}, 0,1\right)=\left(0, E_{1}, 0,1\right) \right\} . \end{aligned}$	$\begin{aligned} \left(E_{7}\right)^{\kappa, \mu} & =\left \{\alpha \in E_{7} \mid \kappa \alpha=\alpha \kappa, \mu \alpha=\alpha \mu\right\}, \\ \left(\left(E_{7}\right)^{ \kappa, \mu}\right)_{\left(0, E_{1}, 0,1\right)} & =\left \{\alpha \in\left(E_{7}\right)^{\kappa, \mu} \mid \alpha \left(0, E_{1}, 0,1\right)=\left(0, E_{1}, 0,1\right) \right\} . \end{aligned}$
0902.0431_EQ1132	191	0.981	`\begin{aligned} \operatorname{tr}\left(A D_{1} \tau^{t} A\left(\tau^{t}\left(A D_{2} \tau^{t} A\right)\right) \right) & =\operatorname{tr}\left(A D_{1}\left(\tau^{t} D_{2}\right) A^{-1}\right)=\operatorname{tr}\left(D_{1} \left(\tau^{t} D_{2}\right)\right), \\ \langle A \boldsymbol{X}, A \boldsymbol{Y}\rangle & =\langle \boldsymbol{X}, \boldsymbol{Y}\rangle, \end{aligned}`	$\begin{aligned} \operatorname{tr}\left(A D_{1} \tau^{t} A\left(\tau^{t}\left(A D_{2} \tau^{t} A\right)\right) \right) & =\operatorname{tr}\left(A D_{1}\left(\tau^{t} D_{2}\right) A^{-1}\right)=\operatorname{tr}\left(D_{1} \left(\tau^{t} D_{2}\right)\right), \\ \langle A \boldsymbol{X}, A \boldsymbol{Y}\rangle & =\langle \boldsymbol{X}, \boldsymbol{Y}\rangle, \end{aligned}$	$\begin{aligned} \operatorname{tr}\left(A D_{1} \tau^{t} A\left(\tau^{t}\left(A D_{2} \tau^{t} A\right)\right) \right) & =\operatorname{tr}\left(A D_{1}\left(\tau^{t} D_{2}\right) A^{-1}\right)=\operatorname{tr}\left(D_{1} \left(\tau^{t} D_{2}\right)\right), \\ \langle A \boldsymbol{X}, A \boldsymbol{Y}\rangle & =\langle \boldsymbol{X}, \boldsymbol{Y}\rangle, \end{aligned}$
0902.0431_EQ0384	64	0.981	`\begin{aligned} \alpha \sigma X & =\alpha \sigma \left(X_{1}+X_{2}\right) \quad X_{1} \in \mathfrak{J}_{ \sigma}, \quad X_{2} \in \mathfrak{J}_{-\sigma} \\ & =\alpha\left(X_{1}-X_{2}\right)=\alpha X_{1}-\alpha X_{2}= \sigma\left(\alpha X_{1}\right)+\sigma\left(\alpha X_{2} \right) \\ & =\sigma \alpha\left(X_{1}+X_{2}\right)= \sigma \alpha X, \quad X \in \mathfrak{J} \end{aligned}`	$\begin{aligned} \alpha \sigma X & =\alpha \sigma \left(X_{1}+X_{2}\right) \quad X_{1} \in \mathfrak{J}_{ \sigma}, \quad X_{2} \in \mathfrak{J}_{-\sigma} \\ & =\alpha\left(X_{1}-X_{2}\right)=\alpha X_{1}-\alpha X_{2}= \sigma\left(\alpha X_{1}\right)+\sigma\left(\alpha X_{2} \right) \\ & =\sigma \alpha\left(X_{1}+X_{2}\right)= \sigma \alpha X, \quad X \in \mathfrak{J} \end{aligned}$	$\begin{aligned} \alpha \sigma X & =\alpha \sigma \left(X_{1}+X_{2}\right) \quad X_{1} \in \mathfrak{J}_{ \sigma}, \quad X_{2} \in \mathfrak{J}_{-\sigma} \\ & =\alpha\left(X_{1}-X_{2}\right)=\alpha X_{1}-\alpha X_{2}= \sigma\left(\alpha X_{1}\right)+\sigma\left(\alpha X_{2} \right) \\ & =\sigma \alpha\left(X_{1}+X_{2}\right)= \sigma \alpha X, \quad X \in \mathfrak{J} \end{aligned}$
0902.0431_EQ0641	106	0.981	`\begin{aligned} h(a, b) & =\frac{a+b}{2}+i \frac{a-b}{2} e_{1}=\iota a+\bar{\iota} b, \\ h(A, B) & =\frac{A+B}{2}+i \frac{A-B}{2} e_{1}=\iota A+\bar{ \iota} B, \end{aligned} \quad \iota=\frac{1+i e_{1}}{2} .`	$\begin{aligned} h(a, b) & =\frac{a+b}{2}+i \frac{a-b}{2} e_{1}=\iota a+\bar{\iota} b, \\ h(A, B) & =\frac{A+B}{2}+i \frac{A-B}{2} e_{1}=\iota A+\bar{\iota} B, \end{aligned} \quad \iota=\frac{1+i e_{1}}{2} .$	$\begin{aligned} h(a, b) & =\frac{a+b}{2}+i \frac{a-b}{2} e_{1}=\iota a+\bar{\iota} b, \\ h(A, B) & =\frac{A+B}{2}+i \frac{A-B}{2} e_{1}=\iota A+\bar{\iota} B, \end{aligned} \quad \iota=\frac{1+i e_{1}}{2} .$
0902.0431_EQ0474	78	0.981	`\left(\left[\phi, \phi_{1}\right], \phi_{2}\right)_{6}+ \left(\phi_{1},\left[\phi, \phi_{2}\right]\right)_{6}=0, \quad \phi, \phi_{i} \in \mathfrak{e}_{6}^{C} .`	$\left(\left[\phi, \phi_{1}\right], \phi_{2}\right)_{6}+ \left(\phi_{1},\left[\phi, \phi_{2}\right]\right)_{6}=0, \quad \phi, \phi_{i} \in \mathfrak{e}_{6}^{C} .$	$\left(\left[\phi, \phi_{1}\right], \phi_{2}\right)_{6}+ \left(\phi_{1},\left[\phi, \phi_{2}\right]\right)_{6}=0, \quad \phi, \phi_{i} \in \mathfrak{e}_{6}^{C} .$
0902.0431_EQ1173	197	0.982	`\mathfrak{e}_{8}^{C}=\mathfrak{g}_{0} \oplus \mathfrak{g}_{1} \oplus \mathfrak{g}_{2} \oplus \mathfrak{g}_{-2} \oplus \mathfrak{g}_{-1},`	$\mathfrak{e}_{8}^{C}=\mathfrak{g}_{0} \oplus \mathfrak{g}_{1} \oplus \mathfrak{g}_{2} \oplus \mathfrak{g}_{-2} \oplus \mathfrak{g}_{-1},$	$\mathfrak{e}_{8}^{C}=\mathfrak{g}_{0} \oplus \mathfrak{g}_{1} \oplus \mathfrak{g}_{2} \oplus \mathfrak{g}_{-2} \oplus \mathfrak{g}_{-1},$

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0902.0431_EQ0932	154	■0.982	`\epsilon A=\epsilon\left(\begin{array}{cc} A_{11} & A_{12} \\ A_{21} & A_{22} \end{array}\right)=\overline{ \left(\begin{array}{cc} 0 & E \\ -E & 0 \end{array} \right)\left(\begin{array}{cc} A_{11} & A_{12} \\ A_{21} & A_{22} \end{array}\right)\left(\begin{array}{cc} 0 & E \\ -E & 0 \end{array}\right)^{-1}}=\left(\begin{array}{cc} \bar{A}_{22} & -\bar{A}_{21} \\ -\bar{A}_{12} & \bar{A}_{11} \end{array}\right),`	$\epsilon A=\epsilon\left(\begin{array}{cc} A_{11} & A_{12} \\ A_{21} & A_{22} \end{array}\right)=\overline{\left(\begin{array}{cc} 0 & E \\ -E & 0 \end{array}\right)\left(\begin{array}{cc} A_{11} & A_{12} \\ A_{21} & A_{22} \end{array}\right)\left(\begin{array}{cc} 0 & E \\ -E & 0 \end{array}\right)^{-1}}=\left(\begin{array}{cc} \bar{A}_{22} & -\bar{A}_{21} \\ -\bar{A}_{12} & \bar{A}_{11} \end{array}\right),$	$\epsilon A=\epsilon\left(\begin{array}{cc} A_{11} & A_{12} \\ A_{21} & A_{22} \end{array}\right)=\overline{\left(\begin{array}{cc} 0 & E \\ -E & 0 \end{array}\right)\left(\begin{array}{cc} A_{11} & A_{12} \\ A_{21} & A_{22} \end{array}\right)\left(\begin{array}{cc} 0 & E \\ -E & 0 \end{array}\right)^{-1}}=\left(\begin{array}{cc} \overline{A}_{22} & -\overline{A}_{21} \\ -\overline{A}_{12} & \overline{A}_{11} \end{array}\right),$
0902.0431_EQ0809	135	■0.982	`\begin{aligned} & (0,0,0,-\xi)=\lambda(0,0, \xi, 0)=\lambda \alpha(0,0,1,0) \\ & \quad=\alpha \lambda(0,0,1,0)=\alpha(0,0,0,-1)=\left(0,0,0,-\xi^{-1} \right) \end{aligned}`	$\begin{aligned} & (0,0,0,-\xi)=\lambda(0,0,\xi,0)=\lambda\alpha(0,0,1,0) \\ & \quad=\alpha\lambda(0,0,1,0)=\alpha(0,0,0,-1)=\left(0,0,0,-\xi^{-1}\right). \end{aligned}$	$\begin{aligned} & (0,0,0,-\xi)=\lambda(0,0,\xi,0)=\lambda\alpha(0,0,1,0) \\ & \quad=\alpha\lambda(0,0,1,0)=\alpha(0,0,0,-1)=\left(0,0,0,-\xi^{-1}\right). \end{aligned}$
0902.0431_EQ0886	147	■0.982	`\mathfrak{P}^{C}=\left(\mathfrak{P}^{C}\right)_{\tau \gamma} \oplus\left(\mathfrak{P}^{C}\right)_{-\tau \gamma}=\left(\mathfrak{P}^{C}\right)_{\tau \gamma} \oplus i\left(\mathfrak{P}^{C}\right)_{\tau \gamma} .`	$\mathfrak{P}^{C}=\left(\mathfrak{P}^{C}\right)_{\tau\gamma} \oplus\left(\mathfrak{P}^{C}\right)_{-\tau\gamma}=\left(\mathfrak{P}^{C}\right)_{\tau\gamma} \oplus i\left(\mathfrak{P}^{C}\right)_{\tau\gamma} .$	$\mathfrak{P}^{C}=(\mathfrak{P}^{C})_{\tau\gamma} \oplus (\mathfrak{P}^{C})_{-\tau\gamma}=(\mathfrak{P}^{C})_{\tau\gamma} \oplus i(\mathfrak{P}^{C})_{\tau\gamma}.$
0902.0431_EQ0857	142	■0.983	`\alpha_{23}(a) P \in S^{9} .`	$\alpha_{23}(a) P \in S^{9} .$	$\alpha_{23}(a) P \in S^{9}.$
0902.0431_EQ0968	161	■0.983	`\begin{aligned} E_{7(7)} & =\left\{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}\left(\mathfrak{P}^{ \prime}\right) \mid \alpha(P \times Q) \alpha^{-1}=\alpha P \times \alpha Q\right\}, \\ E_{7(-5)} & =\left\{\alpha \in \operatorname{Iso}_{C}\left(\mathfrak{P}^{C}\right) \mid \alpha(P \times Q) \alpha^{-1}=\alpha P \times \alpha Q,\langle\alpha P, \alpha Q\rangle_{\sigma}= \langle P, Q\rangle_{\sigma}\right\}, \\ E_{7(-25)} & =\left\{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}(\mathfrak{P}) \mid \alpha(P \times Q) \alpha^{-1}=\alpha P \times \alpha Q\right\} . \end{aligned}`	$\begin{aligned} E_{7(7)} & =\left\{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}\left(\mathfrak{P}^{\prime}\right) \mid \alpha(P \times Q) \alpha^{-1}=\alpha P \times \alpha Q\right\}, \\ E_{7(-5)} & =\left\{\alpha \in \operatorname{Iso}_{C}\left(\mathfrak{P}^{C}\right) \mid \alpha(P \times Q) \alpha^{-1}=\alpha P \times \alpha Q,\langle\alpha P, \alpha Q\rangle_{\sigma}=\langle P, Q\rangle_{\sigma}\right\}, \\ E_{7(-25)} & =\left\{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}(\mathfrak{P}) \mid \alpha(P \times Q) \alpha^{-1}=\alpha P \times \alpha Q\right\} . \end{aligned}$	$\begin{aligned} E_{7(7)} & =\{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}(\mathfrak{P}') \mid \alpha(P \times Q) \alpha^{-1}=\alpha P \times \alpha Q\}, \\ E_{7(-5)} & =\{\alpha \in \operatorname{Iso}_{C}(\mathfrak{P}^{C}) \mid \alpha(P \times Q) \alpha^{-1}=\alpha P \times \alpha Q,\langle\alpha P, \alpha Q\rangle_{\sigma}=\langle P, Q\rangle_{\sigma}\}, \\ E_{7(-25)} & =\{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}(\mathfrak{P}) \mid \alpha(P \times Q) \alpha^{-1}=\alpha P \times \alpha Q\}. \end{aligned}$
0902.0431_EQ0685	113	■0.984	`\left[\Phi\left(\phi_{1}, A_{1}, B_{1}, \nu_{1}\right), \Phi\left(\phi_{2}, A_{2}, B_{2}, \nu_{2}\right)\right]= \Phi(\phi, A, B, \nu),`	$\left[\Phi\left(\phi_{1}, A_{1}, B_{1}, \nu_{1}\right), \Phi\left(\phi_{2}, A_{2}, B_{2}, \nu_{2}\right)\right]=\Phi(\phi, A, B, \nu),$	$\left[\Phi(\phi_{1}, A_{1}, B_{1}, \nu_{1}), \Phi(\phi_{2}, A_{2}, B_{2}, \nu_{2})\right]=\Phi(\phi, A, B, \nu),$
0902.0431_EQ0741	122	■0.984	`\left(\Phi_{0}, \Phi_{0}\right)_{7}=-\frac{8}{3} .`	$\left(\Phi_{0}, \Phi_{0}\right)_{7}=-\frac{8}{3} .$	$(\Phi_{0}, \Phi_{0})_{7}=-\frac{8}{3}.$
0902.0431_EQ0069	15	■0.984	`\begin{gathered} (\boldsymbol{m}, \boldsymbol{n})= \frac{1}{2}\left(\boldsymbol{m}^{*} \boldsymbol{n}+ \boldsymbol{n}^{*} \boldsymbol{m}\right)=\sum_{i=1}^{3} \left(m_{i}, n_{i}\right), \quad\langle\boldsymbol{m}, \boldsymbol{n}\rangle=\sum_{i=1}^{3} m_{i} \bar{n}_{i} \\ \boldsymbol{m} \times \boldsymbol{n}=\left(\begin{array}{c} m_{2} n_{3}-n_{2} m_{3} \\ m_{3} n_{1}-n_{3} m_{1} \\ m_{1} n_{2}-n_{1} m_{2} \end{array} \right) \end{gathered}`	$\begin{gathered} (\boldsymbol{m}, \boldsymbol{n})=\frac{1}{2}\left(\boldsymbol{m}^{*} \boldsymbol{n}+\boldsymbol{n}^{*} \boldsymbol{m}\right)=\sum_{i=1}^{3}\left(m_{i}, n_{i}\right), \quad\langle\boldsymbol{m}, \boldsymbol{n}\rangle=\sum_{i=1}^{3} m_{i} \bar{n}_{i} \\ \boldsymbol{m} \times \boldsymbol{n}=\left(\begin{array}{c} m_{2} n_{3}-n_{2} m_{3} \\ m_{3} n_{1}-n_{3} m_{1} \\ m_{1} n_{2}-n_{1} m_{2} \end{array}\right) \end{gathered}$	$\begin{gathered} (\boldsymbol{m}, \boldsymbol{n})=\frac{1}{2}(\boldsymbol{m}^{*} \boldsymbol{n}+\boldsymbol{n}^{*} \boldsymbol{m})=\sum_{i=1}^{3}(m_{i}, n_{i}), \quad\langle\boldsymbol{m}, \boldsymbol{n}\rangle=\sum_{i=1}^{3} m_{i} \overline{n}_{i}, \\ \boldsymbol{m} \times \boldsymbol{n}=\left(\begin{array}{c} m_{2} n_{3}-n_{2} m_{3} \\ m_{3} n_{1}-n_{3} m_{1} \\ m_{1} n_{2}-n_{1} m_{2} \end{array}\right) \end{gathered}$

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0902.0431_EQ0123	24	0.985	`\omega_{1} \overline{\boldsymbol{m}}=w\left(\gamma_{1} \boldsymbol{m}\right)=\gamma_{1}(w \boldsymbol{m})= \overline{\omega_{1} \boldsymbol{m}}=\overline{ \omega_{1}} \overline{\boldsymbol{m}} \quad \text { for all } \boldsymbol{m} \in \boldsymbol{C}^{3},`	$\omega_1 \overline{\boldsymbol{m}}=w\left(\gamma_1 \boldsymbol{m}\right)=\gamma_1(w \boldsymbol{m})=\overline{\omega_1 \boldsymbol{m}}=\overline{\omega_1 \boldsymbol{m}} \quad \text{ for all } \boldsymbol{m} \in \boldsymbol{C}^3,$	$\omega_1 \overline{\boldsymbol{m}}=w(\gamma_1 \boldsymbol{m})=\gamma_1(w \boldsymbol{m})=\overline{\omega_1 \boldsymbol{m}}=\overline{\omega}_1 \overline{\boldsymbol{m}} \quad \text{ for all } \boldsymbol{m} \in \boldsymbol{C}^3,$
0902.0431_EQ0740	122	0.985	`B_{7}\left(\Phi_{1}, \Phi_{2}\right)=k\left(\Phi_{1}, \Phi_{2}\right)_{7}=k^{\prime} \operatorname{tr}\left( \Phi_{1} \Phi_{2}\right) .`	$B_7\left(\Phi_1, \Phi_2\right)=k\left(\Phi_1, \Phi_2\right)_7=k^{\prime} \operatorname{tr}\left(\Phi_1 \Phi_2\right) .$	$B_7(\Phi_1, \Phi_2)=k(\Phi_1, \Phi_2)_7=k^{\prime} \operatorname{tr}(\Phi_1 \Phi_2).$
0902.0431_EQ1007	167	0.985	`\begin{gathered} \sqrt{2}\left[\widetilde{E}_{1}, \widetilde{F}_{2}\left(e_{i}\right)\right], \quad \sqrt{2}\left[\widetilde{E}_{1}, \widetilde{F}_{3} \left(e_{i}\right)\right], \quad \sqrt{2}\left[\widetilde{E}_{3}, \widetilde{F}_{1}\left(e_{i} \right)\right], \quad 0 \leq i \leq 7, \\ \frac{1}{ \sqrt{2}}\left[\widetilde{F}_{1}\left(e_{i}\right), \widetilde{F}_{1}\left(e_{j}\right)\right], \quad 0 \leq i<j \leq 7 \end{gathered}`	$\begin{gathered} \sqrt{2}\left[\widetilde{E}_1, \widetilde{F}_2\left(e_i\right)\right], \quad \sqrt{2}\left[\widetilde{E}_1, \widetilde{F}_3\left(e_i\right)\right], \quad \sqrt{2}\left[\widetilde{E}_3, \widetilde{F}_1\left(e_i\right)\right], \quad 0 \leq i \leq 7, \\ \frac{1}{\sqrt{2}}\left[\widetilde{F}_1\left(e_i\right), \widetilde{F}_1\left(e_j\right)\right], \quad 0 \leq i<j \leq 7 \end{gathered}$	$\begin{gathered} \sqrt{2}[\widetilde{E}_1, \widetilde{F}_2(e_i)], \quad \sqrt{2}[\widetilde{E}_1, \widetilde{F}_3(e_i)], \quad \sqrt{2}[\widetilde{E}_3, \widetilde{F}_1(e_i)], \quad 0 \leq i \leq 7, \\ \frac{1}{\sqrt{2}}[\widetilde{F}_1(e_i), \widetilde{F}_1(e_j)], \quad 0 \leq i<j \leq 7 \end{gathered}$
0902.0431_EQ1214	204	0.985	`\operatorname{Ker} \varphi=\left\{(E, E),\left(\zeta E, \zeta^{2} E\right),\left(\zeta^{2} E, \zeta^{4} E\right), \left(\zeta^{3} E, \zeta E\right),\left(\zeta^{4} E, \zeta^{3} E\right)\right\}=\boldsymbol{Z}_{5} .`	$\operatorname{Ker} \varphi=\left\{(E, E),\left(\zeta E, \zeta^2 E\right),\left(\zeta^2 E, \zeta^4 E\right),\left(\zeta^3 E, \zeta E\right),\left(\zeta^4 E, \zeta^3 E\right)\right\}=\boldsymbol{Z}_5 .$	$\operatorname{Ker} \varphi=\{(E, E),(\zeta E, \zeta^2 E),(\zeta^2 E, \zeta^4 E),(\zeta^3 E, \zeta E),(\zeta^4 E, \zeta^3 E)\}=\boldsymbol{Z}_5.$
0902.0431_EQ0780	131	0.985	`\beta_{1}(X \times X)=\beta X \times \beta X=\tau \beta \tau(X \times X),`	$\beta_1(X \times X)=\beta X \times \beta X=\tau \beta \tau(X \times X),$	$\beta_1(X \times X)=\beta X \times \beta X=\tau \beta \tau(X \times X),$
0902.0431_EQ0152	28	0.985	`\begin{aligned} G_{2(2)} & \simeq\left(G_{2(2)} \cap O(8)\right) \times \boldsymbol{R}^{d} \\ & =\left(\left(G_{2}{ }^{C}\right)^{\tau \gamma}\right)^{\gamma} \times \boldsymbol{R}^{d}=\left(\left(G_{2}{ }^{C} \right)^{\tau}\right)^{\gamma} \times \boldsymbol{R}^{d}= \left(G_{2}\right)^{\gamma} \times \boldsymbol{R}^{d} \ \ & =(\operatorname{Sp}(1) \times \operatorname{Sp}(1)) / \boldsymbol{Z}_{2} \times \boldsymbol{R}^{d}(\text { Theorem 1.10.1 }), \quad d=8 . \end{aligned}`	$\begin{aligned} G_{2(2)} & \simeq\left(G_{2(2)} \cap O(8)\right) \times \boldsymbol{R}^d \\ & =\left(\left(G_2{}^C\right)^{\tau \gamma}\right)^{\gamma} \times \boldsymbol{R}^d=\left(\left(G_2{}^C\right)^{\tau}\right)^{\gamma} \times \boldsymbol{R}^d=\left(G_2\right)^{\gamma} \times \boldsymbol{R}^d \\ & =(\operatorname{Sp}(1) \times \operatorname{Sp}(1)) / \boldsymbol{Z}_2 \times \boldsymbol{R}^d(\text { Theorem 1.10.1 }), \quad d=8. \end{aligned}$	$\begin{aligned} G_{2(2)} & \simeq\left(G_{2(2)} \cap O(8)\right) \times \boldsymbol{R}^d \\ & =((G_2{}^C)^{\tau \gamma})^{\gamma} \times \boldsymbol{R}^d=((G_2{}^C)^{\tau})^{\gamma} \times \boldsymbol{R}^d=(G_2)^{\gamma} \times \boldsymbol{R}^d \\ & =(Sp(1) \times Sp(1)) / \boldsymbol{Z}_2 \times \boldsymbol{R}^d \text{ (Theorem 1.10.1)}, \quad d=8. \end{aligned}$

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0902.0431_EQ0529	88	0.985	`\begin{aligned} & \left\{\begin{array}{l} \eta_{1}= \xi_{1} \\ \eta_{2}=\frac{\xi_{2}-\xi_{3}}{2}+\frac{ \xi_{2}+\xi_{3}}{2} \cos |a|+i \frac{\left(a, x_{1} \right)}{|a|} \sin |a| \\ \eta_{3}=-\frac{\xi_{2}- \xi_{3}}{2}+\frac{\xi_{2}+\xi_{3}}{2} \cos |a|+i \frac{ \left(a, x_{1}\right)}{|a|} \sin |a| \end{array}\right. \\ & \left\{\begin{array}{l} y_{1}=x_{1}+i \frac{\left(\xi_{2}+\xi_{3}\right) a}{2|a|} \sin |a|-\frac{2\left(a, x_{1}\right) a}{|a|^{2}} \sin ^{2} \frac{|a|}{2} \\ y_{2}=x_{2} \cos \frac{|a|}{2}+i \frac{\overline{x_{3} a}}{|a|} \sin \frac{|a|}{2} \\ y_{3}=x_{3} \cos \frac{|a|}{2}+i \frac{\overline{a x}}{|a|} \sin \frac{|a|}{2} \end{array}\right. \end{aligned}`	$\left\{\begin{array}{l} \eta_{1}= \xi_{1} \\ \eta_{2}=\frac{\xi_{2}-\xi_{3}}{2}+\frac{ \xi_{2}+\xi_{3}}{2} \cos \\|a\|+i \frac{\left(a, x_{1} \right)}{\\|a\|} \sin \\|a\| \\ \eta_{3}=-\frac{\xi_{2}- \xi_{3}}{2}+\frac{\xi_{2}+\xi_{3}}{2} \cos \\|a\|+i \frac{ \left(a, x_{1}\right)}{\\|a\|} \sin \\|a\| \end{array}\right.$ $\left\{\begin{array}{l} y_{1}=x_{1}+i \frac{\left(\xi_{2}+\xi_{3}\right) a}{2\\|a\|} \sin \\|a\|-\frac{2\left(a, x_{1}\right) a}{\\|a\|^{2}} \sin ^{2} \frac{\\|a\|}{2} \\ y_{2}=x_{2} \cos \frac{\\|a\|}{2}+i \frac{\overline{x_{3} a}}{\\|a\|} \sin \frac{\\|a\|}{2} \\ y_{3}=x_{3} \cos \frac{\\|a\|}{2}+i \frac{\overline{a x}}{\\|a\|} \sin \frac{\\|a\|}{2} \end{array}\right.$	$\left\{\begin{array}{l} \eta_{1}= \xi_{1} \\ \eta_{2}=\frac{\xi_{2}-\xi_{3}}{2}+\frac{ \xi_{2}+\xi_{3}}{2} \cos \\|a\|+i \frac{\left(a, x_{1} \right)}{\\|a\|} \sin \\|a\| \\ \eta_{3}=-\frac{\xi_{2}- \xi_{3}}{2}+\frac{\xi_{2}+\xi_{3}}{2} \cos \\|a\|+i \frac{ \left(a, x_{1}\right)}{\\|a\|} \sin \\|a\|, \end{array}\right.$ $\left\{\begin{array}{l} y_{1}=x_{1}+i \frac{\left(\xi_{2}+\xi_{3}\right) a}{2\\|a\|} \sin \\|a\|-\frac{2\left(a, x_{1}\right) a}{\\|a\|^{2}} \sin ^{2} \frac{\\|a\|}{2} \\ y_{2}=x_{2} \cos \frac{\\|a\|}{2}+i \frac{\overline{x_{3} a}}{\\|a\|} \sin \frac{\\|a\|}{2} \\ y_{3}=x_{3} \cos \frac{\\|a\|}{2}+i \frac{\overline{a x}}{\\|a\|} \sin \frac{\\|a\|}{2} \end{array}\right.$
0902.0431_EQ0314	50	0.986	`\begin{aligned} & ([\widetilde{A}, \widetilde{B}] C, D)=(A \circ(B \circ C), D)-(B \circ(A \circ C), D) \\ & \quad=(B \circ C, A \circ D)-(A \circ C, B \circ D) \\ & \quad=(C \circ(D \circ A), B)-(D \circ(C \circ A), B)=([ \widetilde{C}, \widetilde{D}] A, B) . \end{aligned}`	$\begin{aligned} & ([\widetilde{A}, \widetilde{B}] C, D)=(A \circ(B \circ C), D)-(B \circ(A \circ C), D) \\ & \quad=(B \circ C, A \circ D)-(A \circ C, B \circ D) \\ & \quad=(C \circ(D \circ A), B)-(D \circ(C \circ A), B)=([\widetilde{C}, \widetilde{D}] A, B) . \end{aligned}$	$\begin{aligned} & ([\widetilde{A}, \widetilde{B}] C, D)=(A \circ(B \circ C), D)-(B \circ(A \circ C), D) \\ & \quad=(B \circ C, A \circ D)-(A \circ C, B \circ D) \\ & \quad=(C \circ(D \circ A), B)-(D \circ(C \circ A), B)=([\widetilde{C}, \widetilde{D}] A, B) . \end{aligned}$
0902.0431_EQ0449	73	0.986	`\[ \operatorname{dim}_{C}\left(\mathfrak{e}_{6}{ }^{C} \right)=52+26=78 . \] \end{itemize}`	$\operatorname{dim}_{C}\left(\mathfrak{e}_{6}{ }^{C} \right)=52+26=78 .$	$\operatorname{dim}_{C}\left(\mathfrak{e}_{6}{ }^{C} \right)=52+26=78 .$
0902.0431_EQ1090	185	0.986	`\zeta(l(D)+l(S) I+l(i c E))=\Theta\left(\varphi_{*} D, 2 \lambda \gamma \chi^{-1} S, 2 \chi^{-1} S, 0,2 c,-2 c \right),`	$\zeta(l(D)+l(S) I+l(i c E))=\Theta\left(\varphi_{*} D, 2 \lambda \gamma \chi^{-1} S, 2 \chi^{-1} S, 0,2 c,-2 c \right),$	$\zeta(l(D)+l(S) I+l(i c E))=\Theta(\varphi_{*} D, 2 \lambda \gamma \chi^{-1} S, 2 \chi^{-1} S, 0,2 c,-2 c),$
0902.0431_EQ0718	118	0.987	`\left\{\begin{aligned} \phi & =\left[\phi_{1}, \phi_{2} \right]-2 A_{1} \vee \tau A_{2}+2 A_{2} \vee \tau A_{1} \\ A & =\left(\phi_{1}+\frac{2}{3} \nu_{1}\right) A_{2}- \left(\phi_{2}+\frac{2}{3} \nu_{2}\right) A_{1} \\ \nu & =\left\langle A_{1}, A_{2}\right\rangle-\left\langle A_{2}, A_{1}\right\rangle . \end{aligned}\right.`	$\left\{\begin{aligned} \phi & =\left[\phi_{1}, \phi_{2} \right]-2 A_{1} \vee \tau A_{2}+2 A_{2} \vee \tau A_{1} \\ A & =\left(\phi_{1}+\frac{2}{3} \nu_{1}\right) A_{2}- \left(\phi_{2}+\frac{2}{3} \nu_{2}\right) A_{1} \\ \nu & =\left\langle A_{1}, A_{2}\right\rangle-\left\langle A_{2}, A_{1}\right\rangle . \end{aligned}\right.$	$\left\{\begin{aligned} \phi & =\left[\phi_{1}, \phi_{2} \right]-2 A_{1} \vee \tau A_{2}+2 A_{2} \vee \tau A_{1} \\ A & =\left(\phi_{1}+\frac{2}{3} \nu_{1}\right) A_{2}- \left(\phi_{2}+\frac{2}{3} \nu_{2}\right) A_{1} \\ \nu & =\left\langle A_{1}, A_{2}\right\rangle-\left\langle A_{2}, A_{1}\right\rangle . \end{aligned}\right.$
0902.0431_EQ0055	13	0.988	`\begin{aligned} \mathfrak{g}_{2} & =\left\{D \in \mathfrak{D}_{4} \mid \nu D=D, \pi D=D\right\} \\ & =\left\{D \in \mathfrak{D}_{4} \mid \lambda D=D, \lambda \in \mathfrak{S}_{3}\right\} \\ & =\left\{D \in \mathfrak{b}_{3} \mid \pi D=D\right\} . \end{aligned}`	$\begin{aligned} \mathfrak{g}_{2} & =\left\{D \in \mathfrak{D}_{4} \mid \nu D=D, \pi D=D\right\} \\ & =\left\{D \in \mathfrak{D}_{4} \mid \lambda D=D, \lambda \in \mathfrak{S}_{3}\right\} \\ & =\left\{D \in \mathfrak{b}_{3} \mid \pi D=D\right\} . \end{aligned}$	$\begin{aligned} \mathfrak{g}_{2} & =\left\{D \in \mathfrak{D}_{4} \mid \nu D=D, \pi D=D\right\} \\ & =\left\{D \in \mathfrak{D}_{4} \mid \lambda D=D, \lambda \in \mathfrak{S}_{3}\right\} \\ & =\left\{D \in \mathfrak{b}_{3} \mid \pi D=D\right\} . \end{aligned}$

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0902.0431_EQ1152	194	0.988	`\text { (ii) } \begin{aligned} & =\sum_{j, k} x_{k} \widetilde{u}_{j k} \boldsymbol{u}_{j}-(\operatorname{det} U) \boldsymbol{x}=\sum_{i, j, k} x_{k} \widetilde{u}_{j k} u_{j i} \boldsymbol{e}_{i}-(\operatorname{det} U) \boldsymbol{x} \\ & = \sum_{j, k} x_{k}(\operatorname{det} U) \delta_{k i} \boldsymbol{e}_{i}-(\operatorname{det} U) \boldsymbol{x}=0 . \end{aligned}`	$\text { (ii) } \begin{aligned} & =\sum_{j, k} x_{k} \widetilde{u}_{j k} \boldsymbol{u}_{j}-(\operatorname{det} U) \boldsymbol{x}=\sum_{i, j, k} x_{k} \widetilde{u}_{j k} u_{j i} \boldsymbol{e}_{i}-(\operatorname{det} U) \boldsymbol{x} \\ & =\sum_{j, k} x_{k}(\operatorname{det} U) \delta_{k i} \boldsymbol{e}_{i}-(\operatorname{det} U) \boldsymbol{x}=0 . \end{aligned}$	$\text { (ii) } \begin{aligned} & =\sum_{j, k} x_{k} \widetilde{u}_{j k} \boldsymbol{u}_{j}-(\operatorname{det} U) \boldsymbol{x}=\sum_{i, j, k} x_{k} \widetilde{u}_{j k} u_{j i} \boldsymbol{e}_{i}-(\operatorname{det} U) \boldsymbol{x} \\ & =\sum_{j, k} x_{k}(\operatorname{det} U) \delta_{k i} \boldsymbol{e}_{i}-(\operatorname{det} U) \boldsymbol{x}=0 . \end{aligned}$
0902.0431_EQ1022	170	0.988	`[(\Phi(h), 0,0, r, 0,0),(0,0, Q, 0,0,0)]=(0,0,(\Phi(h)-r) Q, 0,0,0),`	$[(\Phi(h), 0,0, r, 0,0),(0,0, Q, 0,0,0)]=(0,0,(\Phi(h)-r) Q, 0,0,0),$	$[(\Phi(h), 0,0, r, 0,0),(0,0, Q, 0,0,0)]=(0,0,(\Phi(h)-r) Q, 0,0,0),$
0902.0431_EQ1066	181	0.988	`\tilde{\lambda} \gamma(\Phi, P, Q,, s, t)=\left(\lambda \gamma \Phi \gamma \lambda^{-1}, \lambda \gamma Q,-\lambda \gamma P,-r,-t,-s\right) .`	$\tilde{\lambda} \gamma(\Phi, P, Q,, s, t)=\left(\lambda \gamma \Phi \gamma \lambda^{-1}, \lambda \gamma Q,-\lambda \gamma P,-r,-t,-s\right) .$	$\tilde{\lambda} \gamma(\Phi, P, Q,, s, t)=\left(\lambda \gamma \Phi \gamma \lambda^{-1}, \lambda \gamma Q,-\lambda \gamma P,-r,-t,-s\right) .$
0902.0431_EQ0033	10	0.988	`\pi L_{e_{i}}=\pi\left(2 F_{i 0}\right)=-2 \pi F_{0 i}=-2 G_{0 i}(\text { Lemma 1.3.1 })=2 G_{i 0}=T_{e_{i}},`	$\pi L_{e_{i}}=\pi\left(2 F_{i 0}\right)=-2 \pi F_{0 i}=-2 G_{0 i}(\text { Lemma 1.3.1 })=2 G_{i 0}=T_{e_{i}},$	$\pi L_{e_{i}}=\pi\left(2 F_{i 0}\right)=-2 \pi F_{0 i}=-2 G_{0 i}(\text { Lemma 1.3.1 })=2 G_{i 0}=T_{e_{i}},$
0902.0431_EQ0762	128	0.989	`\mathfrak{h}_{\boldsymbol{R}}=\left\{\Phi\left(\sum_{k=0}^{3} \lambda_{k} H_{k}+\left(\sum_{j=1}^{3} \mu_{j} E_{j}\right)^{\sim}, 0,0, \nu\right) \in \mathfrak{e}_{7}^{C} \left\lvert\, \begin{array}{l} \lambda_{k}, \nu \in \boldsymbol{R} \\ \mu_{j} \in \boldsymbol{R}, \mu_{1}+\mu_{2}+\mu_{3}=0 \end{array} \right.\right\}`	$\mathfrak{h}_{\boldsymbol{R}}=\left\{\Phi\left(\sum_{k=0}^{3} \lambda_{k} H_{k}+\left(\sum_{j=1}^{3} \mu_{j} E_{j}\right)^{\sim}, 0,0, \nu\right) \in \mathfrak{e}_{7}^{C} \left\lvert\, \begin{array}{l} \lambda_{k}, \nu \in \boldsymbol{R} \\ \mu_{j} \in \boldsymbol{R}, \mu_{1}+\mu_{2}+\mu_{3}=0 \end{array} \right.\right\}$	$\mathfrak{h}_{\boldsymbol{R}}=\left\{\Phi\left(\sum_{k=0}^{3} \lambda_{k} H_{k}+\left(\sum_{j=1}^{3} \mu_{j} E_{j}\right)^{\sim}, 0,0, \nu\right) \in \mathfrak{e}_{7}^{C} \left\lvert\, \begin{array}{l} \lambda_{k}, \nu \in \boldsymbol{R} \\ \mu_{j} \in \boldsymbol{R}, \mu_{1}+\mu_{2}+\mu_{3}=0 \end{array} \right.\right\}$
0902.0431_EQ0269	44	0.989	`\begin{aligned} ([A, X], X X) & =(A X, X X)-(X A, X X) \\ & =(A, X(X X))-(A,(X X) X) \quad(\text { Lemma 2.3.5 }) \\ & =(A,[X, X X])=(A, a E)=\frac{1}{2} \operatorname{tr}\left(A a+\bar{a} A^{*}\right) \\ & =\frac{1}{2} \operatorname{tr}(A a-a A)=\frac{1}{2}(\operatorname{tr}(A) a-a \operatorname{tr}(A))=0 . \end{aligned}`	$\begin{aligned} ([A, X], X X) & =(A X, X X)-(X A, X X) \\ & =(A, X(X X))-(A,(X X) X) \quad(\text { Lemma 2.3.5 }) \\ & =(A,[X, X X])=(A, a E)=\frac{1}{2} \operatorname{tr}\left(A a+\bar{a} A^{*}\right) \\ & =\frac{1}{2} \operatorname{tr}(A a-a A)=\frac{1}{2}(\operatorname{tr}(A) a-a \operatorname{tr}(A))=0 . \end{aligned}$	$\begin{aligned} ([A, X], X X) & =(A X, X X)-(X A, X X) \\ & =(A, X(X X))-(A,(X X) X) \quad(\text { Lemma 2.3.5 }) \\ & =(A,[X, X X])=(A, a E)=\frac{1}{2} \operatorname{tr}\left(A a+\bar{a} A^{*}\right) \\ & =\frac{1}{2} \operatorname{tr}(A a-a A)=\frac{1}{2}(\operatorname{tr}(A) a-a \operatorname{tr}(A))=0 . \end{aligned}$
0902.0431_EQ0893	148	0.989	`\left\{\begin{array}{l} \phi=\left[\phi_{1}, \phi_{2} \right]-2 A_{1} \vee \gamma A_{2}+2 A_{2} \vee \gamma A_{1}, \\ A=\phi_{1} A_{2}-\phi_{2} A_{1} . \end{array} \right.`	$\left\{\begin{array}{l} \phi=\left[\phi_{1}, \phi_{2} \right]-2 A_{1} \vee \gamma A_{2}+2 A_{2} \vee \gamma A_{1}, \\ A=\phi_{1} A_{2}-\phi_{2} A_{1} . \end{array} \right.$	$\left\{\begin{array}{l} \phi=\left[\phi_{1}, \phi_{2} \right]-2 A_{1} \vee \gamma A_{2}+2 A_{2} \vee \gamma A_{1}, \\ A=\phi_{1} A_{2}-\phi_{2} A_{1} . \end{array} \right.$
0902.0431_EQ0267	43	0.989	`\left\{\begin{array}{l} ([A, X], Y)+(X,[A, Y])=0, \quad X, Y \in \mathfrak{J} \\ \operatorname{tr}([A, X], Y, Z)+ \operatorname{tr}(X,[A, Y], Z)+\operatorname{tr}(X, Y,[A, Z])=0, \quad X, Y, Z \in \mathfrak{J} \end{array}\right.`	$\left\{\begin{array}{l} ([A, X], Y)+(X,[A, Y])=0, \quad X, Y \in \mathfrak{J} \\ \operatorname{tr}([A, X], Y, Z)+\operatorname{tr}(X,[A, Y], Z)+\operatorname{tr}(X, Y,[A, Z])=0, \quad X, Y, Z \in \mathfrak{J} \end{array}\right.$	$\left\{\begin{array}{l} ([A, X], Y)+(X,[A, Y])=0, \quad X, Y \in \mathfrak{J}, \\ \operatorname{tr}([A, X], Y, Z)+\operatorname{tr}(X,[A, Y], Z)+\operatorname{tr}(X, Y,[A, Z])=0, \quad X, Y, Z \in \mathfrak{J}. \end{array}\right.$
0902.0431_EQ0195	33	0.990	`\alpha(x y)=(\widetilde{\alpha} x) \overline{(\widetilde{ \alpha} \bar{y})}, \quad x, y \in \mathfrak{C} .`	$\alpha(x y)=(\widetilde{\alpha} x) \overline{(\widetilde{\alpha} \bar{y})}, \quad x, y \in \mathfrak{C} .$	$\alpha(x y)=(\widetilde{\alpha} x) \overline{(\widetilde{\alpha} \bar{y})}, \quad x, y \in \mathfrak{C} .$

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0902.0431_EQ0409	67	0.990	`\begin{aligned} & G_{i j}, \quad 0 \leq i<j \leq 3,4 \leq i<j \leq 7, \\ & \widetilde{A}_{k}\left(e_{j}\right), \quad 0 \leq j \leq 3, k=1,2,3 \end{aligned}`	$G_{ij}, \quad 0 \leq i<j \leq 3,4 \leq i<j \leq 7,$ $\widetilde{A}_{k}\left(e_{j}\right), \quad 0 \leq j \leq 3, k=1,2,3$	$G_{ij}, \quad 0 \leq i<j \leq 3,4 \leq i<j \leq 7,$ $\widetilde{A}_{k}(e_j), \quad 0 \leq j \leq 3, k=1,2,3$
0902.0431_EQ0588	98	0.990	`\mathfrak{e}_{6, \boldsymbol{H}}=\mathfrak{f}_{4, \boldsymbol{H}} \oplus i\left(\widetilde{\mathfrak{J}}_{ \boldsymbol{H}}\right)_{0} .`	$\mathfrak{e}_{6,\boldsymbol{H}}=\mathfrak{f}_{4,\boldsymbol{H}} \oplus i\left(\widetilde{\mathfrak{J}}_{\boldsymbol{H}}\right)_{0}.$	$\mathfrak{e}_{6,\boldsymbol{H}}=\mathfrak{f}_{4,\boldsymbol{H}} \oplus i(\widetilde{\mathfrak{J}}_{\boldsymbol{H}})_{0}.$
0902.0431_EQ0748	124	0.990	`\mathfrak{e}_{7}{ }^{C}=\mathfrak{e}_{6}{ }^{C} \oplus \mathfrak{J}^{C} \oplus \mathfrak{J}^{C} \oplus C .`	$\mathfrak{e}_7{}^C=\mathfrak{e}_6{}^C \oplus \mathfrak{J}^C \oplus \mathfrak{J}^C \oplus C.$	$\mathfrak{e}_7{}^C=\mathfrak{e}_6{}^C \oplus \mathfrak{J}^C \oplus \mathfrak{J}^C \oplus C.$
0902.0431_EQ0750	124	0.990	`\begin{aligned} {[h, S] } & =\left[\Phi\left(h_{\delta}+ \widetilde{H}, 0,0, \nu\right), \Phi(S, 0,0,0)\right] \\ & =\Phi\left(\left[h_{\delta}+\widetilde{H}, S \right], 0,0,0\right)=\Phi\left(\alpha\left(h_{\delta}+ \widetilde{H}\right) S, 0,0,0\right)=\alpha(h) S . \end{aligned}`	$[h,S]=\left[\Phi\left(h_\delta+\widetilde{H},0,0,\nu\right),\Phi(S,0,0,0)\right]$ $=\Phi\left(\left[h_\delta+\widetilde{H},S\right],0,0,0\right)=\Phi\left(\alpha\left(h_\delta+\widetilde{H}\right)S,0,0,0\right)=\alpha(h)S.$	$[h,S] = [\Phi(h_\delta+\widetilde{H},0,0,\nu),\Phi(S,0,0,0)]$ $= \Phi([h_\delta+\widetilde{H},S],0,0,0)=\Phi(\alpha(h_\delta+\widetilde{H})S,0,0,0)=\alpha(h)S.$
0902.0431_EQ0969	161	0.990	`E_{7(7)} \cong\left(E_{7}^{C}\right)^{\tau \gamma}, \quad E_{7(-5)} \cong\left(E_{7}^{C}\right)^{\tau \lambda \sigma}, \quad E_{7(-25)} \cong\left(E_{7}^{C}\right)^{ \tau} .`	$E_{7(7)} \cong \left(E_7^C\right)^{\tau\gamma}, \quad E_{7(-5)} \cong \left(E_7^C\right)^{\tau\lambda\sigma}, \quad E_{7(-25)} \cong \left(E_7^C\right)^{\tau}.$	$E_{7(7)} \cong (E_7{}^C)^{\tau\gamma}, \quad E_{7(-5)} \cong (E_7{}^C)^{\tau\lambda\sigma}, \quad E_{7(-25)} \cong (E_7{}^C)^{\tau}.$
0902.0431_EQ0293	47	0.990	`\widetilde{A} X=A \circ X, \quad X \in \mathfrak{J}^{C} .`	$\widetilde{A}X=A\circ X, \quad X\in\mathfrak{J}^C.$	$\widetilde{A}X=A\circ X, \quad X\in\mathfrak{J}^C.$

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0902.0431_EQ0018	9	0.990	\begin{gathered} \left\{\begin{array} { l } { 2 F _ { 0 3 } = G _ { 0 3 } + G _ { 1 2 } + G _ { 4 7 } + G _ { 5 6 } } \\ { 2 F _ { 1 2 } = G _ { 0 3 } + G _ { 1 2 } - G _ { 4 7 } - G _ { 5 6 } } \\ { 2 F _ { 4 7 } = G _ { 0 3 } - G _ { 1 2 } + G _ { 4 7 } - G _ { 5 6 } } \\ { 2 F _ { 5 6 } = G _ { 0 3 } - G _ { 1 2 } - G _ { 4 7 } + G _ { 5 6 } , } \end{array} \left\{ \begin{array}{l} 2 F_{04}=G_{04}-G_{15}+G_{26}-G_{37} \\ 2 F_{15}=-G_{04}+G_{15}+G_{26}-G_{37} \\ 2 F_{26}=G_{04}+G_{15}+G_{26}+G_{37} \\ 2 F_{37}=-G_{04}-G_{15}+G_{26}+G_{37}, \end{array}\right. \right. \\ \left\{\begin{array} { l } { 2 F _ { 0 5 } = G _ { 0 5 } + G _ { 1 4 } - G _ { 2 7 } - G _ { 3 6 } } \\ { 2 F _ { 1 4 } = G _ { 0 5 } + G _ { 1 4 } + G _ { 2 7 } + G _ { 3 6 } } \\ { 2 F _ { 2 7 } = - G _ { 0 5 } + G _ { 1 4 } + G _ { 2 7 } - G _ { 3 6 } } \\ { 2 F _ { 3 6 } = - G _ { 0 5 } + G _ { 1 4 } - G _ { 2 7 } + G _ { 3 6 } , } \end{array} \left\{ \begin{array}{l} 2 F_{06}=G_{06}-G_{17}-G_{24}+G_{35} \\ 2 F_{17}=-G_{06}+G_{17}-G_{24}+G_{35} \\ 2 F_{24}=-G_{06}-G_{17}+G_{24}+G_{35} \\ 2 F_{35}=G_{06}+G_{17}+G_{24}+G_{35}, \end{array} \right.\right. \\ \left\{\begin{array}{l} 2 F_{07}=G_{07}+G_{16}+G_{25}+G_{34} \\ 2 F_{16}=G_{07}+G_{16}-G_{25}-G_{34} \\ 2 F_{25}=G_{07}-G_{16}+G_{25}-G_{34} \\ 2 F_{34}=G_{07}-G_{16}-G_{25}+G_{34} . \end{array}\right. \end{gathered}	$\left\{\begin{array} { l } { 2 F _ { 0 3 } = G _ { 0 3 } + G _ { 1 2 } + G _ { 4 7 } + G _ { 5 6 } } \\ { 2 F _ { 1 2 } = G _ { 0 3 } + G _ { 1 2 } - G _ { 4 7 } - G _ { 5 6 } } \\ { 2 F _ { 4 7 } = G _ { 0 3 } - G _ { 1 2 } + G _ { 4 7 } - G _ { 5 6 } } \\ { 2 F _ { 5 6 } = G _ { 0 3 } - G _ { 1 2 } - G _ { 4 7 } + G _ { 5 6 } , } \end{array} \right.$ $\left\{\begin{array}{l} 2F_{04}=G_{04}-G_{15}+G_{26}-G_{37} \\ 2F_{15}=-G_{04}+G_{15}+G_{26}-G_{37} \\ 2F_{26}=G_{04}+G_{15}+G_{26}+G_{37} \\ 2F_{37}=-G_{04}-G_{15}+G_{26}+G_{37}, \end{array}\right.$ $\left\{\begin{array} { l } { 2 F _ { 0 5 } = G _ { 0 5 } + G _ { 1 4 } - G _ { 2 7 } - G _ { 3 6 } } \\ { 2 F _ { 1 4 } = G _ { 0 5 } + G _ { 1 4 } + G _ { 2 7 } + G _ { 3 6 } } \\ { 2 F _ { 2 7 } = - G _ { 0 5 } + G _ { 1 4 } + G _ { 2 7 } - G _ { 3 6 } } \\ { 2 F _ { 3 6 } = - G _ { 0 5 } + G _ { 1 4 } - G _ { 2 7 } + G _ { 3 6 } , } \end{array} \right.$ $\left\{\begin{array}{l} 2F_{06}=G_{06}-G_{17}-G_{24}+G_{35} \\ 2F_{17}=-G_{06}+G_{17}-G_{24}+G_{35} \\ 2F_{24}=-G_{06}-G_{17}+G_{24}+G_{35} \\ 2F_{35}=G_{06}+G_{17}+G_{24}+G_{35}, \end{array}\right.$ $\left\{\begin{array}{l} 2F_{07}=G_{07}+G_{16}+G_{25}+G_{34} \\ 2F_{16}=G_{07}+G_{16}-G_{25}-G_{34} \\ 2F_{25}=G_{07}-G_{16}+G_{25}-G_{34} \\ 2F_{34}=G_{07}-G_{16}-G_{25}+G_{34}. \end{array}\right.$	$\left\{\begin{array} { l } { 2 F _ { 0 3 } = G _ { 0 3 } + G _ { 1 2 } + G _ { 4 7 } + G _ { 5 6 } } \\ { 2 F _ { 1 2 } = G _ { 0 3 } + G _ { 1 2 } - G _ { 4 7 } - G _ { 5 6 } } \\ { 2 F _ { 4 7 } = G _ { 0 3 } - G _ { 1 2 } + G _ { 4 7 } - G _ { 5 6 } } \\ { 2 F _ { 5 6 } = G _ { 0 3 } - G _ { 1 2 } - G _ { 4 7 } + G _ { 5 6 } , } \end{array} \right.$ $\left\{\begin{array}{l} 2F_{04}= G_{04}-G_{15}+G_{26}-G_{37} \\ 2F_{15}=-G_{04}+G_{15}+G_{26}-G_{37} \\ 2F_{26}= G_{04}+G_{15}+G_{26}+G_{37} \\ 2F_{37}=-G_{04}-G_{15}+G_{26}+G_{37}, \end{array}\right.$ $\left\{\begin{array} { l } { 2 F _ { 0 5 } = G _ { 0 5 } + G _ { 1 4 } - G _ { 2 7 } - G _ { 3 6 } } \\ { 2 F _ { 1 4 } = G _ { 0 5 } + G _ { 1 4 } + G _ { 2 7 } + G _ { 3 6 } } \\ { 2 F _ { 2 7 } = - G _ { 0 5 } + G _ { 1 4 } + G _ { 2 7 } - G _ { 3 6 } } \\ { 2 F _ { 3 6 } = - G _ { 0 5 } + G _ { 1 4 } - G _ { 2 7 } + G _ { 3 6 } , } \end{array} \right.$ $\left\{\begin{array}{l} 2F_{06}= G_{06}-G_{17}-G_{24}+G_{35} \\ 2F_{17}=-G_{06}+G_{17}-G_{24}+G_{35} \\ 2F_{24}=-G_{06}-G_{17}+G_{24}+G_{35} \\ 2F_{35}= G_{06}+G_{17}+G_{24}+G_{35}, \end{array}\right.$ $\left\{\begin{array}{l} 2F_{07}= G_{07}+G_{16}+G_{25}+G_{34} \\ 2F_{16}= G_{07}+G_{16}-G_{25}-G_{34} \\ 2F_{25}= G_{07}-G_{16}+G_{25}-G_{34} \\ 2F_{34}= G_{07}-G_{16}-G_{25}+G_{34}. \end{array}\right.$
0902.0431_EQ0722	119	0.991	\mathfrak{e}_{7}{ }^{C}=\mathfrak{e}_{6}{ }^{C} \oplus \mathfrak{N}^{C},	$\mathfrak{e}_{7}{}^{C}=\mathfrak{e}_{6}{}^{C} \oplus \mathfrak{N}^{C},$	$\mathfrak{e}_{7}{}^{C}=\mathfrak{e}_{6}{}^{C} \oplus \mathfrak{N}^{C},$
0902.0431_EQ1001	166	0.991	\widetilde{\lambda}=\lambda \lambda^{\prime}=\lambda^{ \prime} \lambda .	$\widetilde{\lambda}=\lambda \lambda^{\prime}=\lambda^{\prime} \lambda .$	$\widetilde{\lambda}=\lambda \lambda^{\prime}=\lambda^{\prime} \lambda .$
0902.0431_EQ0162	29	0.991	(x p)(\bar{p} y)=x y, \quad x, y \in \mathfrak{C} .	$(x p)(\bar{p} y)=x y, \quad x, y \in \mathfrak{C} .$	$(x p)(\bar{p} y)=x y, \quad x, y \in \mathfrak{C} .$

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0902.0431_EQ0296	47	0.991	\begin{array}{ll} {\left[\widetilde{E}_{i}, \widetilde{E}_{j}\right]=0,} & {\left[\widetilde{E}_{i}, \widetilde{F}_{i}(a)\right]=0,} \\ {\left[\widetilde{E}_{i}, \widetilde{F}_{i+1}(a)\right]=- \frac{1}{2} \widetilde{A}_{i+1}(a),} & {\left[\widetilde{E}_{i}, \widetilde{F}_{i+2}(a)\right]= \frac{1}{2} \widetilde{A}_{i+2}(a),} \\ {\left[\widetilde{F}_{i}(a), \widetilde{F}_{i}(b)\right] \in \mathfrak{d}_{4}^{C},} & {\left[\widetilde{F}_{i}(a), \widetilde{F}_{i+1}(b)\right]=-\frac{1}{2} \widetilde{A}_{i+2}(\overline{a b}),} \\ {\left[D, \widetilde{A}_{i}(a)\right]=\widetilde{A}_{i} \left(D_{i} a\right),} & \text { where } D=\left(D_{1}, D_{2}, D_{3}\right) \in \mathfrak{d}_{4}^{C}, \\ {\left[\widetilde{A}_{i}(a), \widetilde{A}_{i}(b) \right] \in \mathfrak{d}_{4}^{C},} & {\left[\widetilde{A}_{i}(a), \widetilde{A}_{i+1}(b)\right]=-\frac{1}{2} \widetilde{A}_{i+2}(\overline{a b}),} \\ {\left[\widetilde{F}_{1}\left(e_{i}\right), \widetilde{F}_{1}\left(e_{j}\right)\right]=G_{i j} .} & {\left[\widetilde{A}_{i}(a), \widetilde{A}_{i+2}(b) \right]=\frac{1}{2} \widetilde{A}_{i+1}(\overline{b a}) .} \end{array}	$\left[\widetilde{E}_i, \widetilde{E}_j\right] = 0,$ $\left[\widetilde{E}_i, \widetilde{F}_{i+1}(a)\right] = -\frac{1}{2}\widetilde{A}_{i+1}(a),$ $\left[\widetilde{F}_i(a), \widetilde{F}_i(b)\right] \in \mathfrak{d}_4^C,$ $\left[D, \widetilde{A}_i(a)\right] = \widetilde{A}_i\left(D_i a\right),$ $\left[\widetilde{A}_i(a), \widetilde{A}_i(b)\right] \in \mathfrak{d}_4^C,$ $\left[\widetilde{F}_1\left(e_i\right), \widetilde{F}_1\left(e_j\right)\right] = G_{ij}.$ $\left[\widetilde{E}_i, \widetilde{F}_i(a)\right] = 0,$ $\left[\widetilde{E}_i, \widetilde{F}_{i+2}(a)\right] = \frac{1}{2}\widetilde{A}_{i+2}(a),$ $\left[\widetilde{F}_i(a), \widetilde{F}_{i+1}(b)\right] = -\frac{1}{2}\widetilde{A}_{i+2}(\overline{ab}),$ where $D = (D_1, D_2, D_3) \in \mathfrak{d}_4^C,$ $\left[\widetilde{A}_i(a), \widetilde{A}_{i+1}(b)\right] = -\frac{1}{2}\widetilde{A}_{i+2}(\overline{ab}),$ $\left[\widetilde{A}_i(a), \widetilde{A}_{i+2}(b)\right] = \frac{1}{2}\widetilde{A}_{i+1}(\overline{ba}).$	$[\widetilde{E}_i, \widetilde{E}_j] = 0,$ $[\widetilde{E}_i, \widetilde{F}_i(a)] = 0,$ $[\widetilde{E}_i, \widetilde{F}_{i+1}(a)] = -\frac{1}{2}\widetilde{A}_{i+1}(a),$ $[\widetilde{E}_i, \widetilde{F}_{i+2}(a)] = \frac{1}{2}\widetilde{A}_{i+2}(a),$ $[\widetilde{F}_i(a), \widetilde{F}_i(b)] \in \mathfrak{d}_4{}^C,$ $[\widetilde{F}_i(a), \widetilde{F}_{i+1}(b)] = -\frac{1}{2}\widetilde{A}_{i+2}(\overline{ab}),$ $[D, \widetilde{A}_i(a)] = \widetilde{A}_i(D_i a),$ $where\ D = (D_1, D_2, D_3) \in \mathfrak{d}_4{}^C,$ $[\widetilde{A}_i(a), \widetilde{A}_i(b)] \in \mathfrak{d}_4{}^C,$ $[\widetilde{A}_i(a), \widetilde{A}_{i+1}(b)] = -\frac{1}{2}\widetilde{A}_{i+2}(\overline{ab}),$ $[\widetilde{F}_1(e_i), \widetilde{F}_1(e_j)] = G_{ij}.$ $[\widetilde{A}_i(a), \widetilde{A}_{i+2}(b)] = \frac{1}{2}\widetilde{A}_{i+1}(\overline{ba}).$
0902.0431_EQ1151	194	0.991	\begin{aligned} & \left(\boldsymbol{u}_{1} \wedge \cdots \wedge \boldsymbol{u}_{j-1} \wedge \boldsymbol{x} \wedge \boldsymbol{u}_{j+1} \wedge \cdots \wedge \boldsymbol{u}_{9}, e_{1} \wedge \cdots \wedge \boldsymbol{e}_{9}\right)=\sum_{k=1}^{9} \widetilde{u}_{j k} x_{k}, \\ & \left(\boldsymbol{u}_{1} \wedge \cdots \wedge \boldsymbol{u}_{9}, \boldsymbol{e}_{1} \wedge \cdots \wedge \boldsymbol{e}_{9}\right)= \operatorname{det} U, \end{aligned}	$\left(\boldsymbol{u}_1 \wedge \cdots \wedge \boldsymbol{u}_{j-1} \wedge \boldsymbol{x} \wedge \boldsymbol{u}_{j+1} \wedge \cdots \wedge \boldsymbol{u}_9, e_1 \wedge \cdots \wedge \boldsymbol{e}_9\right) = \sum_{k=1}^{9} \widetilde{u}_{jk} x_k,$ $\left(\boldsymbol{u}_1 \wedge \cdots \wedge \boldsymbol{u}_9, \boldsymbol{e}_1 \wedge \cdots \wedge \boldsymbol{e}_9\right) = \operatorname{det} U,$	$\left(\boldsymbol{u}_1 \wedge \cdots \wedge \boldsymbol{u}_{j-1} \wedge \boldsymbol{x} \wedge \boldsymbol{u}_{j+1} \wedge \cdots \wedge \boldsymbol{u}_9, e_1 \wedge \cdots \wedge \boldsymbol{e}_9\right) = \sum_{k=1}^{9} \widetilde{u}_{jk} x_k,$ $\left(\boldsymbol{u}_1 \wedge \cdots \wedge \boldsymbol{u}_9, \boldsymbol{e}_1 \wedge \cdots \wedge \boldsymbol{e}_9\right) = \operatorname{det} U,$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0484	80	0.991	\begin{aligned} & {\left[\phi,\left[\phi, \widetilde{A}_{2}\left(e_{i}\right)\right]\right]=\left[\phi,-\frac{1}{2} \widetilde{F}_{2}\left(e_{i}\right) \right]=\frac{1}{4} \widetilde{A}_{2}\left(e_{i}\right),} \\ & {\left[\phi,\left[\phi, \widetilde{A}_{3}\left(e_{i} \right)\right]\right]=\left[\phi, \widetilde{F}_{3} \left(e_{i}\right)\right]=\widetilde{A}_{3}\left(e_{i} \right),} \\ & {\left[\phi,\left[\phi, \widetilde{F}_{1} \left(e_{i}\right)\right]\right]=\left[\phi,-\frac{1}{2} \widetilde{A}_{1}\left(e_{i}\right)\right]=\frac{1}{4} \widetilde{F}_{1}\left(e_{i}\right),} \\ & {\left[\phi,\left[\phi, \widetilde{F}_{2}\left(e_{i}\right)\right]\right]=\left[\phi,-\frac{1}{2} \widetilde{A}_{2}\left(e_{i}\right)\right]=\frac{1}{4} \widetilde{F}_{2}\left(e_{i}\right),} \\ & {\left[\phi,\left[\phi, \widetilde{F}_{2}\left(e_{i}\right) \right]\right]=\left[\phi,-\frac{1}{2} \widetilde{A}_{2} \left(e_{i}\right)\right]=\frac{1}{4} \widetilde{F}_{2} \left(e_{i}\right),} \\ & {\left[\phi,\left[\phi, \widetilde{F}_{3}\left(e_{i}\right)\right]\right]= \left[\phi, \widetilde{A}_{3}\left(e_{i}\right)\right]= \widetilde{F}_{3}\left(e_{i}\right),} \end{aligned}	$\left[\phi,\left[\phi,\widetilde{A}_{2}\left(e_{i}\right)\right]\right]=\left[\phi,-\frac{1}{2}\widetilde{F}_{2}\left(e_{i}\right)\right]=\frac{1}{4}\widetilde{A}_{2}\left(e_{i}\right),$ $\left[\phi,\left[\phi,\widetilde{A}_{3}\left(e_{i}\right)\right]\right]=\left[\phi,\widetilde{F}_{3}\left(e_{i}\right)\right]=\widetilde{A}_{3}\left(e_{i}\right),$ $\left[\phi,\left[\phi,\widetilde{F}_{1}\left(e_{i}\right)\right]\right]=\left[\phi,-\frac{1}{2}\widetilde{A}_{1}\left(e_{i}\right)\right]=\frac{1}{4}\widetilde{F}_{1}\left(e_{i}\right),$ $\left[\phi,\left[\phi,\widetilde{F}_{2}\left(e_{i}\right)\right]\right]=\left[\phi,-\frac{1}{2}\widetilde{A}_{2}\left(e_{i}\right)\right]=\frac{1}{4}\widetilde{F}_{2}\left(e_{i}\right),$ $\left[\phi,\left[\phi,\widetilde{F}_{3}\left(e_{i}\right)\right]\right]=\left[\phi,\widetilde{A}_{3}\left(e_{i}\right)\right]=\widetilde{F}_{3}\left(e_{i}\right),$	$[\phi,[\phi,\widetilde{A}_2(e_i)]]=\left[\phi,-\frac{1}{2}\widetilde{F}_2(e_i)\right]=\frac{1}{4}\widetilde{A}_2(e_i),$ $[\phi,[\phi,\widetilde{A}_3(e_i)]]=[\phi,\widetilde{F}_3(e_i)]=\widetilde{A}_3(e_i),$ $[\phi,[\phi,\widetilde{F}_1(e_i)]]=\left[\phi,-\frac{1}{2}\widetilde{A}_1(e_i)\right]=\frac{1}{4}\widetilde{F}_1(e_i),$ $[\phi,[\phi,\widetilde{F}_2(e_i)]]=\left[\phi,-\frac{1}{2}\widetilde{A}_2(e_i)\right]=\frac{1}{4}\widetilde{F}_2(e_i),$ $[\phi,[\phi,\widetilde{F}_3(e_i)]]=[\phi,\widetilde{A}_3(e_i)]=\widetilde{F}_3(e_i),$
0902.0431_EQ0497	81	0.991	\left(\sigma_{i k} x_{i k}\right) y_{k j}+x_{i k}\left(\sigma_{k j} y_{k j}\right)=\sigma_{i j}\left(x_{i k} y_{k j}\right) .	$\left(\sigma_{ik} x_{ik}\right) y_{kj}+x_{ik}\left(\sigma_{kj} y_{kj}\right)=\sigma_{ij}\left(x_{ik} y_{kj}\right) .$	$(\sigma_{ik}x_{ik})y_{kj}+x_{ik}(\sigma_{kj}y_{kj})=\sigma_{ij}(x_{ik}y_{kj}).$
0902.0431_EQ0544	92	0.991	\begin{aligned} \alpha E_{2} & =\alpha\left(-F_{2}(1) \times F_{2}(1)\right)=-\tau \alpha \tau F_{2}(1) \times \tau \alpha \tau F_{2}(1) \\ & =-\left(F_{2}\left(x_{2}\right)+F_{3}\left(x_{3}\right)\right) \times\left(F_{2}\left(x_{2}\right)+F_{3}\left(x_{3} \right)\right)\left(\text { for some } x_{2}, x_{3} \in \mathfrak{C}^{C}\right) \\ & =\left(x_{2}, x_{2}\right) E_{2}+\left(x_{3}, x_{3}\right) E_{3}-F_{1}\left(\overline{x_{2} x_{3}}\right) \in \mathfrak{J}\left(2, \mathfrak{C}^{C}\right) \end{aligned}	$\begin{aligned} \alpha E_{2} & =\alpha\left(-F_{2}(1) \times F_{2}(1)\right)=-\tau \alpha \tau F_{2}(1) \times \tau \alpha \tau F_{2}(1) \\ & =-\left(F_{2}\left(x_{2}\right)+F_{3}\left(x_{3}\right)\right) \times\left(F_{2}\left(x_{2}\right)+F_{3}\left(x_{3}\right)\right)\left(\text { for some } x_{2}, x_{3} \in \mathfrak{C}^{C}\right) \\ & =\left(x_{2}, x_{2}\right) E_{2}+\left(x_{3}, x_{3}\right) E_{3}-F_{1}\left(\overline{x_{2} x_{3}}\right) \in \mathfrak{J}\left(2, \mathfrak{C}^{C}\right) \end{aligned}$	$\begin{aligned} \alpha E_{2} & =\alpha\left(-F_{2}(1) \times F_{2}(1)\right)=-\tau \alpha \tau F_{2}(1) \times \tau \alpha \tau F_{2}(1) \\ & =-\left(F_{2}\left(x_{2}\right)+F_{3}\left(x_{3}\right)\right) \times\left(F_{2}\left(x_{2}\right)+F_{3}\left(x_{3}\right)\right)\left(\text { for some } x_{2}, x_{3} \in \mathfrak{C}^{C}\right) \\ & =\left(x_{2}, x_{2}\right) E_{2}+\left(x_{3}, x_{3}\right) E_{3}-F_{1}\left(\overline{x_{2} x_{3}}\right) \in \mathfrak{J}\left(2, \mathfrak{C}^{C}\right). \end{aligned}$
0902.0431_EQ0787	132	0.991	\alpha P=(X, Y, \xi, \eta), \quad X, Y \text { are diagonal, } \xi>0 .	$\alpha P=(X, Y, \xi, \eta), \quad X, Y \text{ are diagonal, } \xi>0.$	$\alpha P=(X, Y, \xi, \eta), \quad X, Y \text{ are diagonal, } \xi>0.$
0902.0431_EQ1014	168	0.991	E_{8}{ }^{C} \simeq\left(E_{8}{ }^{C} \cap U\left(\mathfrak{e}_{8}{ }^{C}\right)\right) \times \boldsymbol{R}^{d}=E_{8} \times \boldsymbol{R}^{d}, \quad d=248 .	$E_{8}{}^{C} \simeq\left(E_{8}{}^{C} \cap U\left(\mathfrak{e}_{8}{}^{C}\right)\right) \times \boldsymbol{R}^{d}=E_{8} \times \boldsymbol{R}^{d}, \quad d=248.$	$E_{8}{}^{C} \simeq(E_{8}{}^{C} \cap U(\mathfrak{e}_{8}{}^{C})) \times \boldsymbol{R}^{d}=E_{8} \times \boldsymbol{R}^{d}, \quad d=248.$
0902.0431_EQ0234	39	0.992	\operatorname{det}\left({ }^{t} \alpha^{-1} X\right)= \operatorname{det}\left({ }^{t} \alpha X\right)= \operatorname{det} X, \quad \text { for all } X \in \mathfrak{J} .	$\operatorname{det}\left({ }^{t} \alpha^{-1} X\right)=\operatorname{det}\left({ }^{t} \alpha X\right)=\operatorname{det} X, \quad \text{for all } X \in \mathfrak{J}.$	$\operatorname{det}({}^{t}\alpha^{-1}X)=\operatorname{det}({}^{t}\alpha X)=\operatorname{det} X, \quad \text{for all } X \in \mathfrak{J}.$
0902.0431_EQ0586	98	0.992	F_{4, \boldsymbol{H}}=\left\{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}\left(\mathfrak{J}_{ \boldsymbol{H}}\right) \mid \alpha(M \circ N)=\alpha M \circ \alpha N\right\}	$F_{4, \boldsymbol{H}}=\left\{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}\left(\mathfrak{J}_{\boldsymbol{H}}\right) \mid \alpha(M \circ N)=\alpha M \circ \alpha N\right\}$	$F_{4, \boldsymbol{H}}=\{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}(\mathfrak{J}_{\boldsymbol{H}}) \mid \alpha(M \circ N)=\alpha M \circ \alpha N\}$

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0902.0431_EQ0928	154	0.992	\[\mathfrak{e}_{7, C} \cong \mathfrak{s u}(6) . \] \end{itemize}	$\mathfrak{e}_{7,C} \cong \mathfrak{su}(6).$	$\mathfrak{e}_{7,C} \cong \mathfrak{su}(6).$
0902.0431_EQ0936	155	0.992	=\left(\begin{array}{rrrrrr} b_{11} & b_{12} & b_{13} & l_{11} & l_{12} & l_{13} \\ -\bar{b}_{12} & b_{22} & b_{23} & l_{21} & l_{22} & l_{23} \\ -\bar{b}_{13} & b_{23} & b_{33} & l_{31} & l_{32} & l_{33} \\ -\bar{l}_{11} & -\bar{l}_{21} & -\bar{l}_{31} & c_{11} & c_{12} & c_{13} \\ -\bar{l}_{12} & -\bar{l}_{22} & -\bar{l}_{32} & -\bar{c}_{12} & c_{22} & c_{23} \\ -\bar{l}_{13} & -\bar{l}_{23} & -\bar{l}_{33} & -\bar{c}_{13} & -\bar{c}_{23} & c_{33} \end{array}\right)+ \frac{\nu}{3}\left(\begin{array}{cc} E & 0 \\ 0 & -E \end{array}\right) \in \mathfrak{s u}(6),	$= \left(\begin{array}{rrrrrr} b_{11} & b_{12} & b_{13} & l_{11} & l_{12} & l_{13} \\ -\bar{b}_{12} & b_{22} & b_{23} & l_{21} & l_{22} & l_{23} \\ -\bar{b}_{13} & b_{23} & b_{33} & l_{31} & l_{32} & l_{33} \\ -\bar{l}_{11} & -\bar{l}_{21} & -\bar{l}_{31} & c_{11} & c_{12} & c_{13} \\ -\bar{l}_{12} & -\bar{l}_{22} & -\bar{l}_{32} & -\bar{c}_{12} & c_{22} & c_{23} \\ -\bar{l}_{13} & -\bar{l}_{23} & -\bar{l}_{33} & -\bar{c}_{13} & -\bar{c}_{23} & c_{33} \end{array}\right)+ \frac{\nu}{3}\left(\begin{array}{cc} E & 0 \\ 0 & -E \end{array}\right) \in \mathfrak{s u}(6),$
0902.0431_EQ0994	165	0.992	B_{8}(1,1)=56 \times 2+4 \times 2=120 .	$B_8(1,1)=56 \times 2+4 \times 2=120.$	$B_8(1,1)=56 \times 2+4 \times 2=120.$
0902.0431_EQ0998	166	0.992	\mathfrak{W}^{C}=\left\{R \in \mathfrak{e}_{8}{ }^{C} \mid R \times R=0, R \neq 0\right\} .	$\mathfrak{W}^{C}=\left\{R \in \mathfrak{e}_{8}{}^{C} \mid R \times R=0, R \neq 0\right\}.$	$\mathfrak{W}^{C}=\{R \in \mathfrak{e}_{8}{}^{C} \mid R \times R=0, R \neq 0\}.$
0902.0431_EQ0034	11	0.992	\begin{aligned} & \pi T_{e_{i}}=\pi\left(2 G_{i 0} \right)=2 F_{i 0}=L_{e_{i}}, \\ & \pi R_{a}=\pi \left(T_{a}-L_{a}\right)=L_{a}-T_{a}=-R_{a} . \end{aligned}	$\begin{aligned} & \pi T_{e_{i}}=\pi\left(2 G_{i 0}\right)=2 F_{i 0}=L_{e_{i}}, \\ & \pi R_{a}=\pi \left(T_{a}-L_{a}\right)=L_{a}-T_{a}=-R_{a} . \end{aligned}$	$\begin{aligned} & \pi T_{e_{i}}=\pi\left(2 G_{i 0}\right)=2 F_{i 0}=L_{e_{i}}, \\ & \pi R_{a}=\pi \left(T_{a}-L_{a}\right)=L_{a}-T_{a}=-R_{a} . \end{aligned}$
0902.0431_EQ0065	14	0.992	\begin{aligned} x & =x_{0}+x_{1} e_{1}+x_{2} e_{2}+x_{3} e_{3}+x_{4} e_{4}+x_{5} e_{5}+x_{6} e_{6}+x_{7} e_{7} \quad\left(x_{i} \in \boldsymbol{R}\right) \\ & =\left(x_{0}+x_{1} e_{1}\right)+\left(x_{2}+x_{3} e_{1} \right) e_{2}+\left(x_{4}+x_{5} e_{1}\right) e_{4}+ \left(x_{6}+x_{7} e_{1}\right) e_{6}, \end{aligned}	$\begin{aligned} x & =x_{0}+x_{1} e_{1}+x_{2} e_{2}+x_{3} e_{3}+x_{4} e_{4}+x_{5} e_{5}+x_{6} e_{6}+x_{7} e_{7} \quad\left(x_{i} \in \boldsymbol{R}\right) \\ & =\left(x_{0}+x_{1} e_{1}\right)+\left(x_{2}+x_{3} e_{1} \right) e_{2}+\left(x_{4}+x_{5} e_{1}\right) e_{4}+ \left(x_{6}+x_{7} e_{1}\right) e_{6}, \end{aligned}$
0902.0431_EQ0812	136	0.992	\iota(X, Y, \xi, \eta)=(-i X, i Y,-i \xi, i \eta) .	$\iota(X, Y, \xi, \eta)=(-i X, i Y,-i \xi, i \eta).$	$\iota(X, Y, \xi, \eta)=(-i X, i Y,-i \xi, i \eta).$
0902.0431_EQ1046	178	0.992	0=\left[\left(\beta_{1} \Phi, 0,0, a_{1} \Phi, 0,0 \right),(0,0,0,0,1,0)\right]=\left(0,0,0,0,2 a_{1} \Phi, 0\right),	$0=\left[\left(\beta_{1} \Phi, 0,0, a_{1} \Phi, 0,0\right),(0,0,0,0,1,0)\right]=\left(0,0,0,0,2 a_{1} \Phi, 0\right),$	$0=\left[\left(\beta_{1} \Phi, 0,0, a_{1} \Phi, 0,0\right),(0,0,0,0,1,0)\right]=\left(0,0,0,0,2 a_{1} \Phi, 0\right),$
0902.0431_EQ0835	139	0.993	(A, Y)=-\left(A, \kappa_{1} Y\right), \quad Y \in \mathfrak{J}^{C} .	$(A, Y)=-\left(A, \kappa_{1} Y\right), \quad Y \in \mathfrak{J}^{C}.$	$(A, Y)=-\left(A, \kappa_{1} Y\right), \quad Y \in \mathfrak{J}^{C}.$
0902.0431_EQ1019	170	0.993	[(\Phi(h), 0,0, r, 0,0),(0, P, 0,0,0,0)]=(0,(\Phi(h)+r) P, 0,0,0,0),	$[(\Phi(h), 0,0, r, 0,0),(0, P, 0,0,0,0)]=(0,(\Phi(h)+r) P, 0,0,0,0),$	$[(\Phi(h), 0,0, r, 0,0),(0, P, 0,0,0,0)]=(0,(\Phi(h)+r) P, 0,0,0,0),$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0443	73	0.993	`\begin{aligned} E_{6}^{C} & =\left\{\alpha \in \operatorname{Iso}_{C}\left(\mathfrak{J}^{C}\right) \mid \operatorname{det}(\alpha X)=\operatorname{det} X \right\} \\ & =\left\{\alpha \in \operatorname{Iso}_{C} \left(\mathfrak{J}^{C}\right) \mid(\alpha X, \alpha Y, \alpha Z)=(X, Y, Z)\right\}, \\ E_{6} & =\left\{\alpha \in \operatorname{Iso}_{C} \left(\mathfrak{J}^{C}\right) \mid(\alpha X, \alpha Y, \alpha Z)=(X, Y, Z),\langle\alpha X, \alpha Y\rangle=\langle X, Y\rangle \right\} \\ & =\left\{\alpha \in \operatorname{Iso}_{C} \left(\mathfrak{J}^{C}\right) \mid(\alpha X, \alpha Y, \alpha Z)=(X, Y, Z),\langle\alpha X, \alpha Y\rangle= \langle X, Y\rangle\right\} \\ & =\left\{\alpha \in \operatorname{Iso}_{C}\left(\mathfrak{J}^{C}\right) \mid \alpha X \times \alpha Y={ }^{t} \alpha^{-1}(X \times Y),\langle\alpha X, \alpha Y\rangle=\langle X, Y\rangle \right\} \\ & =\left\{\alpha \in \operatorname{Iso}_{C} \left(\mathfrak{J}^{C}\right) \mid \alpha X \times \alpha Y=\tau \alpha \tau(X \times Y),\langle\alpha X, \alpha Y \rangle=\langle X, Y\rangle\right\} . \end{aligned}`	$E_6^C = \left\{\alpha \in \operatorname{Iso}_C\left(\mathfrak{J}^C\right) \mid \operatorname{det}(\alpha X) = \operatorname{det} X\right\}$ $= \left\{\alpha \in \operatorname{Iso}_C\left(\mathfrak{J}^C\right) \mid (\alpha X, \alpha Y, \alpha Z) = (X, Y, Z)\right\},$ $E_6 = \left\{\alpha \in \operatorname{Iso}_C\left(\mathfrak{J}^C\right) \mid \operatorname{det}(\alpha X) = \operatorname{det} X, \langle \alpha X, \alpha Y\rangle = \langle X, Y\rangle\right\}$ $= \left\{\alpha \in \operatorname{Iso}_C\left(\mathfrak{J}^C\right) \mid (\alpha X, \alpha Y, \alpha Z) = (X, Y, Z), \langle \alpha X, \alpha Y\rangle = \langle X, Y\rangle\right\}$ $= \left\{\alpha \in \operatorname{Iso}_C\left(\mathfrak{J}^C\right) \mid \alpha X \times \alpha Y = {}^t\alpha^{-1}(X \times Y), \langle \alpha X, \alpha Y\rangle = \langle X, Y\rangle\right\}$ $= \left\{\alpha \in \operatorname{Iso}_C\left(\mathfrak{J}^C\right) \mid \alpha X \times \alpha Y = \tau\alpha\tau(X \times Y), \langle \alpha X, \alpha Y\rangle = \langle X, Y\rangle\right\}.$	$E_6{}^C = \{\alpha \in \mathrm{Iso}_C(\mathfrak{J}^C) \mid \det(\alpha X) = \det X\}$ $= \{\alpha \in \mathrm{Iso}_C(\mathfrak{J}^C) \mid (\alpha X, \alpha Y, \alpha Z) = (X, Y, Z)\},$ $E_6 = \{\alpha \in \mathrm{Iso}_C(\mathfrak{J}^C) \mid \det(\alpha X) = \det X, \langle \alpha X, \alpha Y\rangle = \langle X, Y\rangle\}$ $= \{\alpha \in \mathrm{Iso}_C(\mathfrak{J}^C) \mid (\alpha X, \alpha Y, \alpha Z) = (X, Y, Z), \langle \alpha X, \alpha Y\rangle = \langle X, Y\rangle\}$ $= \{\alpha \in \mathrm{Iso}_C(\mathfrak{J}^C) \mid \alpha X \times \alpha Y = {}^t\alpha^{-1}(X \times Y), \langle \alpha X, \alpha Y\rangle = \langle X, Y\rangle\}$ $= \{\alpha \in \mathrm{Iso}_C(\mathfrak{J}^C) \mid \alpha X \times \alpha Y = \tau\alpha\tau(X \times Y), \langle \alpha X, \alpha Y\rangle = \langle X, Y\rangle\}.$
0902.0431_EQ0709	117	0.993	`\begin{aligned} & (\exp t \Phi)(P \times Q)(\exp t \Phi)^{-1} \\ & \quad=(\exp t(\operatorname{ad} \Phi))(P \times Q) \quad\left((\operatorname{ad} \Phi) \Phi_{1}=\left[\Phi, \Phi_{1}\right], \Phi_{1} \in \mathfrak{e}_{7}{ }^{C}\right) \\ & \quad=\sum_{n=0}^{ \infty} \frac{1}{n!}(t(\operatorname{ad} \Phi))^{n}(P \times Q) \\ & \quad=\sum_{n=0}^{\infty} \frac{t^{n}}{n!} \left(\sum_{k+l=n} \frac{n!}{k!l!} \Phi^{k} P \times \Phi^{l} Q\right) \quad(\text { Proposition 4.3.2 }) \\ & \quad=\sum_{n=0}^{\infty}\left(\sum_{k+l=n} \frac{t^{k} t^{l}}{k!l!} \Phi^{k} P \times \Phi^{l} Q\right) \\ & \quad=\left(\sum_{k=0}^{\infty} \frac{1}{k!}(t \Phi)^{k} P\right) \times\left(\sum_{l=0}^{\infty} \frac{1}{l!}(t \Phi)^{l} Q\right) \\ & \quad=(\exp t \Phi) P \times(\exp t \Phi) Q . \end{aligned}`	$(\exp t\Phi)(P \times Q)(\exp t\Phi)^{-1}$ $= (\exp t(\operatorname{ad}\Phi))(P \times Q) \quad \left((\operatorname{ad}\Phi)\Phi_1 = [\Phi, \Phi_1],\ \Phi_1 \in \mathfrak{e}_7{}^C\right)$ $= \sum_{n=0}^{\infty} \frac{1}{n!}(t(\operatorname{ad}\Phi))^n (P \times Q)$ $= \sum_{n=0}^{\infty} \frac{t^n}{n!}\left(\sum_{k+l=n} \frac{n!}{k!\,l!}\Phi^k P \times \Phi^l Q\right) \quad (\text{ Proposition 4.3.2 })$ $= \sum_{n=0}^{\infty}\left(\sum_{k+l=n} \frac{t^k t^l}{k!l!}\Phi^k P \times \Phi^l Q\right)$ $= \left(\sum_{k=0}^{\infty} \frac{1}{k!}(t\Phi)^k P\right) \times \left(\sum_{l=0}^{\infty} \frac{1}{l!}(t\Phi)^l Q\right)$ $= (\exp t\Phi)P \times (\exp t\Phi)Q.$	$(\exp t\Phi)(P \times Q)(\exp t\Phi)^{-1}$ $= (\exp t(\operatorname{ad}\Phi))(P \times Q) \quad ((\operatorname{ad}\Phi)\Phi_1 = [\Phi, \Phi_1],\ \Phi_1 \in \mathfrak{e}_7{}^C)$ $= \sum_{n=0}^{\infty} \frac{1}{n!}(t(\operatorname{ad}\Phi))^n (P \times Q)$ $= \sum_{n=0}^{\infty} \frac{t^n}{n!}\Big(\sum_{k+l=n} \frac{n!}{k!\,l!}\Phi^k P \times \Phi^l Q\Big) \quad \text{(Proposition 4.3.2)}$ $= \sum_{n=0}^{\infty}\Big(\sum_{k+l=n} \frac{t^k t^l}{k!\,l!}\Phi^k P \times \Phi^l Q\Big)$ $= \Big(\sum_{k=0}^{\infty} \frac{1}{k!}(t\Phi)^k P\Big) \times \Big(\sum_{l=0}^{\infty} \frac{1}{l!}(t\Phi)^l Q\Big)$ $= (\exp t\Phi)P \times (\exp t\Phi)Q.$
0902.0431_EQ0555	93	0.993	`\beta \alpha_{23}\left(t_{0}\right) X=E_{2}-E_{3} \in S^{8} .`	$\beta\alpha_{23}\left(t_0\right) X = E_2 - E_3 \in S^8.$	$\beta\alpha_{23}(t_0)X = E_2 - E_3 \in S^8.$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0777	130	0.993	`\mathfrak{M}^{C} \ni \alpha(X, X \times X, \operatorname{det} X, 1)=\left(\beta X, \beta_{1}(X \times X), \operatorname{det} X, 1\right),`	$\mathfrak{M}^{C} \ni \alpha(X, X \times X, \operatorname{det} X, 1)=\left(\beta X, \beta_{1}(X \times X), \operatorname{det} X, 1\right),$	$\mathfrak{M}^{C} \ni \alpha(X, X \times X, \operatorname{det} X, 1)=(\beta X, \beta_{1}(X \times X), \operatorname{det} X, 1),$
0902.0431_EQ0041 (ii)	12	0.994	`\left(L_{b} x\right) y+x\left(R_{b} y\right)=T_{b}(x y), \quad x, y \in \mathfrak{C} .`	$\left(L_{b} x\right) y+x\left(R_{b} y\right)=T_{b}(x y), \quad x, y \in \mathfrak{C} .$	$(L_{b} x) y+x(R_{b} y)=T_{b}(x y), \quad x, y \in \mathfrak{C}.$
0902.0431_EQ0077	16	0.994	`B=D+\sum_{i=1}^{6} x_{i} S_{i}, \quad D \in \mathfrak{su}(3), x_{i} \in \boldsymbol{R}`	$B=D+\sum_{i=1}^{6} x_{i} S_{i}, \quad D \in \mathfrak{su}(3), x_{i} \in \boldsymbol{R}$	$B=D+\sum_{i=1}^{6} x_{i} S_{i}, \quad D \in \mathfrak{su}(3), x_{i} \in \boldsymbol{R}.$
0902.0431_EQ0996	166	0.994	`\operatorname{Aut}\left(\mathfrak{e}_{8}{ }^{C}\right)= \operatorname{Inn}\left(\mathfrak{e}_{8}{ }^{C}\right) .`	$\operatorname{Aut}\left(\mathfrak{e}_{8}{}^{C}\right)=\operatorname{Inn}\left(\mathfrak{e}_{8}{}^{C}\right) .$	$\operatorname{Aut}(\mathfrak{e}_{8}{}^{C})=\operatorname{Inn}(\mathfrak{e}_{8}{}^{C}).$
0902.0431_EQ0999	166	0.994	`E_{8}^{C} /\left(E_{8}^{C}\right)_{1_{-}} \simeq \mathfrak{W}^{C},`	$E_{8}^{C} /\left(E_{8}^{C}\right)_{1_{-}} \simeq \mathfrak{W}^{C},$	$E_{8}{}^{C}/(E_{8}{}^{C})_{1_{-}} \simeq \mathfrak{W}^{C},$
0902.0431_EQ0562	94	0.994	`\begin{gathered} \mathfrak{E}_{1}^{C}=\left\{\xi E_{1} \mid \xi \in C\right\}, \quad \mathfrak{J}(2, \mathfrak{C})^{C}=\left\{X \in \mathfrak{J}^{C} \mid 4 E_{1} \times\left(E_{1} \times X\right)=X\right\}, \\ \left(\mathfrak{J}^{C}\right)_{-\sigma}=\left\{X \in \mathfrak{J}^{C} \mid E_{1} \times X=0,\left\langle E_{1}, X\right\rangle=0\right\} . \end{gathered}`	$\begin{gathered} \mathfrak{E}_{1}^{C}=\left\{\xi E_{1} \mid \xi \in C\right\}, \quad \mathfrak{J}(2, \mathfrak{C})^{C}=\left\{X \in \mathfrak{J}^{C} \mid 4 E_{1} \times\left(E_{1} \times X\right)=X\right\}, \\ \left(\mathfrak{J}^{C}\right)_{-\sigma}=\left\{X \in \mathfrak{J}^{C} \mid E_{1} \times X=0,\left\langle E_{1}, X\right\rangle=0\right\} . \end{gathered}$	$\mathfrak{E}_{1}{}^{C}=\{\xi E_{1} \mid \xi \in C\}, \quad \mathfrak{J}(2, \mathfrak{C})^{C}=\{X \in \mathfrak{J}^{C} \mid 4 E_{1} \times (E_{1} \times X)=X\}, \\ (\mathfrak{J}^{C})_{-\sigma}=\{X \in \mathfrak{J}^{C} \mid E_{1} \times X=0,\langle E_{1}, X\rangle=0\}.$
0902.0431_EQ0810	135	0.994	`\alpha=\left(\begin{array}{cccc} \omega^{\prime} 1 & 0 & 0 & 0 \\ 0 & \omega^{\prime-1} 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right), \quad \omega^{ \prime}=1, \omega \text { or } \omega^{2} .`	$\alpha=\left(\begin{array}{cccc} \omega^{\prime} 1 & 0 & 0 & 0 \\ 0 & \omega^{\prime-1} 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right), \quad \omega^{\prime}=1, \omega \text { or } \omega^{2} .$	$\alpha=\left(\begin{array}{cccc} \omega^{\prime} 1 & 0 & 0 & 0 \\ 0 & \omega^{\prime-1} 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right), \quad \omega^{\prime}=1, \omega \text { or } \omega^{2} .$
0902.0431_EQ0012	8	0.994	`\begin{aligned} (\alpha x, \alpha y) & =\frac{1}{2}(( \alpha x)(\overline{\alpha y})+(\alpha y)(\overline{ \alpha x}))=\frac{1}{2}((\alpha x)(\alpha \bar{y})+( \alpha y)(\alpha \bar{x})) \\ & =\alpha\left( \frac{1}{2}(x \bar{y}+y \bar{x})\right)=\alpha((x, y))=(x, y) . \end{aligned}`	$\begin{aligned} (\alpha x, \alpha y) & =\frac{1}{2}((\alpha x)(\overline{\alpha y})+(\alpha y)(\overline{\alpha x}))=\frac{1}{2}((\alpha x)(\alpha \bar{y})+(\alpha y)(\alpha \bar{x})) \\ & =\alpha\left(\frac{1}{2}(x \bar{y}+y \bar{x})\right)=\alpha((x, y))=(x, y). \end{aligned}$	$\begin{aligned} (\alpha x, \alpha y) & =\frac{1}{2}((\alpha x)(\overline{\alpha y})+(\alpha y)(\overline{\alpha x}))=\frac{1}{2}((\alpha x)(\alpha \bar{y})+(\alpha y)(\alpha \bar{x})) \\ & =\alpha\left(\frac{1}{2}(x \bar{y}+y \bar{x})\right)=\alpha((x, y))=(x, y). \end{aligned}$
0902.0431_EQ0412	68	0.994	`\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right), \quad \xi_{i} \in \boldsymbol{R}, x_{i}=a_{i}+\boldsymbol{m}_{i} \in \boldsymbol{C} \oplus \boldsymbol{C}^{3}=\mathfrak{C}`	$\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right), \quad \xi_{i} \in \boldsymbol{R}, x_{i}=a_{i}+\boldsymbol{m}_{i} \in \boldsymbol{C} \oplus \boldsymbol{C}^{3}=\mathfrak{C}$	$\left(\begin{array}{ccc} \xi_{1} & x_{3} & \overline{x}_{2} \\ \overline{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \overline{x}_{1} & \xi_{3} \end{array}\right), \quad \xi_{i} \in \boldsymbol{R}, x_{i}=a_{i}+\boldsymbol{m}_{i} \in \boldsymbol{C} \oplus \boldsymbol{C}^{3}=\mathfrak{C}$
0902.0431_EQ0673	112	0.994	`\begin{aligned} = & \Phi\left(-X \vee Y,-\frac{1}{2}(Y \times Y-\xi X), \frac{1}{2}(X \times X-\eta Y), \frac{1}{4}((X, Y)-3 \xi \eta)\right)(Z, W, \zeta, \omega), \\ & -\frac{3}{8}((X, W)-(Z, Y)+\xi \omega-\zeta \eta)(X, Y, \xi, \eta) \\ = & (P \times P) Q-\frac{3}{8}\{P, Q\} P . \end{aligned}`	$\begin{aligned} = & \Phi\left(-X \vee Y,-\frac{1}{2}(Y \times Y-\xi X), \frac{1}{2}(X \times X-\eta Y), \frac{1}{4}((X, Y)-3 \xi \eta)\right)(Z, W, \zeta, \omega), \\ & -\frac{3}{8}((X, W)-(Z, Y)+\xi \omega-\zeta \eta)(X, Y, \xi, \eta) \\ = & (P \times P) Q-\frac{3}{8}\{P, Q\} P. \end{aligned}$	$\begin{aligned} & =\Phi\left(-X \vee Y,-\frac{1}{2}(Y \times Y-\xi X), \frac{1}{2}(X \times X-\eta Y), \frac{1}{4}((X, Y)-3 \xi \eta)\right)(Z, W, \zeta, \omega), \\ & -\frac{3}{8}((X, W)-(Z, Y)+\xi \omega-\zeta \eta)(X, Y, \xi, \eta) \\ & =(P \times P) Q-\frac{3}{8}\{P, Q\} P. \end{aligned}$

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0902.0431_EQ0136	25	0.995	`\begin{array}{cc} 2 G_{12}-G_{47}-G_{56}, & -G_{47}+G_{56}, \\ 2 G_{13}-G_{46}-G_{57}, & G_{46}+G_{57}, \\ 2 G_{23}-G_{45}-G_{67}, & -G_{45}+G_{67} \end{array}`	$\begin{array}{cc} 2 G_{12}-G_{47}-G_{56}, & -G_{47}+G_{56}, \\ 2 G_{13}-G_{46}-G_{57}, & G_{46}+G_{57}, \\ 2 G_{23}-G_{45}-G_{67}, & -G_{45}+G_{67} \end{array}$	$\begin{array}{cc} 2 G_{12}-G_{47}-G_{56}, & -G_{47}+G_{56}, \\ 2 G_{13}-G_{46}-G_{57}, & G_{46}+G_{57}, \\ 2 G_{23}-G_{45}-G_{67}, & -G_{45}+G_{67} \end{array}$
0902.0431_EQ0282	45	0.995	`\left(D_{i} x, y\right)+\left(x, D_{i} y\right)=0, \quad x, y \in \mathfrak{C} .`	$\left(D_{i} x, y\right)+\left(x, D_{i} y\right)=0, \quad x, y \in \mathfrak{C} .$	$\left(D_{i} x, y\right)+\left(x, D_{i} y\right)=0, \quad x, y \in \mathfrak{C} .$
0902.0431_EQ1149 (i)	194	0.995	`\begin{aligned} (\boldsymbol{u} \times \boldsymbol{v}) \boldsymbol{x}= & \left(\boldsymbol{x} \wedge \boldsymbol{u}_{2} \wedge \boldsymbol{u}_{3}, \boldsymbol{v}\right) \boldsymbol{u}_{1}+\left(\boldsymbol{u}_{1} \wedge \boldsymbol{x} \wedge \boldsymbol{u}_{3}, \boldsymbol{v}\right) \boldsymbol{u}_{2} \\ & +\left(\boldsymbol{u}_{1} \wedge \boldsymbol{u}_{2} \wedge \boldsymbol{x}, \boldsymbol{v} \right) \boldsymbol{u}_{3}-\frac{1}{3}(\boldsymbol{u}, \boldsymbol{v}) \boldsymbol{x} . \end{aligned}`	$\begin{aligned} (\boldsymbol{u} \times \boldsymbol{v}) \boldsymbol{x}= & \left(\boldsymbol{x} \wedge \boldsymbol{u}_{2} \wedge \boldsymbol{u}_{3}, \boldsymbol{v}\right) \boldsymbol{u}_{1}+\left(\boldsymbol{u}_{1} \wedge \boldsymbol{x} \wedge \boldsymbol{u}_{3}, \boldsymbol{v}\right) \boldsymbol{u}_{2} \\ & +\left(\boldsymbol{u}_{1} \wedge \boldsymbol{u}_{2} \wedge \boldsymbol{x}, \boldsymbol{v} \right) \boldsymbol{u}_{3}-\frac{1}{3}(\boldsymbol{u}, \boldsymbol{v}) \boldsymbol{x} . \end{aligned}$	$\begin{aligned} (\boldsymbol{u} \times \boldsymbol{v}) \boldsymbol{x}= & \left(\boldsymbol{x} \wedge \boldsymbol{u}_{2} \wedge \boldsymbol{u}_{3}, \boldsymbol{v}\right) \boldsymbol{u}_{1}+\left(\boldsymbol{u}_{1} \wedge \boldsymbol{x} \wedge \boldsymbol{u}_{3}, \boldsymbol{v}\right) \boldsymbol{u}_{2} \\ & +\left(\boldsymbol{u}_{1} \wedge \boldsymbol{u}_{2} \wedge \boldsymbol{x}, \boldsymbol{v} \right) \boldsymbol{u}_{3}-\frac{1}{3}(\boldsymbol{u}, \boldsymbol{v}) \boldsymbol{x} . \end{aligned}$
0902.0431_EQ0292	46	0.995	`\begin{aligned} \mathfrak{e}_{6}^{C} & =\left\{\phi \in \operatorname{Hom}_{C}\left(\mathfrak{J}^{C}\right) \mid(\phi X, X, X)=0\right\} \\ & =\left\{\phi \in \operatorname{Hom}_{C}\left(\mathfrak{J}^{C}\right) \mid-{ }^{t} \phi(X \times Y)=\phi X \times Y+X \times \phi Y\right\}, \\ \mathfrak{f}_{4}^{C} & =\left\{\delta \in \operatorname{Hom}_{C}\left(\mathfrak{J}^{C}\right) \mid \delta(X \circ Y)=\delta X \circ Y+X \circ \delta Y\right\} \\ & =\left\{\delta \in \operatorname{Hom}_{C}\left(\mathfrak{J}^{C}\right) \mid \delta(X \times Y)=\delta X \times Y+X \times \delta Y\right\} . \end{aligned}`	$\begin{aligned} \mathfrak{e}_{6}^{C} & =\left\{\phi \in \operatorname{Hom}_{C}\left(\mathfrak{J}^{C}\right) \mid(\phi X, X, X)=0\right\} \\ & =\left\{\phi \in \operatorname{Hom}_{C}\left(\mathfrak{J}^{C}\right) \mid-{ }^{t} \phi(X \times Y)=\phi X \times Y+X \times \phi Y\right\}, \\ \mathfrak{f}_{4}^{C} & =\left\{\delta \in \operatorname{Hom}_{C}\left(\mathfrak{J}^{C}\right) \mid \delta(X \circ Y)=\delta X \circ Y+X \circ \delta Y\right\} \\ & =\left\{\delta \in \operatorname{Hom}_{C}\left(\mathfrak{J}^{C}\right) \mid \delta(X \times Y)=\delta X \times Y+X \times \delta Y\right\} . \end{aligned}$	$\begin{aligned} \mathfrak{e}_{6}{}^{C} & =\left\{\phi \in \operatorname{Hom}_{C}\left(\mathfrak{J}^{C}\right) \mid(\phi X, X, X)=0\right\} \\ & =\left\{\phi \in \operatorname{Hom}_{C}\left(\mathfrak{J}^{C}\right) \mid-{ }^{t} \phi(X \times Y)=\phi X \times Y+X \times \phi Y\right\}, \\ \mathfrak{f}_{4}{}^{C} & =\left\{\delta \in \operatorname{Hom}_{C}\left(\mathfrak{J}^{C}\right) \mid \delta(X \circ Y)=\delta X \circ Y+X \circ \delta Y\right\} \\ & =\left\{\delta \in \operatorname{Hom}_{C}\left(\mathfrak{J}^{C}\right) \mid \delta(X \times Y)=\delta X \times Y+X \times \delta Y\right\} . \end{aligned}$
0902.0431_EQ0822 (iv)	137	0.995	`\begin{aligned} & a(X) \operatorname{det} X=a(X)(\operatorname{det} X)(M, N)=(\delta(X \times X) \times \delta(X \times X), N) \\ & \quad=(\delta(X \times X), \delta(X \times X) \times N)=\frac{1}{2} a(X)(\delta(X \times X), \beta X) \\ & \quad=\frac{1}{2} a(X)(3 a(X) b(X \times X)-\operatorname{det} X) . \end{aligned}`	$\begin{aligned} & a(X) \operatorname{det} X=a(X)(\operatorname{det} X)(M, N)=(\delta(X \times X) \times \delta(X \times X), N) \\ & \quad=(\delta(X \times X), \delta(X \times X) \times N)=\frac{1}{2} a(X)(\delta(X \times X), \beta X) \\ & \quad=\frac{1}{2} a(X)(3 a(X) b(X \times X)-\operatorname{det} X) . \end{aligned}$	$\begin{aligned} & a(X) \operatorname{det} X=a(X)(\operatorname{det} X)(M, N)=(\delta(X \times X) \times \delta(X \times X), N) \\ & \quad=(\delta(X \times X), \delta(X \times X) \times N)=\frac{1}{2} a(X)(\delta(X \times X), \beta X) \\ & \quad=\frac{1}{2} a(X)(3 a(X) b(X \times X)-\operatorname{det} X) . \end{aligned}$
0902.0431_EQ1042	178	0.995	`\left(E_{8}^{C}\right)_{1,1^{-}, 1_{-}}=\left\{\alpha \in E_{8}^{C} \mid \alpha 1=1, \alpha 1^{-}=1^{-}, \alpha 1_{-}=1_{-}\right\} .`	$\left(E_{8}^{C}\right)_{1,1^{-}, 1_{-}}=\left\{\alpha \in E_{8}^{C} \mid \alpha 1=1, \alpha 1^{-}=1^{-}, \alpha 1_{-}=1_{-}\right\} .$	$\left(E_{8}{}^{C}\right)_{1,1^{-}, 1_{-}}=\left\{\alpha \in E_{8}{}^{C} \mid \alpha 1=1, \alpha 1^{-}=1^{-}, \alpha 1_{-}=1_{-}\right\} .$

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0902.0431_EQ0387	64	0.995	`\gamma\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right)=\left(\begin{array}{ccc} \xi_{1} & \gamma x_{3} & \overline{\gamma x_{2}} \\ \overline{\gamma x_{3}} & \xi_{2} & \gamma x_{1} \\ \gamma x_{2} & \overline{\gamma x_{1}} & \xi_{3} \end{array}\right) .`	$\gamma\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right)=\left(\begin{array}{ccc} \xi_{1} & \gamma x_{3} & \overline{\gamma x_{2}} \\ \overline{\gamma x_{3}} & \xi_{2} & \gamma x_{1} \\ \gamma x_{2} & \overline{\gamma x_{1}} & \xi_{3} \end{array}\right) .$	$\gamma\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right)=\left(\begin{array}{ccc} \xi_{1} & \gamma x_{3} & \overline{\gamma x_{2}} \\ \overline{\gamma x_{3}} & \xi_{2} & \gamma x_{1} \\ \gamma x_{2} & \overline{\gamma x_{1}} & \xi_{3} \end{array}\right) .$
0902.0431_EQ0744	123	0.995	`\Phi_{0} \Phi_{0}(X, Y, \xi, \eta)=\Phi_{0}\left(-\frac{X}{3}, \frac{Y}{3}, \xi,-\eta\right)=\left(\frac{X}{9}, \frac{Y}{9}, \xi, \eta\right),`	$\Phi_{0} \Phi_{0}(X, Y, \xi, \eta)=\Phi_{0}\left(-\frac{X}{3}, \frac{Y}{3}, \xi,-\eta\right)=\left(\frac{X}{9}, \frac{Y}{9}, \xi, \eta\right),$	$\Phi_{0} \Phi_{0}(X, Y, \xi, \eta)=\Phi_{0}\left(-\frac{X}{3}, \frac{Y}{3}, \xi,-\eta\right)=\left(\frac{X}{9}, \frac{Y}{9}, \xi, \eta\right),$
0902.0431_EQ1109	188	0.995	`S O(16), \quad S s(16) .`	$SO(16), \quad Ss(16).$	$SO(16), \quad Ss(16).$
0902.0431_EQ1124	190	0.995	`\tau \widetilde{\lambda}(D, \phi, \boldsymbol{X}, \boldsymbol{Y})=\left(-\tau^{t} D,-\tau^{t} \phi \tau,-\tau \boldsymbol{Y},-\tau \boldsymbol{X}\right) .`	$\tau \widetilde{\lambda}(D, \phi, \boldsymbol{X}, \boldsymbol{Y})=\left(-\tau^{t} D,-\tau^{t} \phi \tau,-\tau \boldsymbol{Y},-\tau \boldsymbol{X}\right) .$	$\tau \widetilde{\lambda}(D, \phi, \boldsymbol{X}, \boldsymbol{Y})=\left(-\tau^{t} D,-\tau^{t} \phi \tau,-\tau \boldsymbol{Y},-\tau \boldsymbol{X}\right).$
0902.0431_EQ1044	178	0.995	`\alpha=\left(\begin{array}{cccccc} \beta_{1} & \beta_{12} & \beta_{13} & 0 & 0 & 0 \\ \beta_{21} & \beta_{2} & \beta_{23} & 0 & 0 & 0 \\ \beta_{31} & \beta_{32} & \beta_{3} & 0 & 0 & 0 \\ a_{1} & b_{1} & c_{1} & 1 & 0 & 0 \\ a_{2} & b_{2} & c_{2} & 0 & 1 & 0 \\ a_{3} & b_{3} & c_{3} & 0 & 0 & 1 \end{array} \right), \quad \begin{aligned} & \beta_{1} \in \operatorname{Hom}_{C}\left(\mathfrak{e}_{7}^{C}\right), \\ & \beta_{2}, \beta_{3}, \beta_{23}, \beta_{32} \in \operatorname{Hom}_{C}\left(\mathfrak{P}^{C}\right), \\ & \beta_{21}, \beta_{31} \in \operatorname{Hom}_{C}\left(\mathfrak{e}_{7}^{C}, \mathfrak{P}^{C}\right), \\ & \beta_{12}, \beta_{13} \in \operatorname{Hom}_{C}\left(\mathfrak{P}^{C}, \mathfrak{e}_{7}^{C}\right), \\ & a_{i} \in \operatorname{Hom}_{C}\left(\mathfrak{e}_{7}^{C}, C\right), \\ & b_{i}, c_{i} \in \operatorname{Hom}_{C}\left(\mathfrak{P}^{C}, C\right) . \end{aligned}`	$\alpha=\left(\begin{array}{cccccc} \beta_{1} & \beta_{12} & \beta_{13} & 0 & 0 & 0 \\ \beta_{21} & \beta_{2} & \beta_{23} & 0 & 0 & 0 \\ \beta_{31} & \beta_{32} & \beta_{3} & 0 & 0 & 0 \\ a_{1} & b_{1} & c_{1} & 1 & 0 & 0 \\ a_{2} & b_{2} & c_{2} & 0 & 1 & 0 \\ a_{3} & b_{3} & c_{3} & 0 & 0 & 1 \end{array} \right), \quad \begin{aligned} & \beta_{1} \in \operatorname{Hom}_{C}\left(\mathfrak{e}_{7}^{C}\right), \\ & \beta_{2}, \beta_{3}, \beta_{23}, \beta_{32} \in \operatorname{Hom}_{C}\left(\mathfrak{P}^{C}\right), \\ & \beta_{21}, \beta_{31} \in \operatorname{Hom}_{C}\left(\mathfrak{e}_{7}^{C}, \mathfrak{P}^{C}\right), \\ & \beta_{12}, \beta_{13} \in \operatorname{Hom}_{C}\left(\mathfrak{P}^{C}, \mathfrak{e}_{7}^{C}\right), \\ & a_{i} \in \operatorname{Hom}_{C}\left(\mathfrak{e}_{7}^{C}, C\right), \\ & b_{i}, c_{i} \in \operatorname{Hom}_{C}\left(\mathfrak{P}^{C}, C\right) . \end{aligned}$	$\alpha=\left(\begin{array}{cccccc} \beta_{1} & \beta_{12} & \beta_{13} & 0 & 0 & 0 \\ \beta_{21} & \beta_{2} & \beta_{23} & 0 & 0 & 0 \\ \beta_{31} & \beta_{32} & \beta_{3} & 0 & 0 & 0 \\ a_{1} & b_{1} & c_{1} & 1 & 0 & 0 \\ a_{2} & b_{2} & c_{2} & 0 & 1 & 0 \\ a_{3} & b_{3} & c_{3} & 0 & 0 & 1 \end{array} \right), \quad \begin{aligned} & \beta_{1} \in \operatorname{Hom}_{C}\left(\mathfrak{e}_{7}^{C}\right), \\ & \beta_{2}, \beta_{3}, \beta_{23}, \beta_{32} \in \operatorname{Hom}_{C}\left(\mathfrak{P}^{C}\right), \\ & \beta_{21}, \beta_{31} \in \operatorname{Hom}_{C}\left(\mathfrak{e}_{7}^{C}, \mathfrak{P}^{C}\right), \\ & \beta_{12}, \beta_{13} \in \operatorname{Hom}_{C}\left(\mathfrak{P}^{C}, \mathfrak{e}_{7}^{C}\right), \\ & a_{i} \in \operatorname{Hom}_{C}\left(\mathfrak{e}_{7}^{C}, C\right), \\ & b_{i}, c_{i} \in \operatorname{Hom}_{C}\left(\mathfrak{P}^{C}, C\right). \end{aligned}$
0902.0431_EQ0410	68	0.995	`w\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right)=\left(\begin{array}{ccc} \xi_{1} & \omega x_{3} & \overline{\omega x_{2}} \\ \overline{\omega x_{3}} & \xi_{2} & \omega x_{1} \\ \omega x_{2} & \overline{\omega x_{1}} & \xi_{3} \end{array}\right) .`	$w\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right)=\left(\begin{array}{ccc} \xi_{1} & \omega x_{3} & \overline{\omega x_{2}} \\ \overline{\omega x_{3}} & \xi_{2} & \omega x_{1} \\ \omega x_{2} & \overline{\omega x_{1}} & \xi_{3} \end{array}\right) .$	$w\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right)=\left(\begin{array}{ccc} \xi_{1} & \omega x_{3} & \overline{\omega x_{2}} \\ \overline{\omega x_{3}} & \xi_{2} & \omega x_{1} \\ \omega x_{2} & \overline{\omega x_{1}} & \xi_{3} \end{array}\right) .$
0902.0431_EQ1134	191	0.995	`\left(\operatorname{ad} \phi^{\prime}\right)(D, \phi, \boldsymbol{X}, \boldsymbol{Y})=\left(0, \left(\operatorname{ad} \phi^{\prime}\right) \phi, \phi^{\prime} \boldsymbol{X},-{ }^{t} \phi^{\prime} \boldsymbol{Y}\right),`	$\left(\operatorname{ad} \phi^{\prime}\right)(D, \phi, \boldsymbol{X}, \boldsymbol{Y})=\left(0, \left(\operatorname{ad} \phi^{\prime}\right) \phi, \phi^{\prime} \boldsymbol{X},-{ }^{t} \phi^{\prime} \boldsymbol{Y}\right),$	$\left(\operatorname{ad} \phi^{\prime}\right)(D, \phi, \boldsymbol{X}, \boldsymbol{Y})=\left(0, \left(\operatorname{ad} \phi^{\prime}\right) \phi, \phi^{\prime} \boldsymbol{X},-{ }^{t} \phi^{\prime} \boldsymbol{Y}\right),$
0902.0431_EQ0493	81	0.996	`\delta(X \circ Y)=\delta X \circ Y+X \circ \delta Y, \quad X, Y \in\left(\mathfrak{M}^{r}\right)^{C} .`	$\delta(X \circ Y)=\delta X \circ Y+X \circ \delta Y, \quad X, Y \in\left(\mathfrak{M}^{r}\right)^{C} .$	$\delta(X \circ Y)=\delta X \circ Y+X \circ \delta Y, \quad X, Y \in\left(\mathfrak{M}^{r}\right)^{C}.$

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0902.0431_EQ0861	143	■0.996	`\left(\left(E_{7}\right)^{\kappa, \mu}\right)_{\left(0, E_{1}, 0,1\right)} /\{1, \sigma\} \cong S O(11) .`	$\left(\left(E_{7}\right)^{\kappa, \mu}\right)_{\left(0, E_{1}, 0,1\right)} /\{1, \sigma\} \cong S O(11) .$	$\left(\left(E_{7}\right)^{\kappa, \mu}\right)_{\left(0, E_{1}, 0,1\right)} /\{1, \sigma\} \cong S O(11) .$
0902.0431_EQ0982	163	■0.996	`\[ \mathfrak{a} \ni\left[\Phi,\left[P_{1}^{-}, P_{-} \right]\right]=\left[\Phi, P \times P_{1}\right] . \] \end{itemize}`	$\mathfrak{a} \ni\left[\Phi,\left[P_{1}^{-}, P_{-} \right]\right]=\left[\Phi, P \times P_{1}\right] .$	$\mathfrak{a} \ni\left[\Phi,\left[P_{1}^{-}, P_{-} \right]\right]=\left[\Phi, P \times P_{1}\right] .$
0902.0431_EQ0986	164	■0.996	`\operatorname{Der}\left(\mathfrak{e}_{8}^{C}\right)= \left\{\Theta \in \operatorname{Hom}_{C}\left( \mathfrak{e}_{8}^{C}\right) \mid \Theta\left[R_{1}, R_{2} \right]=\left[\Theta R_{1}, R_{2}\right]+\left[R_{2}, \Theta R_{2}\right]\right\} .`	$\operatorname{Der}\left(\mathfrak{e}_{8}^{C}\right)= \left\{\Theta \in \operatorname{Hom}_{C}\left(\mathfrak{e}_{8}^{C}\right) \mid \Theta\left[R_{1}, R_{2} \right]=\left[\Theta R_{1}, R_{2}\right]+\left[R_{2}, \Theta R_{2}\right]\right\} .$	$\operatorname{Der}\left(\mathfrak{e}_{8}^{C}\right)= \left\{\Theta \in \operatorname{Hom}_{C}\left(\mathfrak{e}_{8}^{C}\right) \mid \Theta\left[R_{1}, R_{2} \right]=\left[\Theta R_{1}, R_{2}\right]+\left[R_{2}, \Theta R_{2}\right]\right\} .$
0902.0431_EQ1182	199	■0.996	`(\boldsymbol{x} \wedge \boldsymbol{a}, \boldsymbol{y} \wedge \boldsymbol{b})+(* \boldsymbol{b} \wedge \boldsymbol{x}, * \boldsymbol{a} \wedge \boldsymbol{y})=( \boldsymbol{x}, \boldsymbol{y})(\boldsymbol{a}, \boldsymbol{b}) .`	$(\boldsymbol{x} \wedge \boldsymbol{a}, \boldsymbol{y} \wedge \boldsymbol{b})+(* \boldsymbol{b} \wedge \boldsymbol{x}, * \boldsymbol{a} \wedge \boldsymbol{y})=(\boldsymbol{x}, \boldsymbol{y})(\boldsymbol{a}, \boldsymbol{b}) .$	$(\boldsymbol{x} \wedge \boldsymbol{a}, \boldsymbol{y} \wedge \boldsymbol{b})+(* \boldsymbol{b} \wedge \boldsymbol{x}, * \boldsymbol{a} \wedge \boldsymbol{y})=(\boldsymbol{x}, \boldsymbol{y})(\boldsymbol{a}, \boldsymbol{b}) .$
0902.0431_EQ0983	164	■0.996	`\[ \begin{aligned} \mathfrak{a} & \ni\left[P^{-}, \left[1^{-},\left[1_{-}, R\right]\right]\right]= \left[P^{-},\left[1^{-},(0,0,0,-s, 0,2 r)\right]\right] \\ & =\left[P^{-},(0,0,0,2 r, 2 s, 0)\right]=(0,-2 r P, 0,0,0,0) \end{aligned} \] \end{itemize}`	$\begin{aligned} \mathfrak{a} & \ni\left[P^{-}, \left[1^{-},\left[1_{-}, R\right]\right]\right]= \left[P^{-},\left[1^{-},(0,0,0,-s, 0,2 r)\right]\right] \\ & =\left[P^{-},(0,0,0,2 r, 2 s, 0)\right]=(0,-2 r P, 0,0,0,0) \end{aligned}$	$\begin{aligned} \mathfrak{a} & \ni\left[P^{-}, \left[1^{-},\left[1_{-}, R\right]\right]\right]= \left[P^{-},\left[1^{-},(0,0,0,-s, 0,2 r)\right]\right] \\ & =\left[P^{-},(0,0,0,2 r, 2 s, 0)\right]=(0,-2 r P, 0,0,0,0) \end{aligned}$
0902.0431_EQ1079	183	■0.996	`\begin{aligned} \chi \lambda \gamma \chi^{-1} S & =\chi \lambda \gamma(X, Y, \xi, \eta)=\chi(\gamma Y,-\gamma X, \eta,-\xi) \\ & =\left(k\left(g(\gamma Y)-\frac{\eta}{2} E\right)+i k\left(g\left(\gamma(-\gamma X)-\frac{-\xi}{2} E\right)\right)\right) J \\ & =-i\left(k\left(g X-\frac{\xi}{2} E\right)+i k\left(g(\gamma Y)-\frac{\eta}{2} E \right)\right) J \\ & =-i \chi(X, Y, \xi, \eta)=-i \chi P=-i S . \end{aligned}`	$\begin{aligned} \chi \lambda \gamma \chi^{-1} S & =\chi \lambda \gamma(X, Y, \xi, \eta)=\chi(\gamma Y,-\gamma X, \eta,-\xi) \\ & =\left(k\left(g(\gamma Y)-\frac{\eta}{2} E\right)+i k\left(g\left(\gamma(-\gamma X)-\frac{-\xi}{2} E\right)\right)\right) J \\ & =-i\left(k\left(g X-\frac{\xi}{2} E\right)+i k\left(g(\gamma Y)-\frac{\eta}{2} E\right)\right) J \\ & =-i \chi(X, Y, \xi, \eta)=-i \chi P=-i S . \end{aligned}$	$\begin{aligned} \chi \lambda \gamma \chi^{-1} S & =\chi \lambda \gamma(X, Y, \xi, \eta)=\chi(\gamma Y,-\gamma X, \eta,-\xi) \\ & =\left(k\left(g(\gamma Y)-\frac{\eta}{2} E\right)+i k\left(g\left(\gamma(-\gamma X)-\frac{-\xi}{2} E\right)\right)\right) J \\ & =-i\left(k\left(g X-\frac{\xi}{2} E\right)+i k\left(g(\gamma Y)-\frac{\eta}{2} E\right)\right) J \\ & =-i \chi(X, Y, \xi, \eta)=-i \chi P=-i S . \end{aligned}$
0902.0431_EQ0907	151	■0.996	`\alpha P=(X, Y, \xi, \eta), \quad X, Y \text { are real diagonal, } 0 \neq \xi \in \boldsymbol{R} .`	$\alpha P=(X, Y, \xi, \eta), \quad X, Y \text { are real diagonal, } 0 \neq \xi \in \boldsymbol{R} .$	$\alpha P=(X, Y, \xi, \eta), \quad X, Y \text { are real diagonal, } 0 \neq \xi \in \boldsymbol{R} .$
0902.0431_EQ0113	22	■0.996	`\begin{aligned} & \left(a_{4}, a_{7}\right)=\left(a_{4}, a_{3} a_{4}\right)=\left(1, a_{3}\right)\left(a_{4}, a_{4}\right)=0, \\ & \left(a_{1}, a_{6}\right)= \left(a_{1}, a_{4} a_{2}\right)=-\left(a_{1} a_{2}, a_{4} \right)=-\left(a_{3}, a_{4}\right)=0, \\ & \left(a_{3}, a_{6}\right)=\left(a_{3}, a_{4} a_{2}\right)=-\left(a_{3} a_{2}, a_{4}\right)=\left(a_{1}, a_{4}\right)=0, \text { etc. } \end{aligned}`	$\begin{aligned} & \left(a_{4}, a_{7}\right)=\left(a_{4}, a_{3} a_{4}\right)=\left(1, a_{3}\right)\left(a_{4}, a_{4}\right)=0, \\ & \left(a_{1}, a_{6}\right)= \left(a_{1}, a_{4} a_{2}\right)=-\left(a_{1} a_{2}, a_{4} \right)=-\left(a_{3}, a_{4}\right)=0, \\ & \left(a_{3}, a_{6}\right)=\left(a_{3}, a_{4} a_{2}\right)=-\left(a_{3} a_{2}, a_{4}\right)=\left(a_{1}, a_{4}\right)=0, \text { etc. } \end{aligned}$	$\begin{aligned} & \left(a_{4}, a_{7}\right)=\left(a_{4}, a_{3} a_{4}\right)=\left(1, a_{3}\right)\left(a_{4}, a_{4}\right)=0, \\ & \left(a_{1}, a_{6}\right)= \left(a_{1}, a_{4} a_{2}\right)=-\left(a_{1} a_{2}, a_{4} \right)=-\left(a_{3}, a_{4}\right)=0, \\ & \left(a_{3}, a_{6}\right)=\left(a_{3}, a_{4} a_{2}\right)=-\left(a_{3} a_{2}, a_{4}\right)=\left(a_{1}, a_{4}\right)=0, \text { etc. } \end{aligned}$
0902.0431_EQ0166	30	■0.996	`\left(\alpha_{2} y\right)\left(\alpha_{3}(\overline{x y}) \right)=\overline{\alpha_{1} x}|y|^{2} .`	$\left(\alpha_{2} y\right)\left(\alpha_{3}(\overline{x y}) \right)=\overline{\alpha_{1} x}\|y\|^{2} .$	$\left(\alpha_{2} y\right)\left(\alpha_{3}(\overline{x y}) \right)=\overline{\alpha_{1} x}\|y\|^{2} .$
0902.0431_EQ0300	48	■0.996	`\mathfrak{a} \ni\left[D^{\prime}, D+\sum_{i=1}^{3} \widetilde{A}_{i}\left(a_{i}\right)\right]=\left[D^{ \prime}, D\right]+\sum_{i=1}^{3} \widetilde{A}_{i} \left(D_{i}{ }^{\prime} a_{i}\right)(\text { Lemma 2.4.2 }),`	$\mathfrak{a} \ni\left[D^{\prime}, D+\sum_{i=1}^{3} \widetilde{A}_{i}\left(a_{i}\right)\right]=\left[D^{ \prime}, D\right]+\sum_{i=1}^{3} \widetilde{A}_{i} \left(D_{i}{ }^{\prime} a_{i}\right)(\text { Lemma 2.4.2 }),$	$\mathfrak{a} \ni\left[D^{\prime}, D+\sum_{i=1}^{3} \widetilde{A}_{i}\left(a_{i}\right)\right]=\left[D^{ \prime}, D\right]+\sum_{i=1}^{3} \widetilde{A}_{i} \left(D_{i}{ }^{\prime} a_{i}\right)(\text { Lemma 2.4.2 }),$

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0902.0431_EQ0571	95	0.996	`J=\left(\begin{array}{ccc} J & 0 & 0 \\ 0 & J & 0 \\ 0 & 0 & J \end{array}\right) \in M(6, C), \quad J=\left( \begin{array}{cc} 0 & 1 \\ -1 & 0 \end{array}\right)`	$J=\left(\begin{array}{ccc} J & 0 & 0 \\ 0 & J & 0 \\ 0 & 0 & J \end{array}\right) \in M(6, C), \quad J=\left(\begin{array}{cc} 0 & 1 \\ -1 & 0 \end{array}\right)$	$J=\left(\begin{array}{ccc} J & 0 & 0 \\ 0 & J & 0 \\ 0 & 0 & J \end{array}\right) \in M(6, C), \quad J=\left(\begin{array}{cc} 0 & 1 \\ -1 & 0 \end{array}\right)$
0902.0431_EQ0638	105	0.996	`\operatorname{dim}\left(\mathfrak{e}_{6, \boldsymbol{C}} \right)=8+8=16 .`	$\operatorname{dim}\left(\mathfrak{e}_{6, \boldsymbol{C}} \right)=8+8=16 .$	$\operatorname{dim}\left(\mathfrak{e}_{6, \boldsymbol{C}} \right)=8+8=16 .$
0902.0431_EQ0647	107	0.996	`\begin{aligned} \operatorname{det}(\alpha X) & =(\operatorname{det}(h(A, B)))(\operatorname{det} X) \left(\operatorname{det}\left(h(A, B)^{*}\right)\right)= \operatorname{det} X, \\ \langle\alpha X, \alpha Y\rangle & =\left\langle h(A, B) X h(A, B)^{*}, h(A, B) Y h(A, B)^{*}\right\rangle \\ & =\left(\tau h(A, B) \tau X \tau h(A, B)^{*}, h(A, B) Y h(A, B)^{*}\right) \\ & =(\tau X, Y)=\langle X, Y\rangle . \end{aligned}`	$\begin{aligned} \operatorname{det}(\alpha X) & =(\operatorname{det}(h(A, B)))(\operatorname{det} X) \left(\operatorname{det}\left(h(A, B)^{*}\right)\right)= \operatorname{det} X, \\ \langle\alpha X, \alpha Y\rangle & =\left\langle h(A, B) X h(A, B)^{*}, h(A, B) Y h(A, B)^{*}\right\rangle \\ & =\left(\tau h(A, B) \tau X \tau h(A, B)^{*}, h(A, B) Y h(A, B)^{*}\right) \\ & =(\tau X, Y)=\langle X, Y\rangle . \end{aligned}$	$\begin{aligned} \operatorname{det}(\alpha X) & =(\operatorname{det}(h(A, B)))(\operatorname{det} X) \left(\operatorname{det}\left(h(A, B)^{*}\right)\right)= \operatorname{det} X, \\ \langle\alpha X, \alpha Y\rangle & =\left\langle h(A, B) X h(A, B)^{*}, h(A, B) Y h(A, B)^{*}\right\rangle \\ & =\left(\tau h(A, B) \tau X \tau h(A, B)^{*}, h(A, B) Y h(A, B)^{*}\right) \\ & =(\tau X, Y)=\langle X, Y\rangle . \end{aligned}$
0902.0431_EQ0687	114	0.996	`\operatorname{dim}_{C}\left(\mathfrak{e}_{7}^{C} \right)=78+27 \times 2+1=133 .`	$\operatorname{dim}_{C}\left(\mathfrak{e}_{7}^{C} \right)=78+27 \times 2+1=133 .$	$\operatorname{dim}_{C}\left(\mathfrak{e}_{7}^{C} \right)=78+27 \times 2+1=133 .$
0902.0431_EQ0807	135	0.996	`\begin{aligned} & \left(0,0,0, \theta^{-3} \eta \right)=\varphi_{1}(\theta)(0,0,0, \eta)=\varphi_{1}( \theta) \alpha(0,0,1,0) \\ & \quad=\alpha \varphi_{1}( \theta)(0,0,1,0)=\alpha\left(0,0, \theta^{3}, 0\right)= \left(0,0,0, \theta^{3} \eta\right), \end{aligned}`	$\begin{aligned} & \left(0,0,0, \theta^{-3} \eta \right)=\varphi_{1}(\theta)(0,0,0, \eta)=\varphi_{1}(\theta) \alpha(0,0,1,0) \\ & \quad=\alpha \varphi_{1}(\theta)(0,0,1,0)=\alpha\left(0,0, \theta^{3}, 0\right)= \left(0,0,0, \theta^{3} \eta\right), \end{aligned}$	$\begin{aligned} & \left(0,0,0, \theta^{-3} \eta \right)=\varphi_{1}(\theta)(0,0,0, \eta)=\varphi_{1}(\theta) \alpha(0,0,1,0) \\ & \quad=\alpha \varphi_{1}(\theta)(0,0,1,0)=\alpha\left(0,0, \theta^{3}, 0\right)= \left(0,0,0, \theta^{3} \eta\right), \end{aligned}$
0902.0431_EQ0933	154	0.996	`\psi(A, 1) P=f^{-1}(A(f P)), \quad \psi(A, \epsilon) P=f^{-1}(A(f \bar{P})), \quad P \in\left(\mathfrak{P}_{ \boldsymbol{C}}\right)^{C} .`	$\psi(A, 1) P=f^{-1}(A(f P)), \quad \psi(A, \epsilon) P=f^{-1}(A(f \bar{P})), \quad P \in\left(\mathfrak{P}_{ \boldsymbol{C}}\right)^{C} .$	$\psi(A, 1) P=f^{-1}(A(f P)), \quad \psi(A, \epsilon) P=f^{-1}(A(f \overline{P})), \quad P \in\left(\mathfrak{P}_{ \boldsymbol{C}}\right)^{C} .$
0902.0431_EQ0977	162	0.996	`\begin{aligned} \Phi & =(\Phi, 0,0,0,0,0), & P^{-} & =(0, P, 0,0,0,0), \\ Q_{-} & =(0,0, Q, 0,0,0), & r & =(0,0,0, r, 0,0), \\ s^{-} & =(0,0,0,0, s, 0), & t_{-} & =(0,0,0,0,0, t) . \end{aligned}`	$\begin{aligned} \Phi & =(\Phi, 0,0,0,0,0), & P^{-} & =(0, P, 0,0,0,0), \\ Q_{-} & =(0,0, Q, 0,0,0), & r & =(0,0,0, r, 0,0), \\ s^{-} & =(0,0,0,0, s, 0), & t_{-} & =(0,0,0,0,0, t) . \end{aligned}$	$\begin{aligned} \Phi & =(\Phi, 0,0,0,0,0), & P^{-} & =(0, P, 0,0,0,0), \\ Q_{-} & =(0,0, Q, 0,0,0), & r & =(0,0,0, r, 0,0), \\ s^{-} & =(0,0,0,0, s, 0), & t_{-} & =(0,0,0,0,0, t) . \end{aligned}$
0902.0431_EQ1098	186	0.996	`\begin{aligned} & \zeta\left[l\left(i c_{1} E\right), l\left(i c_{2} E\right)\right]=\zeta l\left[i c_{1} E, i c_{2} E\right]=\zeta 0=0 \\ & \left.\left.\quad= \Theta\left(0,0,0,0,2 c_{1},-2 c_{1}\right), \Theta \left(0,0,0,0,2 c_{2},-2 c_{2}\right)\right)\right] \\ & \quad=\left[\zeta l\left(i c_{1} E\right), \zeta l\left(i c_{2} E\right)\right] . \end{aligned}`	$\begin{aligned} & \zeta\left[l\left(i c_{1} E\right), l\left(i c_{2} E\right)\right]=\zeta l\left[i c_{1} E, i c_{2} E\right]=\zeta 0=0 \\ & \left.\left.\quad= \Theta\left(0,0,0,0,2 c_{1},-2 c_{1}\right), \Theta \left(0,0,0,0,2 c_{2},-2 c_{2}\right)\right)\right] \\ & \quad=\left[\zeta l\left(i c_{1} E\right), \zeta l\left(i c_{2} E\right)\right] . \end{aligned}$	$\begin{aligned} & \zeta\left[l\left(i c_{1} E\right), l\left(i c_{2} E\right)\right]=\zeta l\left[i c_{1} E, i c_{2} E\right]=\zeta 0=0 \\ & \left.\left.\quad= \Theta\left(0,0,0,0,2 c_{1},-2 c_{1}\right), \Theta \left(0,0,0,0,2 c_{2},-2 c_{2}\right)\right)\right] \\ & \quad=\left[\zeta l\left(i c_{1} E\right), \zeta l\left(i c_{2} E\right)\right] . \end{aligned}$
0902.0431_EQ1186	199	0.996	`\begin{aligned} & ((\boldsymbol{a} \times *(\boldsymbol{b} \wedge \boldsymbol{x})) \boldsymbol{v}, \boldsymbol{w}) \\ & \quad=(\boldsymbol{v} \wedge \boldsymbol{a}, \boldsymbol{w} \wedge *(\boldsymbol{b} \wedge \boldsymbol{x}))-\frac{3}{5}(*(\boldsymbol{a} \wedge \boldsymbol{b}), \boldsymbol{x})(\boldsymbol{v}, \boldsymbol{w}) \end{aligned}`	$\begin{aligned} & ((\boldsymbol{a} \times *(\boldsymbol{b} \wedge \boldsymbol{x})) \boldsymbol{v}, \boldsymbol{w}) \\ & \quad=(\boldsymbol{v} \wedge \boldsymbol{a}, \boldsymbol{w} \wedge *(\boldsymbol{b} \wedge \boldsymbol{x}))-\frac{3}{5}(*(\boldsymbol{a} \wedge \boldsymbol{b}), \boldsymbol{x})(\boldsymbol{v}, \boldsymbol{w}) \end{aligned}$	$\begin{aligned} & ((\boldsymbol{a} \times *(\boldsymbol{b} \wedge \boldsymbol{x})) \boldsymbol{v}, \boldsymbol{w}) \\ & \quad=(\boldsymbol{v} \wedge \boldsymbol{a}, \boldsymbol{w} \wedge *(\boldsymbol{b} \wedge \boldsymbol{x}))-\frac{3}{5}(*(\boldsymbol{a} \wedge \boldsymbol{b}), \boldsymbol{x})(\boldsymbol{v}, \boldsymbol{w}) \end{aligned}$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0724	119	0.996	`\begin{aligned} \mathfrak{a} \supset & {\left[\mathfrak{a}, \mathfrak{e}_{7}{ }^{C}\right] \supset \left[\Phi\left(\mathfrak{e}_{6}{ }^{C}, 0,0,0\right), \Phi\left(0, \mathfrak{J}^{C}, 0,0\right)\right] } \\ & =\Phi\left(0, \mathfrak{e}_{6}{ }^{C} \mathfrak{J}^{C}, 0,0\right)=\Phi\left(0, \mathfrak{J}^{C}, 0,0\right) \text { (Proposition 3.3.2.(3)). } \end{aligned}`	$\begin{aligned} \mathfrak{a} \supset & {\left[\mathfrak{a}, \mathfrak{e}_{7}{ }^{C}\right] \supset \left[\Phi\left(\mathfrak{e}_{6}{ }^{C}, 0,0,0\right), \Phi\left(0, \mathfrak{J}^{C}, 0,0\right)\right] } \\ & =\Phi\left(0, \mathfrak{e}_{6}{ }^{C} \mathfrak{J}^{C}, 0,0\right)=\Phi\left(0, \mathfrak{J}^{C}, 0,0\right) \text { (Proposition 3.3.2.(3)). } \end{aligned}$	$\begin{aligned} \mathfrak{a} \supset & {\left[\mathfrak{a}, \mathfrak{e}_{7}{ }^{C}\right] \supset \left[\Phi\left(\mathfrak{e}_{6}{ }^{C}, 0,0,0\right), \Phi\left(0, \mathfrak{J}^{C}, 0,0\right)\right] } \\ & =\Phi\left(0, \mathfrak{e}_{6}{ }^{C} \mathfrak{J}^{C}, 0,0\right)=\Phi\left(0, \mathfrak{J}^{C}, 0,0\right) \text { (Proposition 3.3.2.(3)). } \end{aligned}$
0902.0431_EQ0063	14	0.997	`\begin{gathered} \lambda_{23}+\lambda_{45}+ \lambda_{67}=0, \quad-\lambda_{13}-\lambda_{46}+ \lambda_{57}=0, \\ \lambda_{12}+\lambda_{47}+ \lambda_{56}=0, \quad-\lambda_{15}+\lambda_{26}- \lambda_{37}=0, \\ \lambda_{14}-\lambda_{27}- \lambda_{36}=0, \quad-\lambda_{17}-\lambda_{24}+ \lambda_{35}=0, \\ \lambda_{16}+\lambda_{25}+ \lambda_{34}=0, \end{gathered}`	$\begin{gathered} \lambda_{23}+\lambda_{45}+ \lambda_{67}=0, \quad-\lambda_{13}-\lambda_{46}+ \lambda_{57}=0, \\ \lambda_{12}+\lambda_{47}+ \lambda_{56}=0, \quad-\lambda_{15}+\lambda_{26}- \lambda_{37}=0, \\ \lambda_{14}-\lambda_{27}- \lambda_{36}=0, \quad-\lambda_{17}-\lambda_{24}+ \lambda_{35}=0, \\ \lambda_{16}+\lambda_{25}+ \lambda_{34}=0, \end{gathered}$	$\begin{gathered} \lambda_{23}+\lambda_{45}+ \lambda_{67}=0, \quad-\lambda_{13}-\lambda_{46}+ \lambda_{57}=0, \\ \lambda_{12}+\lambda_{47}+ \lambda_{56}=0, \quad-\lambda_{15}+\lambda_{26}- \lambda_{37}=0, \\ \lambda_{14}-\lambda_{27}- \lambda_{36}=0, \quad-\lambda_{17}-\lambda_{24}+ \lambda_{35}=0, \\ \lambda_{16}+\lambda_{25}+ \lambda_{34}=0, \end{gathered}$
0902.0431_EQ0264	43	0.997	`(X, Y)=\frac{1}{2} \operatorname{tr}\left(X Y+Y^{*} X^{*} \right) .`	$(X, Y)=\frac{1}{2} \operatorname{tr}\left(X Y+Y^{*} X^{*} \right) .$	$(X, Y)=\frac{1}{2} \operatorname{tr}\left(X Y+Y^{*} X^{*} \right) .$
0902.0431_EQ0335	53	0.997	`\begin{aligned} H\left(e_{k}+i e_{4+k}\right) & =- \sum_{j=0}^{3} \lambda_{k} i G_{j 4+j}\left(e_{k}+i e_{4+k}\right) \\ & =-i \lambda_{k}\left(-e_{4+k}+i e_{k}\right)=\lambda_{k}\left(e_{k}+i e_{4+k}\right), \end{aligned}`	$\begin{aligned} H\left(e_{k}+i e_{4+k}\right) & =- \sum_{j=0}^{3} \lambda_{k} i G_{j 4+j}\left(e_{k}+i e_{4+k}\right) \\ & =-i \lambda_{k}\left(-e_{4+k}+i e_{k}\right)=\lambda_{k}\left(e_{k}+i e_{4+k}\right), \end{aligned}$	$\begin{aligned} H\left(e_{k}+i e_{4+k}\right) & =- \sum_{j=0}^{3} \lambda_{k} i G_{j 4+j}\left(e_{k}+i e_{4+k}\right) \\ & =-i \lambda_{k}\left(-e_{4+k}+i e_{k}\right)=\lambda_{k}\left(e_{k}+i e_{4+k}\right), \end{aligned}$
0902.0431_EQ0881	146	0.997	`\alpha X=\left(\begin{array}{ccc} \xi_{1} & 0 & 0 \\ 0 & \xi_{2} & 0 \\ 0 & 0 & \xi_{3} \end{array}\right), \quad \xi_{i} \in C .`	$\alpha X=\left(\begin{array}{ccc} \xi_{1} & 0 & 0 \\ 0 & \xi_{2} & 0 \\ 0 & 0 & \xi_{3} \end{array}\right), \quad \xi_{i} \in C .$	$\alpha X=\left(\begin{array}{ccc} \xi_{1} & 0 & 0 \\ 0 & \xi_{2} & 0 \\ 0 & 0 & \xi_{3} \end{array}\right), \quad \xi_{i} \in C .$
0902.0431_EQ1057	180	0.997	`-21_{-}=\left[(\Phi, P, Q, r, s, t), 1_{-} \right]=(0,0,-P, s, 0,-2 r),`	$-21_{-}=\left[(\Phi, P, Q, r, s, t), 1_{-}\right]=(0,0,-P, s, 0,-2 r),$	$-21_{-}=\left[(\Phi, P, Q, r, s, t), 1_{-}\right]=(0,0,-P, s, 0,-2 r),$
0902.0431_EQ0081	17	0.997	`\begin{gathered} H_{1}=-G_{23}+G_{45}, \quad H_{2}=-G_{45}+G_{67} \\ L_{12}=G_{24}+G_{35}, \quad L_{21}=-G_{25}+G_{34}, \quad L_{13}=G_{26}+G_{37}, \\ L_{21}=-G_{27}+G_{36}, \quad L_{23}=G_{46}+G_{57}, \quad L_{32}=-G_{47}+G_{56} . \end{gathered}`	$\begin{gathered} H_{1}=-G_{23}+G_{45}, \quad H_{2}=-G_{45}+G_{67} \\ L_{12}=G_{24}+G_{35}, \quad L_{21}=-G_{25}+G_{34}, \quad L_{13}=G_{26}+G_{37}, \\ L_{21}=-G_{27}+G_{36}, \quad L_{23}=G_{46}+G_{57}, \quad L_{32}=-G_{47}+G_{56} . \end{gathered}$	$\begin{gathered} H_{1}=-G_{23}+G_{45}, \quad H_{2}=-G_{45}+G_{67} \\ L_{12}=G_{24}+G_{35}, \quad L_{21}=-G_{25}+G_{34}, \quad L_{13}=G_{26}+G_{37}, \\ L_{21}=-G_{27}+G_{36}, \quad L_{23}=G_{46}+G_{57}, \quad L_{32}=-G_{47}+G_{56} . \end{gathered}$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0624	104	0.997	`\begin{aligned} & (g(\alpha E))^{2}=g(\alpha E) \circ g(\alpha E)=g(\gamma(\alpha E \times \alpha E))+\frac{1}{4}(\gamma \alpha E, \alpha E) E \text { (Lemma 3.12.1) } \\ & \quad=g(\gamma \tau \alpha \tau E)+\frac{1}{4}\langle\tau \gamma \alpha E, \alpha E \rangle E=g(\alpha \tau \gamma E)+\frac{1}{4}\langle \alpha \tau \gamma E, \alpha E\rangle E \\ & \quad=g(\alpha E)+\frac{1}{4}\langle\alpha E, \alpha E\rangle E=g(\alpha E)+\frac{1}{4}\langle E, E\rangle E=g(\alpha E)+\frac{3}{4}E=g(\alpha E)+\frac{3}{4} E . \end{aligned}`	$\begin{aligned} & (g(\alpha E))^{2}=g(\alpha E) \circ g(\alpha E)=g(\gamma(\alpha E \times \alpha E))+\frac{1}{4}(\gamma \alpha E, \alpha E) E \text { (Lemma 3.12.1) } \\ & \quad=g(\gamma \tau \alpha \tau E)+\frac{1}{4}\langle\tau \gamma \alpha E, \alpha E \rangle E=g(\alpha \tau \gamma E)+\frac{1}{4}\langle \alpha \tau \gamma E, \alpha E\rangle E \\ & \quad=g(\alpha E)+\frac{1}{4}\langle\alpha E, \alpha E\rangle E=g(\alpha E)+\frac{1}{4}\langle E, E\rangle E=g(\alpha E)+\frac{3}{4}E . \end{aligned}$	$\begin{aligned} & (g(\alpha E))^{2}=g(\alpha E) \circ g(\alpha E)=g(\gamma(\alpha E \times \alpha E))+\frac{1}{4}(\gamma \alpha E, \alpha E) E \text { (Lemma 3.12.1) } \\ & \quad=g(\gamma \tau \alpha \tau E)+\frac{1}{4}\langle\tau \gamma \alpha E, \alpha E \rangle E=g(\alpha \tau \gamma E)+\frac{1}{4}\langle \alpha \tau \gamma E, \alpha E\rangle E \\ & \quad=g(\alpha E)+\frac{1}{4}\langle\alpha E, \alpha E\rangle E=g(\alpha E)+\frac{1}{4}\langle E, E\rangle E=g(\alpha E)+\frac{3}{4}E . \end{aligned}$
0902.0431_EQ0374	62	0.997	`F_{4} / \operatorname{Spin}(9) \simeq \mathfrak{C} P_{2} .`	$F_{4} / \operatorname{Spin}(9) \simeq \mathfrak{C} P_{2} .$	$F_{4} / \operatorname{Spin}(9) \simeq \mathfrak{C} P_{2} .$
0902.0431_EQ0434	71	0.997	`F_{4}{ }^{C} \simeq F_{4} \times \boldsymbol{R}^{52} .`	$F_{4}{ }^{C} \simeq F_{4} \times \boldsymbol{R}^{52} .$	$F_{4}{ }^{C} \simeq F_{4} \times \boldsymbol{R}^{52} .$
0902.0431_EQ0717	118	0.997	`\left[\Phi\left(\phi_{1}, A_{1},-\tau A_{1}, \nu_{1} \right), \Phi\left(\phi_{2}, A_{2},-\tau A_{2}, \nu_{2} \right)\right]=\Phi(\phi, A,-\tau A, \nu),`	$\left[\Phi\left(\phi_{1}, A_{1},-\tau A_{1}, \nu_{1} \right), \Phi\left(\phi_{2}, A_{2},-\tau A_{2}, \nu_{2} \right)\right]=\Phi(\phi, A,-\tau A, \nu),$	$\left[\Phi\left(\phi_{1}, A_{1},-\tau A_{1}, \nu_{1} \right), \Phi\left(\phi_{2}, A_{2},-\tau A_{2}, \nu_{2} \right)\right]=\Phi(\phi, A,-\tau A, \nu),$
0902.0431_EQ0914	152	0.997	`\operatorname{dim} \mathfrak{e}_{7, \boldsymbol{C}}=16+18+1=35 .`	$\operatorname{dim} \mathfrak{e}_{7, \boldsymbol{C}}=16+18+1=35 .$	$\operatorname{dim} \mathfrak{e}_{7, \boldsymbol{C}}=16+18+1=35 .$
0902.0431_EQ0208	35	0.997	`\begin{aligned} \operatorname{Spin}(7) & =\{\alpha \in \operatorname{Spin}(8) \mid \kappa \alpha=\alpha\}, \\ G_{2} & =\left\{\alpha \in \operatorname{Spin}(8) \mid \lambda \alpha=\alpha, \lambda \in \mathfrak{S}_{3}\right\} \\ & =\{\alpha \in \operatorname{Spin}(8) \mid \pi \alpha=\alpha, \nu \alpha=\alpha\} \\ & =\{\alpha \in \operatorname{Spin}(8) \mid \nu \alpha=\alpha\} \\ & =\{ \alpha \in \operatorname{Spin}(7) \mid \pi \alpha=\alpha \} . \end{aligned}`	$\begin{aligned} \operatorname{Spin}(7) & =\{\alpha \in \operatorname{Spin}(8) \mid \kappa \alpha=\alpha\}, \\ G_{2} & =\left\{\alpha \in \operatorname{Spin}(8) \mid \lambda \alpha=\alpha, \lambda \in \mathfrak{S}_{3}\right\} \\ & =\{\alpha \in \operatorname{Spin}(8) \mid \pi \alpha=\alpha, \nu \alpha=\alpha\} \\ & =\{\alpha \in \operatorname{Spin}(8) \mid \nu \alpha=\alpha\} \\ & =\{ \alpha \in \operatorname{Spin}(7) \mid \pi \alpha=\alpha \} . \end{aligned}$	$\begin{aligned} \operatorname{Spin}(7) & =\{\alpha \in \operatorname{Spin}(8) \mid \kappa \alpha=\alpha\}, \\ G_{2} & =\left\{\alpha \in \operatorname{Spin}(8) \mid \lambda \alpha=\alpha, \lambda \in \mathfrak{S}_{3}\right\} \\ & =\{\alpha \in \operatorname{Spin}(8) \mid \pi \alpha=\alpha, \nu \alpha=\alpha\} \\ & =\{\alpha \in \operatorname{Spin}(8) \mid \nu \alpha=\alpha\} \\ & =\{ \alpha \in \operatorname{Spin}(7) \mid \pi \alpha=\alpha \} . \end{aligned}$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0479	79	0.997	`\begin{array}{ll} {\left[\left(E_{i}-E_{i+1}\right)^{\sim}, D\right]=0, D \in \mathfrak{d}_{4}^{C},} & {\left[\left(E_{i}-E_{i+1}\right)^{\sim},\left(E_{j}-E_{j+1}\right)^{\sim}\right]=0,} \\ {\left[\left(E_{i}-E_{i+1}\right)^{\sim}, \widetilde{A}_{i}(a)\right]=-\frac{1}{2}\widetilde{F}_{i}(a),} & {\left[\left(E_{i}-E_{i+1}\right)^{\sim}, \widetilde{F}_{i}(a)\right]=-\frac{1}{2}\widetilde{A}_{i}(a),} \\ {\left[\left(E_{i}-E_{i+1}\right)^{\sim}, \widetilde{A}_{i+1}(a)\right]=-\frac{1}{2}\widetilde{F}_{i+1}(a),} & {\left[\left(E_{i}-E_{i+1}\right)^{\sim}, \widetilde{F}_{i+1}(a)\right]=-\frac{1}{2}\widetilde{A}_{i+1}(a),} \\ {\left[\left(E_{i}-E_{i+1}\right)^{\sim}, \widetilde{A}_{i+2}(a)\right]=\widetilde{F}_{i+2}(a),} & {\left[\left(E_{i}-E_{i+1}\right)^{\sim}, \widetilde{F}_{i+2}(a)\right]=\widetilde{A}_{i+2}(a).} \end{array}`	$\begin{array}{ll} {\left[\left(E_{i}-E_{i+1}\right)^{\sim}, D\right]=0, D \in \mathfrak{d}_{4}^{C},} & {\left[\left(E_{i}-E_{i+1}\right)^{\sim},\left(E_{j}-E_{j+1}\right)^{\sim}\right]=0,} \\ {\left[\left(E_{i}-E_{i+1}\right)^{\sim}, \widetilde{A}_{i}(a)\right]=-\frac{1}{2}\widetilde{F}_{i}(a),} & {\left[\left(E_{i}-E_{i+1}\right)^{\sim}, \widetilde{F}_{i}(a)\right]=-\frac{1}{2}\widetilde{A}_{i}(a),} \\ {\left[\left(E_{i}-E_{i+1}\right)^{\sim}, \widetilde{A}_{i+1}(a)\right]=-\frac{1}{2}\widetilde{F}_{i+1}(a),} & {\left[\left(E_{i}-E_{i+1}\right)^{\sim}, \widetilde{F}_{i+1}(a)\right]=-\frac{1}{2}\widetilde{A}_{i+1}(a),} \\ {\left[\left(E_{i}-E_{i+1}\right)^{\sim}, \widetilde{A}_{i+2}(a)\right]=\widetilde{F}_{i+2}(a),} & {\left[\left(E_{i}-E_{i+1}\right)^{\sim}, \widetilde{F}_{i+2}(a)\right]=\widetilde{A}_{i+2}(a).} \end{array}$	$\begin{array}{ll} {\left[\left(E_{i}-E_{i+1}\right)^{\sim}, D\right]=0, D \in \mathfrak{d}_{4}^{C},} & {\left[\left(E_{i}-E_{i+1}\right)^{\sim},\left(E_{j}-E_{j+1}\right)^{\sim}\right]=0,} \\ {\left[\left(E_{i}-E_{i+1}\right)^{\sim}, \widetilde{A}_{i}(a)\right]=-\frac{1}{2}\widetilde{F}_{i}(a),} & {\left[\left(E_{i}-E_{i+1}\right)^{\sim}, \widetilde{F}_{i}(a)\right]=-\frac{1}{2}\widetilde{A}_{i}(a),} \\ {\left[\left(E_{i}-E_{i+1}\right)^{\sim}, \widetilde{A}_{i+1}(a)\right]=-\frac{1}{2}\widetilde{F}_{i+1}(a),} & {\left[\left(E_{i}-E_{i+1}\right)^{\sim}, \widetilde{F}_{i+1}(a)\right]=-\frac{1}{2}\widetilde{A}_{i+1}(a),} \\ {\left[\left(E_{i}-E_{i+1}\right)^{\sim}, \widetilde{A}_{i+2}(a)\right]=\widetilde{F}_{i+2}(a),} & {\left[\left(E_{i}-E_{i+1}\right)^{\sim}, \widetilde{F}_{i+2}(a)\right]=\widetilde{A}_{i+2}(a).} \end{array}$
0902.0431_EQ0919	152	0.997	`h^{\prime}(a+b i)=a+b e_{1}, \quad a, b \in \boldsymbol{C} .`	$h^{\prime}(a+b i)=a+b e_{1}, \quad a, b \in \boldsymbol{C} .$	$h^{\prime}(a+b i)=a+b e_{1}, \quad a, b \in \boldsymbol{C} .$
0902.0431_EQ0098	20	0.997	`\begin{aligned} & \pm \lambda_{1}:\left(2 G_{12}-G_{47}-G_{56}\right) \pm i\left(2 G_{13}-G_{46}+G_{57}\right), \\ & \pm \lambda_{2}: \left(2 G_{14}+G_{27}+G_{36}\right) \pm i\left(2 G_{15}+G_{26}-G_{37}\right), \\ & \pm \lambda_{3}: \left(2 G_{16}-G_{25}-G_{34}\right) \pm i\left(2 G_{17}-G_{24}+G_{35}\right) . \end{aligned}`	$\begin{aligned} & \pm \lambda_{1}:\left(2 G_{12}-G_{47}-G_{56}\right) \pm i\left(2 G_{13}-G_{46}+G_{57}\right), \\ & \pm \lambda_{2}: \left(2 G_{14}+G_{27}+G_{36}\right) \pm i\left(2 G_{15}+G_{26}-G_{37}\right), \\ & \pm \lambda_{3}: \left(2 G_{16}-G_{25}-G_{34}\right) \pm i\left(2 G_{17}-G_{24}+G_{35}\right) . \end{aligned}$	$\begin{aligned} & \pm \lambda_{1}:\left(2 G_{12}-G_{47}-G_{56}\right) \pm i\left(2 G_{13}-G_{46}+G_{57}\right), \\ & \pm \lambda_{2}: \left(2 G_{14}+G_{27}+G_{36}\right) \pm i\left(2 G_{15}+G_{26}-G_{37}\right), \\ & \pm \lambda_{3}: \left(2 G_{16}-G_{25}-G_{34}\right) \pm i\left(2 G_{17}-G_{24}+G_{35}\right) . \end{aligned}$
0902.0431_EQ0003	6	0.998	`e_{1} e_{2}=e_{3}, \quad e_{2} e_{3}=e_{1}, \quad e_{3} e_{1}=e_{2},`	$e_{1} e_{2}=e_{3}, \quad e_{2} e_{3}=e_{1}, \quad e_{3} e_{1}=e_{2},$	$e_{1} e_{2}=e_{3}, \quad e_{2} e_{3}=e_{1}, \quad e_{3} e_{1}=e_{2},$
0902.0431_EQ0125	24	0.998	`\begin{aligned} x & =x_{0}+x_{1} e_{1}+x_{2} e_{2}+x_{3} e_{3}+x_{4} e_{4}+x_{5} e_{5}+x_{6} e_{6}+x_{7} e_{7} \quad\left(x_{i} \in \boldsymbol{R}\right) \\ & = \left(x_{0}+x_{1} e_{1}+x_{2} e_{2}+x_{3} e_{3}\right)+\left(x_{4}+x_{5} e_{1}-x_{6} e_{2}+x_{7} e_{3}\right)+ \left(x_{4}+x_{5} e_{1}-x_{6} e_{2}+x_{7} e_{3}\right) e_{4}, \end{aligned}`	$\begin{aligned} x & =x_{0}+x_{1} e_{1}+x_{2} e_{2}+x_{3} e_{3}+x_{4} e_{4}+x_{5} e_{5}+x_{6} e_{6}+x_{7} e_{7} \quad\left(x_{i} \in \boldsymbol{R}\right) \\ & = \left(x_{0}+x_{1} e_{1}+x_{2} e_{2}+x_{3} e_{3}\right)+\left(x_{4}+x_{5} e_{1}-x_{6} e_{2}+x_{7} e_{3}\right) e_{4}, \end{aligned}$	$\begin{aligned} x & =x_{0}+x_{1} e_{1}+x_{2} e_{2}+x_{3} e_{3}+x_{4} e_{4}+x_{5} e_{5}+x_{6} e_{6}+x_{7} e_{7} \quad\left(x_{i} \in \boldsymbol{R}\right) \\ & = \left(x_{0}+x_{1} e_{1}+x_{2} e_{2}+x_{3} e_{3}\right)+\left(x_{4}+x_{5} e_{1}-x_{6} e_{2}+x_{7} e_{3}\right) e_{4}, \end{aligned}$
0902.0431_EQ0133	25	0.998	`\beta\left(m+a e_{4}\right)=\beta m+(\beta a)\left(\beta e_{4}\right)=m+a\left(p e_{4}\right)=m+(p a) e_{4}= \varphi(p, 1)\left(m+a e_{4}\right),`	$\beta\left(m+a e_{4}\right)=\beta m+(\beta a)\left(\beta e_{4}\right)=m+a\left(p e_{4}\right)=m+(p a) e_{4}=\varphi(p, 1)\left(m+a e_{4}\right),$	$\beta\left(m+a e_{4}\right)=\beta m+(\beta a)\left(\beta e_{4}\right)=m+a\left(p e_{4}\right)=m+(p a) e_{4}=\varphi(p, 1)\left(m+a e_{4}\right),$
0902.0431_EQ0143	26	0.998	`\begin{aligned} (\alpha x, \alpha y) & =\frac{1}{2}((\alpha x)(\overline{\alpha y})+(\alpha y)(\overline{\alpha x}))=\frac{1}{2}((\alpha x)(\alpha \bar{y})+(\alpha y)(\alpha \bar{x})) \\ & =\alpha\left(\frac{1}{2}(\alpha(x \bar{y}+y \bar{x}))=\alpha((x, y))=(x, y) . \right. \end{aligned}`	$\begin{aligned} (\alpha x, \alpha y) & =\frac{1}{2}((\alpha x)(\overline{\alpha y})+(\alpha y)(\overline{\alpha x}))=\frac{1}{2}((\alpha x)(\alpha \bar{y})+(\alpha y)(\alpha \bar{x})) \\ & =\alpha\left(\frac{1}{2}(\alpha(x \bar{y}+y \bar{x}))=\alpha((x, y))=(x, y) . \right. \end{aligned}$	$\begin{aligned} (\alpha x, \alpha y) & =\frac{1}{2}((\alpha x)(\overline{\alpha y})+(\alpha y)(\overline{\alpha x}))=\frac{1}{2}((\alpha x)(\alpha \bar{y})+(\alpha y)(\alpha \bar{x})) \\ & =\alpha\left(\frac{1}{2}(\alpha(x \bar{y}+y \bar{x}))=\alpha((x, y))=(x, y) . \right. \end{aligned}$
0902.0431_EQ0154	28	0.998	`D_{a} x=x-2(x, a) a, \quad x \in \boldsymbol{R}^{n} .`	$D_{a} x=x-2(x, a) a, \quad x \in \boldsymbol{R}^{n} .$	$D_{a} x=x-2(x, a) a, \quad x \in \boldsymbol{R}^{n} .$

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0902.0431_EQ0183	31	0.998	`\widetilde{B}_{3}=\{\widetilde{\alpha} \in S O(8) \mid( \alpha x)(\widetilde{\alpha} y)=\widetilde{\alpha}(x y), x, y \in \mathfrak{C} \text { for some } \alpha \in S O(7)\} .`	$\widetilde{B}_3 = \{\widetilde{\alpha} \in SO(8) \mid (\alpha x)(\widetilde{\alpha} y) = \widetilde{\alpha}(xy), x, y \in \mathfrak{C} \text{ for some } \alpha \in SO(7)\}.$	$\widetilde{B}_3 = \{\widetilde{\alpha} \in SO(8) \mid (\alpha x)(\widetilde{\alpha} y) = \widetilde{\alpha}(xy), x, y \in \mathfrak{C} \text{ for some } \alpha \in SO(7)\}.$
0902.0431_EQ0255	41	0.998	`\begin{aligned} E_{6(-26)} & =\left\{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}(\mathfrak{J}) \mid \operatorname{det}(\alpha X)=\operatorname{det} X\right\} \\ & =\left\{\left.\alpha \in \operatorname{Iso}_{ \boldsymbol{R}}(\mathfrak{J})\right|^{t} \alpha^{-1}(X \times Y)=\alpha X \times \alpha Y\right\} . \end{aligned}`	$\begin{aligned} E_{6(-26)} &= \{\alpha \in \mathrm{Iso}_{\boldsymbol{R}}(\mathfrak{J}) \mid \det(\alpha X) = \det X\} \\ &= \left\{\alpha \in \mathrm{Iso}_{\boldsymbol{R}}(\mathfrak{J}) \middle\|^t \alpha^{-1}(X \times Y) = \alpha X \times \alpha Y\right\}. \end{aligned}$	$\begin{aligned} E_{6(-26)} &= \{\alpha \in \mathrm{Iso}_{\boldsymbol{R}}(\mathfrak{J}) \mid \det(\alpha X) = \det X\} \\ &= \{\alpha \in \mathrm{Iso}_{\boldsymbol{R}}(\mathfrak{J}) \mid {}^t\alpha^{-1}(X \times Y) = \alpha X \times \alpha Y\}. \end{aligned}$
0902.0431_EQ0617 (i)	103	0.998	`(g X, g Y)=(\gamma X, Y), \quad X, Y \in \mathfrak{J}^{C} .`	$(gX, gY) = (\gamma X, Y), \quad X, Y \in \mathfrak{J}^C.$	$(gX, gY) = (\gamma X, Y), \quad X, Y \in \mathfrak{J}^C.$
0902.0431_EQ0635	105	0.998	`E_{6, \boldsymbol{C}}=\left\{\alpha \in \operatorname{Iso}_{C}\left(\left(\mathfrak{J}_{ \boldsymbol{C}}\right)^{C}\right) \mid \operatorname{det}(\alpha X)=\operatorname{det} X,\langle \alpha X, \alpha Y\rangle=\langle X, Y\rangle\right\} .`	$E_{6,\boldsymbol{C}} = \left\{\alpha \in \mathrm{Iso}_C\left(\left(\mathfrak{J}_{\boldsymbol{C}}\right)^C\right) \mid \det(\alpha X) = \det X, \langle \alpha X, \alpha Y\rangle = \langle X, Y\rangle\right\}.$	$E_{6,\boldsymbol{C}} = \{\alpha \in \mathrm{Iso}_C((\mathfrak{J}_{\boldsymbol{C}})^C) \mid \det(\alpha X) = \det X, \langle \alpha X, \alpha Y\rangle = \langle X, Y\rangle\}.$
0902.0431_EQ0965	160	0.998	`E_{7}{ }^{C} \simeq\left(E_{7}{ }^{C} \cap U \left(\mathfrak{P}^{C}\right)\right) \times \boldsymbol{R}^{d}=E_{7} \times \boldsymbol{R}^{d}, \quad d=133 .`	${E_7}^C \simeq \left({E_7}^C \cap U\left(\mathfrak{P}^C\right)\right) \times \boldsymbol{R}^d = E_7 \times \boldsymbol{R}^d, \quad d = 133.$	${E_7}^C \simeq ({E_7}^C \cap U(\mathfrak{P}^C)) \times \boldsymbol{R}^d = E_7 \times \boldsymbol{R}^d, \quad d = 133.$
0902.0431_EQ1113	188	0.998	`\left(E_{8}\right)^{\sigma} \cong S s(16) .`	$(E_8)^\sigma \cong Ss(16).$	$(E_8)^\sigma \cong Ss(16).$
0902.0431_EQ1116	189	0.998	`\left(\mathfrak{J}^{C}\right)^{3}=\left\{\left|. \boldsymbol{X}=\left(\begin{array}{c} X_{1} \\ X_{2} \\ X_{3} \end{array}\right) \right\rvert\, X_{i} \in \mathfrak{J}^{C}\right\} .`	$\left(\mathfrak{J}^C\right)^3 = \left\{\boldsymbol{X} = \begin{pmatrix} X_1 \\ X_2 \\ X_3 \end{pmatrix} \middle\| X_i \in \mathfrak{J}^C\right\}.$	$(\mathfrak{J}^C)^3 = \left\{\boldsymbol{X} = \begin{pmatrix} X_1 \\ X_2 \\ X_3 \end{pmatrix} \middle\| X_i \in \mathfrak{J}^C\right\}.$
0902.0431_EQ1138	192	0.998	`\begin{gathered} \left(\boldsymbol{x}_{1} \wedge \cdots \wedge \boldsymbol{x}_{k}, \boldsymbol{y}_{1} \wedge \cdots \wedge \boldsymbol{y}_{k}\right)= \operatorname{det}\left(\left(\boldsymbol{x}_{i}, \boldsymbol{y}_{j}\right)\right), \quad k \geq 1, \\ (a, b)=a b, \quad a, b \in \Lambda^{0}\left(C^{n}\right)=C . \end{gathered}`	$\begin{gathered} \left(\boldsymbol{x}_1 \wedge \cdots \wedge \boldsymbol{x}_k, \boldsymbol{y}_1 \wedge \cdots \wedge \boldsymbol{y}_k\right) = \det\left(\left(\boldsymbol{x}_i, \boldsymbol{y}_j\right)\right), \quad k \geq 1, \\ (a, b) = ab, \quad a, b \in \Lambda^0\left(C^n\right) = C. \end{gathered}$	$\begin{gathered} \left(\boldsymbol{x}_1 \wedge \cdots \wedge \boldsymbol{x}_k, \boldsymbol{y}_1 \wedge \cdots \wedge \boldsymbol{y}_k\right) = \det\Big(\left(\boldsymbol{x}_i, \boldsymbol{y}_j\right)\Big), \quad k \geq 1, \\ (a, b) = ab, \quad a, b \in \Lambda^0(C^n) = C. \end{gathered}$
0902.0431_EQ0148	27	0.998	`\left(m+a e_{4}{ }^{\prime}\right)\left(n+b e_{4}{ }^{ \prime}\right)=(m n+\bar{b} a)+(a \bar{n}+b m) e_{4}{ }^{ \prime} .`	$(m + ae_4{}')\,(n + be_4{}') = (mn + \bar{b}a) + (a\bar{n} + bm)e_4{}'.$	$(m + ae_4{}')(n + be_4{}') = (mn + \overline{b}a) + (a\overline{n} + bm)e_4{}'.$
0902.0431_EQ0691 (ii)	114	0.998	`\Phi=\left(\begin{array}{llll} g & l & C & A \\ k & h & B & D \\ c & a & \nu & \lambda \\ b & d & \kappa & \mu \end{array}\right), \quad \begin{aligned} & g, h, k, l \in \operatorname{Hom}_{C}\left(\mathfrak{J}^{C} \right), \\ & a, b, c, d \in \operatorname{Hom}_{C} \left(\mathfrak{J}^{C}, C\right), \\ & A, B, C, D \in \mathfrak{J}^{C}, \\ & \nu, \mu, \kappa, \lambda \in C . \end{aligned}`	$\Phi = \begin{pmatrix} g & l & C & A \\ k & h & B & D \\ c & a & \nu & \lambda \\ b & d & \kappa & \mu \end{pmatrix}, \quad \begin{aligned} & g, h, k, l \in \mathrm{Hom}_C\left(\mathfrak{J}^C\right), \\ & a, b, c, d \in \mathrm{Hom}_C\left(\mathfrak{J}^C, C\right), \\ & A, B, C, D \in \mathfrak{J}^C, \\ & \nu, \mu, \kappa, \lambda \in C. \end{aligned}$	$\Phi = \begin{pmatrix} g & l & C & A \\ k & h & B & D \\ c & a & \nu & \lambda \\ b & d & \kappa & \mu \end{pmatrix}, \quad \begin{aligned} & g, h, k, l \in \mathrm{Hom}_C(\mathfrak{J}^C), \\ & a, b, c, d \in \mathrm{Hom}_C(\mathfrak{J}^C, C), \\ & A, B, C, D \in \mathfrak{J}^C, \\ & \nu, \mu, \kappa, \lambda \in C. \end{aligned}$

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0902.0431_EQ0745	123	0.998	`\operatorname{tr}\left(\Phi_{0}^{2}\right)=\frac{1}{9} \times 27 \times 2+1+1=8 .`	$\operatorname{tr}\left(\Phi_{0}^{2}\right)=\frac{1}{9} \times 27 \times 2+1+1=8 .$	$\operatorname{tr}({\Phi_{0}}^{2})=\frac{1}{9} \times 27 \times 2+1+1=8 .$
0902.0431_EQ0025	10	0.998	`\begin{aligned} {\left[F_{i 0}, F_{k l}\right] x } & =\left(F_{i 0} F_{k l}-F_{k l} F_{i 0}\right) x= \frac{1}{4} e_{i}\left(e_{l}\left(e_{k} x\right)\right)- \frac{1}{4} e_{l}\left(e_{k}\left(e_{i} x\right)\right) \\ & =-\frac{1}{4} e_{l}\left(e_{i}\left(e_{k} x\right) \right)+\frac{1}{4} e_{l}\left(e_{i}\left(e_{k} x \right)\right)=0, \\ {\left[F_{i j}, F_{j k}\right] x } & =\left(F_{i j} F_{j k}-F_{j k} F_{i j}\right) x= \frac{1}{4} e_{j}\left(e_{i}\left(e_{k}\left(e_{j} x \right)\right)\right)-\frac{1}{4} e_{k}\left(e_{j} \left(e_{j}\left(e_{i} x\right)\right)\right) \\ & = \frac{1}{4} e_{i}\left(e_{k}\left(e_{j}\left(e_{j} x \right)\right)\right)+\frac{1}{4} e_{k}\left(e_{i} x\right)=-\frac{1}{4} e_{i}\left(e_{k} x\right)+ \frac{1}{4} e_{k}\left(e_{i} x\right) \\ & =\frac{1}{2} e_{k}\left(e_{i} x\right)=F_{i k} x, \\ {\left[F_{i j}, F_{k l}\right] x } & =\left(F_{i j} F_{k l}-F_{k l} F_{i j}\right) x=\frac{1}{4} e_{j}\left(e_{i}\left(e_{l}\left(e_{k} x\right)\right)\right)-\frac{1}{4} e_{l}\left(e_{k}\left(e_{j}\left(e_{i} x\right)\right)\right) \\ & =\frac{1}{4} e_{j}\left(e_{k}\left(e_{i}\left(e_{l} x\right)\right)\right)-\frac{1}{4} e_{j}\left(e_{l}\left(e_{k}\left(e_{i} x\right)\right)\right)=\cdots=0 . \end{aligned}`	$\begin{aligned} {\left[F_{i 0}, F_{k l}\right] x } & =\left(F_{i 0} F_{k l}-F_{k l} F_{i 0}\right) x= \frac{1}{4} e_{i}\left(e_{l}\left(e_{k} x\right)\right)- \frac{1}{4} e_{l}\left(e_{k}\left(e_{i} x\right)\right) \\ & =-\frac{1}{4} e_{l}\left(e_{i}\left(e_{k} x\right)\right)+\frac{1}{4} e_{l}\left(e_{i}\left(e_{k} x\right)\right)=0, \\ {\left[F_{i j}, F_{j k}\right] x } & =\left(F_{i j} F_{j k}-F_{j k} F_{i j}\right) x= \frac{1}{4} e_{j}\left(e_{i}\left(e_{k}\left(e_{j} x \right)\right)\right)-\frac{1}{4} e_{k}\left(e_{j} \left(e_{j}\left(e_{i} x\right)\right)\right) \\ & = \frac{1}{4} e_{i}\left(e_{k}\left(e_{j}\left(e_{j} x \right)\right)\right)+\frac{1}{4} e_{k}\left(e_{i} x\right)=-\frac{1}{4} e_{i}\left(e_{k} x\right)+ \frac{1}{4} e_{k}\left(e_{i} x\right) \\ & =\frac{1}{2} e_{k}\left(e_{i} x\right)=F_{i k} x, \\ {\left[F_{i j}, F_{k l}\right] x } & =\left(F_{i j} F_{k l}-F_{k l} F_{i j}\right) x=\frac{1}{4} e_{j}\left(e_{i}\left(e_{l}\left(e_{k} x\right)\right)\right)-\frac{1}{4} e_{l}\left(e_{k}\left(e_{j}\left(e_{i} x\right)\right)\right) \\ & =\frac{1}{4} e_{j}\left(e_{k}\left(e_{i}\left(e_{l} x\right)\right)\right)-\frac{1}{4} e_{j}\left(e_{l}\left(e_{k}\left(e_{i} x\right)\right)\right)=\cdots=0 . \end{aligned}$	$\begin{aligned} {\left[F_{i 0}, F_{k l}\right] x } & =\left(F_{i 0} F_{k l}-F_{k l} F_{i 0}\right) x= \frac{1}{4} e_{i}\left(e_{l}\left(e_{k} x\right)\right)- \frac{1}{4} e_{l}\left(e_{k}\left(e_{i} x\right)\right) \\ & =-\frac{1}{4} e_{l}\left(e_{i}\left(e_{k} x\right)\right)+\frac{1}{4} e_{l}\left(e_{i}\left(e_{k} x\right)\right)=0, \\ {\left[F_{i j}, F_{j k}\right] x } & =\left(F_{i j} F_{j k}-F_{j k} F_{i j}\right) x= \frac{1}{4} e_{j}\left(e_{i}\left(e_{k}\left(e_{j} x \right)\right)\right)-\frac{1}{4} e_{k}\left(e_{j} \left(e_{j}\left(e_{i} x\right)\right)\right) \\ & = \frac{1}{4} e_{i}\left(e_{k}\left(e_{j}\left(e_{j} x \right)\right)\right)+\frac{1}{4} e_{k}\left(e_{i} x\right)=-\frac{1}{4} e_{i}\left(e_{k} x\right)+ \frac{1}{4} e_{k}\left(e_{i} x\right) \\ & =\frac{1}{2} e_{k}\left(e_{i} x\right)=F_{i k} x, \\ {\left[F_{i j}, F_{k l}\right] x } & =\left(F_{i j} F_{k l}-F_{k l} F_{i j}\right) x=\frac{1}{4} e_{j}\left(e_{i}\left(e_{l}\left(e_{k} x\right)\right)\right)-\frac{1}{4} e_{l}\left(e_{k}\left(e_{j}\left(e_{i} x\right)\right)\right) \\ & =\frac{1}{4} e_{j}\left(e_{k}\left(e_{i}\left(e_{l} x\right)\right)\right)-\frac{1}{4} e_{j}\left(e_{l}\left(e_{k}\left(e_{i} x\right)\right)\right)=\cdots=0 . \end{aligned}$
0902.0431_EQ0047 (iv)	12	0.998	`x(D y)=D(x y), \quad x, y \in \mathfrak{C} .`	$x(D y)=D(x y), \quad x, y \in \mathfrak{C} .$	$x(D y)=D(x y), \quad x, y \in \mathfrak{C} .$
0902.0431_EQ0138	26	0.998	`\alpha=1 \quad \text { or } \quad \alpha=\gamma .`	$\alpha=1 \quad \text { or } \quad \alpha=\gamma .$	$\alpha=1 \quad \text { or } \quad \alpha=\gamma .$
0902.0431_EQ0330	53	0.998	`\mathfrak{D}_{4}{ }^{C} \ni D \rightarrow(D, \nu D, \kappa \pi D) \in \mathfrak{d}_{4}{ }^{C} \subset \mathfrak{f}_{4}{ }^{C}`	$\mathfrak{D}_{4}{ }^{C} \ni D \rightarrow(D, \nu D, \kappa \pi D) \in \mathfrak{d}_{4}{ }^{C} \subset \mathfrak{f}_{4}{ }^{C}$	$\mathfrak{D}_{4}{ }^{C} \ni D \rightarrow(D, \nu D, \kappa \pi D) \in \mathfrak{d}_{4}{ }^{C} \subset \mathfrak{f}_{4}{ }^{C}$
0902.0431_EQ0457	75	0.998	`\phi=\frac{\phi-\phi^{*}}{2}+i \frac{\phi+\phi^{*}}{2 i}, \quad \frac{\phi-\phi^{*}}{2}, \frac{\phi+\phi^{*}}{2 i} \in \mathfrak{e}_{6} .`	$\phi=\frac{\phi-\phi^{*}}{2}+i \frac{\phi+\phi^{*}}{2 i}, \quad \frac{\phi-\phi^{*}}{2}, \frac{\phi+\phi^{*}}{2 i} \in \mathfrak{e}_{6} .$	$\phi=\frac{\phi-\phi^{*}}{2}+i \frac{\phi+\phi^{*}}{2 i}, \quad \frac{\phi-\phi^{*}}{2}, \frac{\phi+\phi^{*}}{2 i} \in \mathfrak{e}_{6} .$
0902.0431_EQ0499	81	0.998	`\widetilde{T} X=\frac{1}{2}\left(T X+X T^{*}\right), \quad \text { where } \quad T^{*}={ }^{t} \bar{T} .`	$\widetilde{T} X=\frac{1}{2}\left(T X+X T^{*}\right), \quad \text { where } \quad T^{*}={ }^{t} \bar{T} .$	$\widetilde{T} X=\frac{1}{2}\left(T X+X T^{*}\right), \quad \text { where } \quad T^{*}={ }^{t} \bar{T} .$

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0902.0431_EQ0513	84	0.998	`\begin{aligned} & \alpha_{1}=\lambda_{0}-\lambda_{1}, \quad \alpha_{2}=\lambda_{1}-\lambda_{2}, \quad \alpha_{3}=\lambda_{2}-\lambda_{3}, \\ & \alpha_{4}= \lambda_{3}+\frac{1}{2}\left(\mu_{2}-\mu_{3}\right), \\ & \alpha_{5}=\frac{1}{2}\left(-\lambda_{0}-\lambda_{1}- \lambda_{2}+\lambda_{3}\right)+\frac{1}{2}\left(\mu_{3}- \mu_{1}\right), \\ & \alpha_{6}=\frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right)+ \frac{1}{2}\left(\mu_{1}-\mu_{2}\right) \end{aligned}`	$\alpha_1 = \lambda_0 - \lambda_1, \quad \alpha_2 = \lambda_1 - \lambda_2, \quad \alpha_3 = \lambda_2 - \lambda_3,$ $\alpha_4 = \lambda_3 + \frac{1}{2}\left(\mu_2 - \mu_3\right),$ $\alpha_5 = \frac{1}{2}\left(-\lambda_0 - \lambda_1 - \lambda_2 + \lambda_3\right) + \frac{1}{2}\left(\mu_3 - \mu_1\right),$ $\alpha_6 = \frac{1}{2}\left(\lambda_0 + \lambda_1 + \lambda_2 + \lambda_3\right) + \frac{1}{2}\left(\mu_1 - \mu_2\right)$	$\alpha_1 = \lambda_0 - \lambda_1, \quad \alpha_2 = \lambda_1 - \lambda_2, \quad \alpha_3 = \lambda_2 - \lambda_3,$ $\alpha_4 = \lambda_3 + \frac{1}{2}(\mu_2 - \mu_3),$ $\alpha_5 = \frac{1}{2}(-\lambda_0 - \lambda_1 - \lambda_2 + \lambda_3) + \frac{1}{2}(\mu_3 - \mu_1),$ $\alpha_6 = \frac{1}{2}(\lambda_0 + \lambda_1 + \lambda_2 + \lambda_3) + \frac{1}{2}(\mu_1 - \mu_2)$
0902.0431_EQ0679	113	0.998	`\begin{aligned} E_{7}^{C} & =\left\{\alpha \in \operatorname{Iso}_{C}\left(\mathfrak{P}^{C}\right) \mid \alpha(P \times Q) \alpha^{-1}=\alpha P \times \alpha Q\right\}, \\ E_{7} & =\left\{\alpha \in \operatorname{Iso}_{C}\left(\mathfrak{P}^{C}\right) \mid \alpha(P \times Q) \alpha^{-1}=\alpha P \times \alpha Q,\langle\alpha P, \alpha Q\rangle=\langle P, Q \rangle\right\} . \end{aligned}`	$E_7^C = \left\{\alpha \in \operatorname{Iso}_C\left(\mathfrak{P}^C\right) \mid \alpha(P \times Q)\alpha^{-1} = \alpha P \times \alpha Q\right\},$ $E_7 = \left\{\alpha \in \operatorname{Iso}_C\left(\mathfrak{P}^C\right) \mid \alpha(P \times Q)\alpha^{-1} = \alpha P \times \alpha Q, \langle \alpha P, \alpha Q\rangle = \langle P, Q\rangle\right\}.$	$E_7{}^C = \{\alpha \in \operatorname{Iso}_C(\mathfrak{P}^C) \mid \alpha(P \times Q)\alpha^{-1} = \alpha P \times \alpha Q\},$ $E_7 = \{\alpha \in \operatorname{Iso}_C(\mathfrak{P}^C) \mid \alpha(P \times Q)\alpha^{-1} = \alpha P \times \alpha Q, \langle \alpha P, \alpha Q\rangle = \langle P, Q\rangle\}.$
0902.0431_EQ0959	159	0.998	`\alpha P=f^{-1}(A(f P)) \quad \text { or } \quad \alpha P=f^{-1}(A(f \bar{P})), \quad P \in\left(\mathfrak{P}_{ \boldsymbol{C}}\right)^{C}`	$\alpha P = f^{-1}(A(fP)) \quad \text{ or } \quad \alpha P = f^{-1}(A(f\bar{P})), \quad P \in \left(\mathfrak{P}_{\boldsymbol{C}}\right)^C$	$\alpha P = f^{-1}(A(fP)) \quad \text{ or } \quad \alpha P = f^{-1}(A(f\overline{P})), \quad P \in \left(\mathfrak{P}_{\boldsymbol{C}}\right)^C$
0902.0431_EQ0985	164	0.998	`\mathfrak{e}_{8}{ }^{C} \cong \Theta\left( \mathfrak{e}_{8}{ }^{C}\right)=\left\{\Theta(R) \mid R \in \mathfrak{e}_{8}{ }^{C}\right\}`	$\mathfrak{e}_8{}^C \cong \Theta\left(\mathfrak{e}_8{}^C\right) = \left\{\Theta(R) \mid R \in \mathfrak{e}_8{}^C\right\}$	$\mathfrak{e}_8{}^C \cong \Theta(\mathfrak{e}_8{}^C) = \{\Theta(R) \mid R \in \mathfrak{e}_8{}^C\}$
0902.0431_EQ1128	191	0.998	`w(D, \phi, \boldsymbol{X}, \boldsymbol{Y})=\left(D, \phi, \omega \boldsymbol{X}, \omega^{2} \boldsymbol{Y}\right),`	$w(D, \phi, \boldsymbol{X}, \boldsymbol{Y}) = \left(D, \phi, \omega \boldsymbol{X}, \omega^2 \boldsymbol{Y}\right),$	$w(D, \phi, \boldsymbol{X}, \boldsymbol{Y}) = (D, \phi, \omega \boldsymbol{X}, \omega^2 \boldsymbol{Y}),$
0902.0431_EQ0007	7	0.998	`\begin{aligned} & (a x) y+x(y a)=a(x y)+(x y) a, \\ & (x a) y+(x y) a=x(a y)+x(y a), \\ & (a x) y+(x a) y=a(x y)+x(a y) . \end{aligned}`	$(ax)y + x(ya) = a(xy) + (xy)a,$ $(xa)y + (xy)a = x(ay) + x(ya),$ $(ax)y + (xa)y = a(xy) + x(ay).$	$(ax)y + x(ya) = a(xy) + (xy)a,$ $(xa)y + (xy)a = x(ay) + x(ya),$ $(ax)y + (xa)y = a(xy) + x(ay).$
0902.0431_EQ0147	27	0.998	`G_{2}{ }^{C} \simeq\left(G_{2}{ }^{C} \cap U \left(\mathfrak{C}^{C}\right)\right) \times \boldsymbol{R}^{d}=G_{2} \times \boldsymbol{R}^{d},`	$G_2{}^C \simeq \left(G_2{}^C \cap U\left(\mathfrak{C}^C\right)\right) \times \boldsymbol{R}^d = G_2 \times \boldsymbol{R}^d,$	$G_2{}^C \simeq (G_2{}^C \cap U(\mathfrak{C}^C)) \times \boldsymbol{R}^d = G_2 \times \boldsymbol{R}^d,$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ1029	172	0.998	`\begin{aligned} & \lambda_{2}+\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 \quad 1 \quad 2 \quad 2 \quad 1 \quad 1 \quad 0 \quad 1 \\ & \lambda_{3}+\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 \quad 1 \quad 2 \quad 2 \quad 1 \quad 0 \quad 0 \quad 1 \\ & \lambda_{0}-\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=2 \quad 3 \quad 4 \quad 3 \quad 3 \quad 2 \quad 1 \quad 2 \\ & \lambda_{1}-\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 \quad 0 \quad 0 \quad 0 \quad 1 \quad 1 \quad 1 \quad 0 \\ & \lambda_{2}-\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 \quad 0 \quad 0 \quad 0 \quad 1 \quad 1 \quad 0 \quad 0 \\ & \lambda_{3}-\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 \quad 0 \quad 0 \quad 0 \quad 1 \quad 0 \quad 0 \quad 0 \\ & \frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=1 \quad 1 \quad 2 \quad 2 \quad 2 \quad 2 \quad 1 \quad 1 \\ & \frac{1}{2}\left(\lambda_{0}+\lambda_{1}-\lambda_{2}+\lambda_{3}\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=1 \quad 1 \quad 2 \quad 2 \quad 2 \quad 1 \quad 1 \quad 1 \\ & \frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=1 \quad 1 \quad 2 \quad 2 \quad 2 \quad 1 \quad 0 \quad 1 \\ & \frac{1}{2}\left(\lambda_{0}-\lambda_{1}-\lambda_{2}-\lambda_{3}\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=1 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \\ & \frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right)-\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=1 \quad 3 \quad 4 \quad 3 \quad 2 \quad 2 \quad 1 \quad 2 \\ & \frac{1}{2}\left(\lambda_{0}+\lambda_{1}-\lambda_{2}+\lambda_{3}\right)-\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=1 \quad 3 \quad 4 \quad 3 \quad 2 \quad 1 \quad 1 \quad 2 \\ & \frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right)-\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=1 \quad 3 \quad 4 \quad 3 \quad 2 \quad 1 \quad 0 \quad 2 \\ & \frac{1}{2}\left(\lambda_{0}-\lambda_{1}-\lambda_{2}-\lambda_{3}\right)-\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=1 \quad 2 \quad 2 \quad 1 \quad 0 \quad 0 \quad 0 \quad 1 \\ & \frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3}\right)+\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=1 \quad 2 \quad 2 \quad 1 \quad 1 \quad 1 \quad 0 \quad 1 \\ & \frac{1}{2}\left(\lambda_{0}-\lambda_{1}-\lambda_{2}+\lambda_{3}\right)+\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=1 \quad 2 \quad 2 \quad 1 \quad 1 \quad 0 \quad 0 \quad 1 \\ & \frac{1}{2}\left(\lambda_{0}+\lambda_{1}-\lambda_{2}-\lambda_{3}\right)+\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=1 \quad 2 \quad 2 \quad 1 \quad 1 \quad 1 \quad 1 \quad 1 \\ & \frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right)+\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=1 \quad 3 \quad 4 \quad 3 \quad 3 \quad 2 \quad 1 \quad 2 \\ & \frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3}\right)-\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=1 \quad 1 \quad 2 \quad 2 \quad 1 \quad 1 \quad 0 \quad 1 \\ & \frac{1}{2}\left(\lambda_{0}-\lambda_{1}-\lambda_{2}+\lambda_{3}\right)-\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=1 \quad 1 \quad 2 \quad 2 \quad 1 \quad 0 \quad 0 \quad 1 \\ & \frac{1}{2}\left(\lambda_{0}+\lambda_{1}-\lambda_{2}-\lambda_{3}\right)-\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=1 \quad 1 \quad 2 \quad 2 \quad 1 \quad 1 \quad 1 \quad 1 \\ & \frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right)-\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=1 \quad 2 \quad 4 \quad 4 \quad 3 \quad 2 \quad 1 \quad 2 \\ & \mu_{1}+\frac{2}{3}\nu=0 \quad 1 \quad 1 \quad 0 \quad 0 \quad 0 \quad 0 \quad 1 \\ & \mu_{2}+\frac{2}{3}\nu=0 \quad 0 \quad 1 \quad 1 \quad 0 \quad 0 \quad 0 \quad 1 \\ & -\mu_{3}-\frac{2}{3}\nu=0 \quad 1 \quad 1 \quad 1 \quad 0 \quad 0 \quad 0 \quad 0 \end{aligned}`	$$\begin{aligned} & \lambda_{2}+\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 \quad 1 \quad 2 \quad 2 \quad 1 \quad 1 \quad 0 \quad 1 \\ & \lambda_{3}+\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 \quad 1 \quad 2 \quad 2 \quad 1 \quad 0 \quad 0 \quad 1 \\ & \lambda_{0}-\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=2 \quad 3 \quad 4 \quad 3 \quad 3 \quad 2 \quad 1 \quad 2 \\ & \lambda_{1}-\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 \quad 0 \quad 0 \quad 0 \quad 1 \quad 1 \quad 1 \quad 0 \\ & \lambda_{2}-\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 \quad 0 \quad 0 \quad 0 \quad 1 \quad 1 \quad 0 \quad 0 \\ & \lambda_{3}-\frac{1}{2}\left(\mu_{2}-\mu_{3}\right)=0 \quad 0 \quad 0 \quad 0 \quad 1 \quad 0 \quad 0 \quad 0 \\ & \frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=1 \quad 1 \quad 2 \quad 2 \quad 2 \quad 2 \quad 1 \quad 1 \\ & \frac{1}{2}\left(\lambda_{0}+\lambda_{1}-\lambda_{2}+\lambda_{3}\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=1 \quad 1 \quad 2 \quad 2 \quad 2 \quad 1 \quad 1 \quad 1 \\ & \frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=1 \quad 1 \quad 2 \quad 2 \quad 2 \quad 1 \quad 0 \quad 1 \\ & \frac{1}{2}\left(\lambda_{0}-\lambda_{1}-\lambda_{2}-\lambda_{3}\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=1 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \\ & \frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right)-\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=1 \quad 3 \quad 4 \quad 3 \quad 2 \quad 2 \quad 1 \quad 2 \\ & \frac{1}{2}\left(\lambda_{0}+\lambda_{1}-\lambda_{2}+\lambda_{3}\right)-\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=1 \quad 3 \quad 4 \quad 3 \quad 2 \quad 1 \quad 1 \quad 2 \\ & \frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right)-\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=1 \quad 3 \quad 4 \quad 3 \quad 2 \quad 1 \quad 0 \quad 2 \\ & \frac{1}{2}\left(\lambda_{0}-\lambda_{1}-\lambda_{2}-\lambda_{3}\right)-\frac{1}{2}\left(\mu_{3}-\mu_{1}\right)=1 \quad 2 \quad 2 \quad 1 \quad 0 \quad 0 \quad 0 \quad 1 \\ & \frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3}\right)+\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=1 \quad 2 \quad 2 \quad 1 \quad 1 \quad 1 \quad 0 \quad 1 \\ & \frac{1}{2}\left(\lambda_{0}-\lambda_{1}-\lambda_{2}+\lambda_{3}\right)+\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=1 \quad 2 \quad 2 \quad 1 \quad 1 \quad 0 \quad 0 \quad 1 \\ & \frac{1}{2}\left(\lambda_{0}+\lambda_{1}-\lambda_{2}-\lambda_{3}\right)+\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=1 \quad 2 \quad 2 \quad 1 \quad 1 \quad 1 \quad 1 \quad 1 \\ & \frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right)+\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=1 \quad 3 \quad 4 \quad 3 \quad 3 \quad 2 \quad 1 \quad 2 \\ & \frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3}\right)-\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=1 \quad 1 \quad 2 \quad 2 \quad 1 \quad 1 \quad 0 \quad 1 \\ & \frac{1}{2}\left(\lambda_{0}-\lambda_{1}-\lambda_{2}+\lambda_{3}\right)-\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=1 \quad 1 \quad 2 \quad 2 \quad 1 \quad 0 \quad 0 \quad 1 \\ & \frac{1}{2}\left(\lambda_{0}+\lambda_{1}-\lambda_{2}-\lambda_{3}\right)-\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=1 \quad 1 \quad 2 \quad 2 \quad 1 \quad 1 \quad 1 \quad 1 \\ & \frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right)-\frac{1}{2}\left(\mu_{1}-\mu_{2}\right)=1 \quad 2 \quad 4 \quad 4 \quad 3 \quad 2 \quad 1 \quad 2 \\ & \mu_{1}+\frac{2}{3}\nu=0 \quad 1 \quad 1 \quad 0 \quad 0 \quad 0 \quad 0 \quad 1 \\ & \mu_{2}+\frac{2}{3}\nu=0 \quad 0 \quad 1 \quad 1 \quad 0 \quad 0 \quad 0 \quad 1 \\ & -\mu_{3}-\frac{2}{3}\nu=0 \quad 1 \quad 1 \quad 1 \quad 0 \quad 0 \quad 0 \quad 0 \end{aligned}$$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0050	12	0.999	`\begin{array}{ll} \left(D_{2} x\right) y+x\left(D_{3} y\right)=\left(\kappa D_{1}\right)(x y), & x, y \in \mathfrak{C}, \\ \left(D_{3} x\right) y+x\left(D_{1} y\right)=\left(\kappa D_{2}\right)(x y), & x, y \in \mathfrak{C} . \end{array}`	$\begin{array}{ll} \left(D_{2} x\right) y+x\left(D_{3} y\right)=\left(\kappa D_{1}\right)(x y), & x, y \in \mathfrak{C}, \\ \left(D_{3} x\right) y+x\left(D_{1} y\right)=\left(\kappa D_{2}\right)(x y), & x, y \in \mathfrak{C} . \end{array}$	$\begin{array}{ll} \left(D_{2} x\right) y+x\left(D_{3} y\right)=\left(\kappa D_{1}\right)(x y), & x, y \in \mathfrak{C}, \\ \left(D_{3} x\right) y+x\left(D_{1} y\right)=\left(\kappa D_{2}\right)(x y), & x, y \in \mathfrak{C} . \end{array}$
0902.0431_EQ0180	31	0.999	`\alpha_{\bar{\omega}_{1}}(a+\boldsymbol{m})=\bar{ \omega}_{1}(a+\boldsymbol{m}) \omega_{1}=\bar{\omega}_{1} a \omega_{1}+\bar{\omega}_{1}^{2} \boldsymbol{m}=a+ \omega_{1} \boldsymbol{m}=w(a+\boldsymbol{m}),`	$\alpha_{\bar{\omega}_{1}}(a+\boldsymbol{m})=\bar{\omega}_{1}(a+\boldsymbol{m}) \omega_{1}=\bar{\omega}_{1} a \omega_{1}+\bar{\omega}_{1}^{2} \boldsymbol{m}=a+ \omega_{1} \boldsymbol{m}=w(a+\boldsymbol{m}),$	$\alpha_{\bar{\omega}_{1}}(a+\boldsymbol{m})=\bar{\omega}_{1}(a+\boldsymbol{m}) \omega_{1}=\bar{\omega}_{1} a \omega_{1}+\bar{\omega}_{1}^{2} \boldsymbol{m}=a+ \omega_{1} \boldsymbol{m}=w(a+\boldsymbol{m}),$
0902.0431_EQ0345	56	0.999	`\begin{aligned} & B_{4}\left(H, H^{\prime}\right)= \sum_{k, l=0}^{3} \lambda_{k} \lambda_{l}^{\prime} B_{4} \left(H_{k}, H_{l}\right) \\ & \quad=3 \sum_{k, l}\left(\lambda_{k} \lambda_{l}^{\prime}\left(\operatorname{tr} \left(H_{k} H_{l}\right)+\operatorname{tr}\left(\left(\nu H_{k}\right)\left(\nu H_{l}\right)\right)+ \operatorname{tr}\left(\left(\kappa \pi H_{k}\right) \left(\kappa \pi H_{l}\right)\right)\right)\right) \\ & \quad=3 \sum_{k, l} \lambda_{k} \lambda_{l}^{ \prime}(2+2+2) \delta_{k l}=18 \sum_{k=0}^{3} \lambda_{k} \lambda_{k}^{\prime} \end{aligned}`	$\begin{aligned} & B_{4}\left(H, H^{\prime}\right)= \sum_{k, l=0}^{3} \lambda_{k} \lambda_{l}^{\prime} B_{4} \left(H_{k}, H_{l}\right) \\ & \quad=3 \sum_{k, l}\left(\lambda_{k} \lambda_{l}^{\prime}\left(\operatorname{tr} \left(H_{k} H_{l}\right)+\operatorname{tr}\left(\left(\nu H_{k}\right)\left(\nu H_{l}\right)\right)+ \operatorname{tr}\left(\left(\kappa \pi H_{k}\right) \left(\kappa \pi H_{l}\right)\right)\right)\right) \\ & \quad=3 \sum_{k, l} \lambda_{k} \lambda_{l}^{ \prime}(2+2+2) \delta_{k l}=18 \sum_{k=0}^{3} \lambda_{k} \lambda_{k}^{\prime} \end{aligned}$	$\begin{aligned} & B_{4}\left(H, H^{\prime}\right)= \sum_{k, l=0}^{3} \lambda_{k} \lambda_{l}^{\prime} B_{4} \left(H_{k}, H_{l}\right) \\ & \quad=3 \sum_{k, l}\left(\lambda_{k} \lambda_{l}^{\prime}\left(\operatorname{tr} \left(H_{k} H_{l}\right)+\operatorname{tr}\left(\left(\nu H_{k}\right)\left(\nu H_{l}\right)\right)+ \operatorname{tr}\left(\left(\kappa \pi H_{k}\right) \left(\kappa \pi H_{l}\right)\right)\right)\right) \\ & \quad=3 \sum_{k, l} \lambda_{k} \lambda_{l}^{ \prime}(2+2+2) \delta_{k l}=18 \sum_{k=0}^{3} \lambda_{k} \lambda_{k}^{\prime}. \end{aligned}$
0902.0431_EQ0405	67	0.999	`\varphi(p, A)((M+\boldsymbol{a}) \times(N+ \boldsymbol{b}))=\varphi(p, A)(M+\boldsymbol{a}) \times \varphi(p, A)(N+\boldsymbol{b}),`	$\varphi(p, A)((M+\boldsymbol{a}) \times(N+ \boldsymbol{b}))=\varphi(p, A)(M+\boldsymbol{a}) \times \varphi(p, A)(N+\boldsymbol{b}),$	$\varphi(p, A)((M+\boldsymbol{a}) \times(N+ \boldsymbol{b}))=\varphi(p, A)(M+\boldsymbol{a}) \times \varphi(p, A)(N+\boldsymbol{b}),$
0902.0431_EQ0441	72	0.999	`\begin{aligned} F_{4(4)} & \simeq(\operatorname{Sp}(1) \times \operatorname{Sp}(3)) / \boldsymbol{Z}_{2} \times \boldsymbol{R}^{28}, \\ F_{4(-20)} & \simeq \operatorname{Spin}(9) \times \boldsymbol{R}^{16} . \end{aligned}`	$\begin{aligned} F_{4(4)} & \simeq(\operatorname{Sp}(1) \times \operatorname{Sp}(3)) / \boldsymbol{Z}_{2} \times \boldsymbol{R}^{28}, \\ F_{4(-20)} & \simeq \operatorname{Spin}(9) \times \boldsymbol{R}^{16} . \end{aligned}$	$\begin{aligned} F_{4(4)} & \simeq(Sp(1) \times Sp(3)) / \boldsymbol{Z}_{2} \times \boldsymbol{R}^{28}, \\ F_{4(-20)} & \simeq Spin(9) \times \boldsymbol{R}^{16} . \end{aligned}$
0902.0431_EQ0485	80	0.999	`B_{6}(\phi, \phi)=\operatorname{tr}\left(( \operatorname{ad} \phi)^{2}\right)=\left(\frac{1}{4} \times 4+1 \times 2\right) \times 8=24 .`	$B_{6}(\phi, \phi)=\operatorname{tr}\left((\operatorname{ad} \phi)^{2}\right)=\left(\frac{1}{4} \times 4+1 \times 2\right) \times 8=24 .$	$B_{6}(\phi, \phi)=\operatorname{tr}((\operatorname{ad} \phi)^{2})=\left(\frac{1}{4} \times 4+1 \times 2\right) \times 8=24 .$
0902.0431_EQ0496	81	0.999	`\begin{aligned} & \sum_{k=1}^{3}\left(\left(\sigma_{i k} x_{i k}\right) y_{k j}+\bar{y}_{k i}\left(\overline{ \sigma_{j k} x_{j k}}\right)\right)+\sum_{k=1}^{3} \left(x_{i k}\left(\sigma_{k j} y_{k j}\right)+\left(\overline{\sigma_{k i} y_{k i}}\right) \bar{x}_{j k} \right) \\ & =\sum_{k}\left(\left(\sigma_{i k} x_{i k} \right) y_{k j}+y_{i k}\left(\sigma_{k j} x_{k j}\right) \right)+\sum_{k} \overline{\left(\left(\sigma_{j k} x_{j k}\right) y_{k i}+x_{j k}\left(\sigma_{k i} y_{k i} \right)\right)} \end{aligned}`	$\begin{aligned} & \sum_{k=1}^{3}\left(\left(\sigma_{i k} x_{i k}\right) y_{k j}+\bar{y}_{k i}\left(\overline{ \sigma_{j k} x_{j k}}\right)\right)+\sum_{k=1}^{3} \left(x_{i k}\left(\sigma_{k j} y_{k j}\right)+\left(\overline{\sigma_{k i} y_{k i}}\right) \bar{x}_{j k} \right) \\ & =\sum_{k}\left(\left(\sigma_{i k} x_{i k} \right) y_{k j}+y_{i k}\left(\sigma_{k j} x_{k j}\right) \right)+\sum_{k} \overline{\left(\left(\sigma_{j k} x_{j k}\right) y_{k i}+x_{j k}\left(\sigma_{k i} y_{k i} \right)\right)} \end{aligned}$	$\begin{aligned} & \sum_{k=1}^{3}\left(\left(\sigma_{i k} x_{i k}\right) y_{k j}+\bar{y}_{k i}\left(\overline{ \sigma_{j k} x_{j k}}\right)\right)+\sum_{k=1}^{3} \left(x_{i k}\left(\sigma_{k j} y_{k j}\right)+\left(\overline{\sigma_{k i} y_{k i}}\right) \bar{x}_{j k} \right) \\ & =\sum_{k}\left(\left(\sigma_{i k} x_{i k} \right) y_{k j}+y_{i k}\left(\sigma_{k j} x_{k j}\right) \right)+\sum_{k} \overline{\left(\left(\sigma_{j k} x_{j k}\right) y_{k i}+x_{j k}\left(\sigma_{k i} y_{k i} \right)\right)} \end{aligned}$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0560	94	0.999	`\phi(\theta)\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right)=\left(\begin{array}{ccc} \theta^{4} \xi_{1} & \theta x_{3} & \theta \bar{x}_{2} \\ \theta \bar{x}_{3} & \theta^{-2} \xi_{2} & \theta^{-2} x_{1} \\ \theta x_{2} & \theta^{-2} \bar{x}_{1} & \theta^{-2} \xi_{3} \end{array}\right) .`	$\phi(\theta)\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right)=\left(\begin{array}{ccc} \theta^{4} \xi_{1} & \theta x_{3} & \theta \bar{x}_{2} \\ \theta \bar{x}_{3} & \theta^{-2} \xi_{2} & \theta^{-2} x_{1} \\ \theta x_{2} & \theta^{-2} \bar{x}_{1} & \theta^{-2} \xi_{3} \end{array}\right) .$	$\phi(\theta)\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right)=\left(\begin{array}{ccc} \theta^{4} \xi_{1} & \theta x_{3} & \theta \bar{x}_{2} \\ \theta \bar{x}_{3} & \theta^{-2} \xi_{2} & \theta^{-2} x_{1} \\ \theta x_{2} & \theta^{-2} \bar{x}_{1} & \theta^{-2} \xi_{3} \end{array}\right) .$
0902.0431_EQ0578	96	0.999	`k\left(\left(a+b e_{2}\right)+i\left(c+d e_{2}\right) \right)=0, \quad a, b, c, d \in \boldsymbol{C},`	$k\left(\left(a+b e_{2}\right)+i\left(c+d e_{2}\right) \right)=0, \quad a, b, c, d \in \boldsymbol{C},$	$k\left(\left(a+b e_{2}\right)+i\left(c+d e_{2}\right) \right)=0, \quad a, b, c, d \in \boldsymbol{C},$
0902.0431_EQ0607	101	0.999	`\begin{aligned} & A(P \circ Q) A^{*}=A P A^{*} \circ A Q A^{*}, \\ & \left(A P A^{*}, A Q A^{*}\right)=(P, Q), \end{aligned} \quad A \in \operatorname{Sp}(4), P, Q \in \mathfrak{J}(4, \boldsymbol{H}) .`	$\begin{aligned} & A(P \circ Q) A^{*}=A P A^{*} \circ A Q A^{*}, \\ & \left(A P A^{*}, A Q A^{*}\right)=(P, Q), \end{aligned} \quad A \in \operatorname{Sp}(4), P, Q \in \mathfrak{J}(4, \boldsymbol{H}) .$	$\begin{aligned} & A(P \circ Q) A^{*}=A P A^{*} \circ A Q A^{*}, \\ & \left(A P A^{*}, A Q A^{*}\right)=(P, Q), \end{aligned} \quad A \in \operatorname{Sp}(4), P, Q \in \mathfrak{J}(4, \boldsymbol{H}) .$
0902.0431_EQ0693	114	0.999	`r f_{r}(P \times Q) f_{r}^{-1}=f_{r} P \times f_{r} Q, \quad P, Q \in \mathfrak{P}^{C}`	$r f_{r}(P \times Q) f_{r}^{-1}=f_{r} P \times f_{r} Q, \quad P, Q \in \mathfrak{P}^{C}$	$r f_{r}(P \times Q) f_{r}^{-1}=f_{r} P \times f_{r} Q, \quad P, Q \in \mathfrak{P}^{C}$
0902.0431_EQ0720	118	0.999	`\Phi \in \mathfrak{e}_{7} \quad \text { if and only if } \quad \tau \lambda \Phi \lambda^{-1} \tau=\Phi .`	$\Phi \in \mathfrak{e}_{7} \quad \text { if and only if } \quad \tau \lambda \Phi \lambda^{-1} \tau=\Phi .$	$\Phi \in \mathfrak{e}_{7} \quad \text { if and only if } \quad \tau \lambda \Phi \lambda^{-1} \tau=\Phi .$
0902.0431_EQ0836 (i)	139	0.999	`\left(E_{1}, \phi X\right)-\frac{1}{3} \nu\left(E_{1}, X \right)=-\nu\left(E_{1}, X\right) .`	$\left(E_{1}, \phi X\right)-\frac{1}{3} \nu\left(E_{1}, X \right)=-\nu\left(E_{1}, X\right) .$	$\left(E_{1}, \phi X\right)-\frac{1}{3} \nu\left(E_{1}, X \right)=-\nu\left(E_{1}, X\right) .$
0902.0431_EQ0883	147	0.999	`\tau \gamma(X, Y, \xi, \eta)=(\tau \gamma X, \tau \gamma Y, \tau \xi, \tau \eta),`	$\tau \gamma(X, Y, \xi, \eta)=(\tau \gamma X, \tau \gamma Y, \tau \xi, \tau \eta),$	$\tau \gamma(X, Y, \xi, \eta)=(\tau \gamma X, \tau \gamma Y, \tau \xi, \tau \eta),$
0902.0431_EQ0962	160	0.999	`\gamma_{1}: \mathfrak{P}^{C} \rightarrow \mathfrak{P}^{C}, \gamma_{1}\left(P_{ \boldsymbol{C}}+(M+N)\right)=\overline{P_{ \boldsymbol{C}}}+(\bar{M}+\bar{N}), \quad P_{ \boldsymbol{C}}+(M+N) \in \mathfrak{P}^{C} .`	$\gamma_{1}: \mathfrak{P}^{C} \rightarrow \mathfrak{P}^{C}, \gamma_{1}\left(P_{ \boldsymbol{C}}+(M+N)\right)=\overline{P_{ \boldsymbol{C}}}+(\bar{M}+\bar{N}), \quad P_{ \boldsymbol{C}}+(M+N) \in \mathfrak{P}^{C} .$	$\gamma_{1}: \mathfrak{P}^{C} \rightarrow \mathfrak{P}^{C}, \gamma_{1}\left(P_{ \boldsymbol{C}}+(M+N)\right)=\overline{P_{ \boldsymbol{C}}}+(\bar{M}+\bar{N}), \quad P_{ \boldsymbol{C}}+(M+N) \in \mathfrak{P}^{C} .$
0902.0431_EQ0974	162	0.999	`\left\{\begin{array}{l} \Phi=\left[\Phi_{1}, \Phi_{2} \right]+P_{1} \times Q_{2}-P_{2} \times Q_{1} \\ P=\Phi_{1} P_{2}-\Phi_{2} P_{1}+r_{1} P_{2}-r_{2} P_{1}+s_{1} Q_{2}-s_{2} Q_{1} \\ Q=\Phi_{1} Q_{2}-\Phi_{2} Q_{1}-r_{1} Q_{2}+r_{2} Q_{1}+t_{1} P_{2}-t_{2} P_{1} \\ r=-\frac{1}{8}\left\{P_{1}, Q_{2}\right\}+ \frac{1}{8}\left\{P_{2}, Q_{1}\right\}+s_{1} t_{2}-s_{2} t_{1} \\ s=\frac{1}{4}\left\{P_{1}, P_{2}\right\}+2 r_{1} s_{2}-2 r_{2} s_{1} \\ t=-\frac{1}{4}\left\{Q_{1}, Q_{2} \right\}-2 r_{1} t_{2}+2 r_{2} t_{1} \end{array}\right.`	$\left\{\begin{array}{l} \Phi=\left[\Phi_{1}, \Phi_{2} \right]+P_{1} \times Q_{2}-P_{2} \times Q_{1} \\ P=\Phi_{1} P_{2}-\Phi_{2} P_{1}+r_{1} P_{2}-r_{2} P_{1}+s_{1} Q_{2}-s_{2} Q_{1} \\ Q=\Phi_{1} Q_{2}-\Phi_{2} Q_{1}-r_{1} Q_{2}+r_{2} Q_{1}+t_{1} P_{2}-t_{2} P_{1} \\ r=-\frac{1}{8}\left\{P_{1}, Q_{2}\right\}+ \frac{1}{8}\left\{P_{2}, Q_{1}\right\}+s_{1} t_{2}-s_{2} t_{1} \\ s=\frac{1}{4}\left\{P_{1}, P_{2}\right\}+2 r_{1} s_{2}-2 r_{2} s_{1} \\ t=-\frac{1}{4}\left\{Q_{1}, Q_{2} \right\}-2 r_{1} t_{2}+2 r_{2} t_{1} \end{array}\right.$	$\left\{\begin{array}{l} \Phi=\left[\Phi_{1}, \Phi_{2} \right]+P_{1} \times Q_{2}-P_{2} \times Q_{1} \\ P=\Phi_{1} P_{2}-\Phi_{2} P_{1}+r_{1} P_{2}-r_{2} P_{1}+s_{1} Q_{2}-s_{2} Q_{1} \\ Q=\Phi_{1} Q_{2}-\Phi_{2} Q_{1}-r_{1} Q_{2}+r_{2} Q_{1}+t_{1} P_{2}-t_{2} P_{1} \\ r=-\frac{1}{8}\left\{P_{1}, Q_{2}\right\}+ \frac{1}{8}\left\{P_{2}, Q_{1}\right\}+s_{1} t_{2}-s_{2} t_{1} \\ s=\frac{1}{4}\left\{P_{1}, P_{2}\right\}+2 r_{1} s_{2}-2 r_{2} s_{1} \\ t=-\frac{1}{4}\left\{Q_{1}, Q_{2} \right\}-2 r_{1} t_{2}+2 r_{2} t_{1} \end{array}\right.$
0902.0431_EQ0987	164	0.999	`\left(R_{1}, R_{2}\right)_{8}=\left(\Phi_{1}, \Phi_{2} \right)_{7}-\left\{Q_{1}, P_{2}\right\}+\left\{P_{1}, Q_{2}\right\}-8 r_{1} r_{2}-4 t_{1} s_{2}-s_{1} t_{2},`	$\left(R_{1}, R_{2}\right)_{8}=\left(\Phi_{1}, \Phi_{2} \right)_{7}-\left\{Q_{1}, P_{2}\right\}+\left\{P_{1}, Q_{2}\right\}-8 r_{1} r_{2}-4 t_{1} s_{2}-s_{1} t_{2},$	$\left(R_{1}, R_{2}\right)_{8}=\left(\Phi_{1}, \Phi_{2} \right)_{7}-\left\{Q_{1}, P_{2}\right\}+\left\{P_{1}, Q_{2}\right\}-8 r_{1} r_{2}-4 t_{1} s_{2}-s_{1} t_{2},$
0902.0431_EQ1054	179	0.999	`\beta(P \times Q) \beta^{-1}=\beta P \times \beta Q,`	$\beta(P \times Q) \beta^{-1}=\beta P \times \beta Q,$	$\beta(P \times Q) \beta^{-1}=\beta P \times \beta Q,$
0902.0431_EQ1099	186	0.999	`\operatorname{Spin}(16), \quad S O(16), \quad S s(16), \quad S O(16) / \boldsymbol{Z}_{2} .`	$\operatorname{Spin}(16), \quad S O(16), \quad S s(16), \quad S O(16) / \boldsymbol{Z}_{2} .$	$\operatorname{Spin}(16), \quad S O(16), \quad S s(16), \quad S O(16) / \boldsymbol{Z}_{2} .$
0902.0431_EQ1136	192	0.999	`\varphi(A, \alpha)=\varphi_{1}(A) \varphi_{2}(\alpha) .`	$\varphi(A, \alpha)=\varphi_{1}(A) \varphi_{2}(\alpha) .$	$\varphi(A, \alpha)=\varphi_{1}(A) \varphi_{2}(\alpha) .$

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0902.0431_EQ1216	204	0.999	\begin{aligned} E_{8(8)} & =\left\{\alpha \in \operatorname{Iso}_{R}\left(\mathfrak{e}_{8(8)}\right) \mid \alpha\left[R_{1}, R_{2}\right]=\left[\alpha R_{1}, \alpha R_{2}\right]\right\}, \\ E_{8(-24)} & =\left\{\alpha \in \operatorname{Iso}_{R}\left(\mathfrak{e}_{8(-24)}\right) \mid \alpha\left[R_{1}, R_{2}\right]=\left[\alpha R_{1}, \alpha R_{2}\right]\right\} . \end{aligned}	$$\begin{aligned} E_{8(8)} & =\left\{\alpha \in \operatorname{Iso}_{R}\left(\mathfrak{e}_{8(8)}\right) \mid \alpha\left[R_{1}, R_{2}\right]=\left[\alpha R_{1}, \alpha R_{2}\right]\right\}, \\ E_{8(-24)} & =\left\{\alpha \in \operatorname{Iso}_{R}\left(\mathfrak{e}_{8(-24)}\right) \mid \alpha\left[R_{1}, R_{2}\right]=\left[\alpha R_{1}, \alpha R_{2}\right]\right\} . \end{aligned}$$	$$\begin{aligned} E_{8(8)} & =\{\alpha \in \operatorname{Iso}_{R}(\mathfrak{e}_{8(8)}) \mid \alpha[R_{1}, R_{2}]=[\alpha R_{1}, \alpha R_{2}]\}, \\ E_{8(-24)} & =\{\alpha \in \operatorname{Iso}_{R}(\mathfrak{e}_{8(-24)}) \mid \alpha[R_{1}, R_{2}]=[\alpha R_{1}, \alpha R_{2}]\}. \end{aligned}$$
0902.0431_EQ1218	204	0.999	\begin{aligned} E_{8(8)} & \simeq S s(16) \times \boldsymbol{R}^{128}, \\ E_{8(-24)} & \simeq(S U(2) \times E_{7}\right) / \boldsymbol{Z}_{2} \times \boldsymbol{R}^{112} . \end{aligned}	$$\begin{aligned} E_{8(8)} & \simeq S s(16) \times \boldsymbol{R}^{128}, \\ E_{8(-24)} & \simeq(S U(2) \times E_{7}\right) / \boldsymbol{Z}_{2} \times \boldsymbol{R}^{112} . \end{aligned}$$	$$\begin{aligned} E_{8(8)} & \simeq S s(16) \times \boldsymbol{R}^{128}, \\ E_{8(-24)} & \simeq(S U(2) \times E_{7}\right) / \boldsymbol{Z}_{2} \times \boldsymbol{R}^{112} . \end{aligned}$$
0902.0431_EQ0092	19	0.999	B_{2}\left(H_{1}, H_{1}\right)=\operatorname{tr}\left(\left(\operatorname{ad} H_{1}\right)^{2}\right)=(-4) \times 2+(-1) \times 8=-16 .	$B_{2}\left(H_{1}, H_{1}\right)=\operatorname{tr}\left(\left(\operatorname{ad} H_{1}\right)^{2}\right)=(-4) \times 2+(-1) \times 8=-16 .$	$B_{2}\left(H_{1}, H_{1}\right)=\operatorname{tr}\left(\left(\operatorname{ad} H_{1}\right)^{2}\right)=(-4) \times 2+(-1) \times 8=-16 .$
0902.0431_EQ0165	29	0.999	\begin{array}{ll} \left(\alpha_{2} x\right)\left(\alpha_{3} y\right)=\overline{\alpha_{1}(\overline{x y})}, & x, y \in \mathfrak{C}, \\ \left(\alpha_{3} x\right)\left(\alpha_{1} y\right)=\overline{\alpha_{2}(\overline{x y})}, & x, y \in \mathfrak{C} . \end{array}	$$\begin{array}{ll} \left(\alpha_{2} x\right)\left(\alpha_{3} y\right)=\overline{\alpha_{1}(\overline{x y})}, & x, y \in \mathfrak{C}, \\ \left(\alpha_{3} x\right)\left(\alpha_{1} y\right)=\overline{\alpha_{2}(\overline{x y})}, & x, y \in \mathfrak{C} . \end{array}$$	$$\begin{array}{ll} \left(\alpha_{2} x\right)\left(\alpha_{3} y\right)=\overline{\alpha_{1}(\overline{x y})}, & x, y \in \mathfrak{C}, \\ \left(\alpha_{3} x\right)\left(\alpha_{1} y\right)=\overline{\alpha_{2}(\overline{x y})}, & x, y \in \mathfrak{C} . \end{array}$$
0902.0431_EQ0450	74	0.999	\delta+\widetilde{T}=0, \quad \delta \in \mathfrak{f}_{4}{ }^{C}, T \in \mathfrak{J}_{0}{ }^{C} \quad \text { implies } \quad \delta=0, T=0 .	$\delta+\widetilde{T}=0, \quad \delta \in \mathfrak{f}_{4}{ }^{C}, T \in \mathfrak{J}_{0}{ }^{C} \quad \text { implies } \quad \delta=0, T=0 .$	$\delta+\widetilde{T}=0, \quad \delta \in \mathfrak{f}_{4}{ }^{C}, T \in \mathfrak{J}_{0}{ }^{C} \quad \text { implies } \quad \delta=0, T=0 .$
0902.0431_EQ0541	91	0.999	\begin{aligned} \left(\mathfrak{J}^{C}\right)_{\sigma} & =\left\{X \in \mathfrak{J}^{C} \mid \sigma X=X\right\} \\ & =\left\{X \in \mathfrak{J}^{C} \mid 4 E_{1} \times\left(E_{1} \times X\right)=X\right\} \oplus \mathfrak{E}_{1}^{C}, \\ \left(\mathfrak{J}^{C}\right)_{-\sigma} & =\left\{X \in \mathfrak{J}^{C} \mid \sigma X=-X\right\} \\ & =\left\{X \in \mathfrak{J}^{C} \mid E_{1} \times X=0,\left\langle E_{1}, X\right\rangle=0\right\}, \end{aligned}	$$\begin{aligned} \left(\mathfrak{J}^{C}\right)_{\sigma} & =\left\{X \in \mathfrak{J}^{C} \mid \sigma X=X\right\} \\ & =\left\{X \in \mathfrak{J}^{C} \mid 4 E_{1} \times\left(E_{1} \times X\right)=X\right\} \oplus \mathfrak{E}_{1}^{C}, \\ \left(\mathfrak{J}^{C}\right)_{-\sigma} & =\left\{X \in \mathfrak{J}^{C} \mid \sigma X=-X\right\} \\ & =\left\{X \in \mathfrak{J}^{C} \mid E_{1} \times X=0,\left\langle E_{1}, X\right\rangle=0\right\}, \end{aligned}$$	$$\begin{aligned} \left(\mathfrak{J}^{C}\right)_{\sigma} & =\left\{X \in \mathfrak{J}^{C} \mid \sigma X=X\right\} \\ & =\left\{X \in \mathfrak{J}^{C} \mid 4 E_{1} \times\left(E_{1} \times X\right)=X\right\} \oplus \mathfrak{E}_{1}^{C}, \\ \left(\mathfrak{J}^{C}\right)_{-\sigma} & =\left\{X \in \mathfrak{J}^{C} \mid \sigma X=-X\right\} \\ & =\left\{X \in \mathfrak{J}^{C} \mid E_{1} \times X=0,\left\langle E_{1}, X\right\rangle=0\right\}, \end{aligned}$$
0902.0431_EQ0201	34	0.999	\left(\alpha_{1} x\right)\left(\alpha_{2} y\right)= \overline{\alpha_{3}(\overline{x y})} . \quad x, y \in \mathfrak{C} .	$\left(\alpha_{1} x\right)\left(\alpha_{2} y\right)=\overline{\alpha_{3}(\overline{x y})} . \quad x, y \in \mathfrak{C} .$	$\left(\alpha_{1} x\right)\left(\alpha_{2} y\right)=\overline{\alpha_{3}(\overline{x y})} . \quad x, y \in \mathfrak{C} .$
0902.0431_EQ0002	5	0.999	\gamma, \quad \sigma, \quad \iota, \quad \kappa, \quad \lambda, \quad \mu, \quad \tau, \quad v, \quad \chi, \quad g, \quad w .	$\gamma, \quad \sigma, \quad \iota, \quad \kappa, \quad \lambda, \quad \mu, \quad \tau, \quad v, \quad \chi, \quad g, \quad w .$	$\gamma, \quad \sigma, \quad \iota, \quad \kappa, \quad \lambda, \quad \mu, \quad \tau, \quad v, \quad \chi, \quad g, \quad w .$
0902.0431_EQ0004	6	0.999	e_{i}^{2}=-1, \quad i \neq 0, \quad e_{i} e_{j}=-e_{j} e_{i}, \quad i \neq j, i \neq 0, j \neq 0,	$e_{i}^{2}=-1, \quad i \neq 0, \quad e_{i} e_{j}=-e_{j} e_{i}, \quad i \neq j, i \neq 0, j \neq 0,$	$e_{i}^{2}=-1, \quad i \neq 0, \quad e_{i} e_{j}=-e_{j} e_{i}, \quad i \neq j, i \neq 0, j \neq 0,$

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0902.0431_EQ0068	15	0.999	`\begin{aligned} (a+\boldsymbol{m})(b+\boldsymbol{n}) & =(a b-\langle\boldsymbol{m}, \boldsymbol{n} \rangle)+(a \boldsymbol{n}+\bar{b} \boldsymbol{m}- \overline{\boldsymbol{m} \times \boldsymbol{n}}), \\ (a+\boldsymbol{m}, b+\boldsymbol{n}) & =(a, b)+(\boldsymbol{m}, \boldsymbol{n}), \\ \overline{a+ \boldsymbol{m}} & =\bar{a}-\boldsymbol{m}, \end{aligned}`	$\begin{aligned} (a+\boldsymbol{m})(b+\boldsymbol{n}) & =(a b-\langle\boldsymbol{m}, \boldsymbol{n} \rangle)+(a \boldsymbol{n}+\bar{b} \boldsymbol{m}- \overline{\boldsymbol{m} \times \boldsymbol{n}}), \\ (a+\boldsymbol{m}, b+\boldsymbol{n}) & =(a, b)+(\boldsymbol{m}, \boldsymbol{n}), \\ \overline{a+ \boldsymbol{m}} & =\bar{a}-\boldsymbol{m}, \end{aligned}$	$\begin{aligned} (a+\boldsymbol{m})(b+\boldsymbol{n}) & =(a b-\langle\boldsymbol{m}, \boldsymbol{n} \rangle)+(a \boldsymbol{n}+\bar{b} \boldsymbol{m}- \overline{\boldsymbol{m} \times \boldsymbol{n}}), \\ (a+\boldsymbol{m}, b+\boldsymbol{n}) & =(a, b)+(\boldsymbol{m}, \boldsymbol{n}), \\ \overline{a+ \boldsymbol{m}} & =\bar{a}-\boldsymbol{m}, \end{aligned}$
0902.0431_EQ0139	26	0.999	`G_{2}{ }^{C}=\left\{\alpha \in \operatorname{Iso}_{C} \left(\mathfrak{C}^{C}\right) \mid \alpha(x y)=(\alpha x)(\alpha y)\right\} .`	$G_2{}^C=\left\{\alpha \in \operatorname{Iso}_{C} \left(\mathfrak{C}^{C}\right) \mid \alpha(x y)=(\alpha x)(\alpha y)\right\} .$	$G_2{}^C=\{\alpha \in \operatorname{Iso}_{C} (\mathfrak{C}^{C}) \mid \alpha(xy)=(\alpha x)(\alpha y)\}.$
0902.0431_EQ0182 (ii)	31	0.999	`(\alpha x)(\widetilde{\alpha} y)=\widetilde{\alpha}(x y), \quad x, y \in \mathfrak{C} .`	$(\alpha x)(\widetilde{\alpha} y)=\widetilde{\alpha}(x y), \quad x, y \in \mathfrak{C} .$	$(\alpha x)(\widetilde{\alpha} y)=\widetilde{\alpha}(x y), \quad x, y \in \mathfrak{C} .$
0902.0431_EQ0187 (i)	32	0.999	`(\alpha x)\left((\alpha y) b_{0}\right)=(\alpha(x y)) b_{0}, \quad x, y \in \mathfrak{C} .`	$(\alpha x)\left((\alpha y) b_{0}\right)=(\alpha(x y)) b_{0}, \quad x, y \in \mathfrak{C} .$	$(\alpha x)\left((\alpha y) b_{0}\right)=(\alpha(x y)) b_{0}, \quad x, y \in \mathfrak{C} .$
0902.0431_EQ0209	35	0.999	`\operatorname{Spin}(8) /\{(1,1,1),(-1,-1,1)\} \cong \operatorname{Spin}(8) /\{(1,1,1),(1,-1,-1)\},`	$\operatorname{Spin}(8) /\{(1,1,1),(-1,-1,1)\} \cong \operatorname{Spin}(8) /\{(1,1,1),(1,-1,-1)\},$	$\operatorname{Spin}(8) /\{(1,1,1),(-1,-1,1)\} \cong \operatorname{Spin}(8) /\{(1,1,1),(1,-1,-1)\},$
0902.0431_EQ0211	35	0.999	`G_{2}=\{\alpha \in \operatorname{Spin}(8) \mid \nu \alpha=\alpha\} .`	$G_2=\{\alpha \in \operatorname{Spin}(8) \mid \nu \alpha=\alpha\} .$	$G_2=\{\alpha \in \operatorname{Spin}(8) \mid \nu \alpha=\alpha\} .$
0902.0431_EQ0225	37	0.999	`\left\{\begin{array} { l } { E _ { i } \circ E _ { i } = E _ { i } } \\ { E _ { i } \circ F _ { i } (x) = 0 } \\ { F _ { i } (x) \circ F _ { i } (y) = (x , y) (E _ { i + 1 } + E _ { i + 2 }) , } \end{array} \left \{\begin{array}{l} E_{i} \circ E_{j}=0, \quad i \neq j \\ E_{i} \circ F_{j}(x)=\frac{1}{2} F_{j}(x), \quad i \neq j \\ F_{i}(x) \circ F_{i+1}(y)=\frac{1}{2} F_{i+2}(\overline{x y}), \end{array}\right.\right.`	$\left\{\begin{array} { l } { E _ { i } \circ E _ { i } = E _ { i } } \\ { E _ { i } \circ F _ { i } (x) = 0 } \\ { F _ { i } (x) \circ F _ { i } (y) = (x , y) (E _ { i + 1 } + E _ { i + 2 }) , } \end{array}\right. \left\{\begin{array}{l} E_{i} \circ E_{j}=0, \quad i \neq j \\ E_{i} \circ F_{j}(x)=\frac{1}{2} F_{j}(x), \quad i \neq j \\ F_{i}(x) \circ F_{i+1}(y)=\frac{1}{2} F_{i+2}(\overline{x y}), \end{array}\right.$	$\left\{\begin{array} { l } { E _ { i } \circ E _ { i } = E _ { i } } \\ { E _ { i } \circ F _ { i } (x) = 0 } \\ { F _ { i } (x) \circ F _ { i } (y) = (x , y) (E _ { i + 1 } + E _ { i + 2 }) , } \end{array}\right. \left\{\begin{array}{l} E_{i} \circ E_{j}=0, \quad i \neq j \\ E_{i} \circ F_{j}(x)=\frac{1}{2} F_{j}(x), \quad i \neq j \\ F_{i}(x) \circ F_{i+1}(y)=\frac{1}{2} F_{i+2}(\overline{x y}), \end{array}\right.$
0902.0431_EQ0240 (3)	40	0.999	`\operatorname{det}(\alpha X)=\operatorname{det} X,(\alpha X, \alpha Y)=(X, Y) .`	$\operatorname{det}(\alpha X)=\operatorname{det} X,(\alpha X, \alpha Y)=(X, Y) .$	$\operatorname{det}(\alpha X)=\operatorname{det} X,(\alpha X, \alpha Y)=(X, Y) .$
0902.0431_EQ0259	42	0.999	`[X, Y]=X Y-Y X .`	$[X, Y]=X Y-Y X .$	$[X, Y]=X Y-Y X .$
0902.0431_EQ0280	45	0.999	`\mathfrak{J}_{i}=\left\{F_{i}(x) \mid x \in \mathfrak{C} \right\}=\left\{X \in \mathfrak{J} \mid 2 E_{i+1} \circ X=2 E_{i+2} \circ X=X\right\} .`	$\mathfrak{J}_{i}=\left\{F_{i}(x) \mid x \in \mathfrak{C} \right\}=\left\{X \in \mathfrak{J} \mid 2 E_{i+1} \circ X=2 E_{i+2} \circ X=X\right\} .$	$\mathfrak{J}_{i}=\left\{F_{i}(x) \mid x \in \mathfrak{C} \right\}=\left\{X \in \mathfrak{J} \mid 2 E_{i+1} \circ X=2 E_{i+2} \circ X=X\right\} .$
0902.0431_EQ0286	45	0.999	`2 \delta E_{i} \circ E_{i}=\delta E_{i}, \quad \delta E_{i} \circ E_{j}+E_{i} \circ \delta E_{j}=0 .`	$2 \delta E_{i} \circ E_{i}=\delta E_{i}, \quad \delta E_{i} \circ E_{j}+E_{i} \circ \delta E_{j}=0 .$	$2 \delta E_{i} \circ E_{i}=\delta E_{i}, \quad \delta E_{i} \circ E_{j}+E_{i} \circ \delta E_{j}=0 .$
0902.0431_EQ0328	52	0.999	`\pm\left(\lambda_{k}-\lambda_{l}\right), \quad \pm\left( \lambda_{k}+\lambda_{l}\right), \quad 0 \leq k<l \leq 3 .`	$\pm\left(\lambda_{k}-\lambda_{l}\right), \quad \pm\left(\lambda_{k}+\lambda_{l}\right), \quad 0 \leq k<l \leq 3 .$	$\pm\left(\lambda_{k}-\lambda_{l}\right), \quad \pm\left(\lambda_{k}+\lambda_{l}\right), \quad 0 \leq k<l \leq 3 .$
0902.0431_EQ0346	56	0.999	`\begin{array}{ll} H_{\alpha_{1}}=\frac{1}{18} \left(H_{0}-H_{1}\right), & H_{\alpha_{2}}=\frac{1}{18} \left(H_{1}-H_{2}\right), \\ H_{\alpha_{3}}= \frac{1}{18} H_{2}, & H_{\alpha_{4}}=\frac{1}{36} \left(-H_{0}-H_{1}-H_{2}+H_{3}\right) . \end{array}`	$\begin{array}{ll} H_{\alpha_{1}}=\frac{1}{18} \left(H_{0}-H_{1}\right), & H_{\alpha_{2}}=\frac{1}{18} \left(H_{1}-H_{2}\right), \\ H_{\alpha_{3}}= \frac{1}{18} H_{2}, & H_{\alpha_{4}}=\frac{1}{36} \left(-H_{0}-H_{1}-H_{2}+H_{3}\right) . \end{array}$	$\begin{array}{ll} H_{\alpha_{1}}=\frac{1}{18} \left(H_{0}-H_{1}\right), & H_{\alpha_{2}}=\frac{1}{18} \left(H_{1}-H_{2}\right), \\ H_{\alpha_{3}}= \frac{1}{18} H_{2}, & H_{\alpha_{4}}=\frac{1}{36} \left(-H_{0}-H_{1}-H_{2}+H_{3}\right) . \end{array}$
0902.0431_EQ0351	57	0.999	`\mathfrak{J}_{i}=\left\{F_{i}(x) \mid x \in \mathfrak{C} \right\}=\left\{X \in \mathfrak{J} \mid 2 E_{i+1} \circ X=2 E_{i+2} \circ X=X\right\}, \quad i=1,2,3 .`	$\mathfrak{J}_{i}=\left\{F_{i}(x) \mid x \in \mathfrak{C} \right\}=\left\{X \in \mathfrak{J} \mid 2 E_{i+1} \circ X=2 E_{i+2} \circ X=X\right\}, \quad i=1,2,3 .$	$\mathfrak{J}_{i}=\left\{F_{i}(x) \mid x \in \mathfrak{C} \right\}=\left\{X \in \mathfrak{J} \mid 2 E_{i+1} \circ X=2 E_{i+2} \circ X=X\right\}, \quad i=1,2,3 .$

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0902.0431_EQ0362	58	0.999	`\begin{array}{lll} \alpha E=E, & \alpha E_{1}=E_{1}, & \alpha\left(E_{2}-E_{3}\right)=A, \\ \alpha F_{1}\left(e_{i}\right)=X_{i}, & \alpha F_{2}\left(e_{i}\right)=Y_{i}, & \alpha F_{3}\left(e_{i}\right)=Z_{i}, \quad i=0,1, \cdots, 7 \end{array}`	$\begin{array}{lll} \alpha E=E, & \alpha E_{1}=E_{1}, & \alpha\left(E_{2}-E_{3}\right)=A, \\ \alpha F_{1}\left(e_{i}\right)=X_{i}, & \alpha F_{2}\left(e_{i}\right)=Y_{i}, & \alpha F_{3}\left(e_{i}\right)=Z_{i}, \quad i=0,1, \cdots, 7 \end{array}$	$\begin{array}{lll} \alpha E=E, & \alpha E_{1}=E_{1}, & \alpha\left(E_{2}-E_{3}\right)=A, \\ \alpha F_{1}\left(e_{i}\right)=X_{i}, & \alpha F_{2}\left(e_{i}\right)=Y_{i}, & \alpha F_{3}\left(e_{i}\right)=Z_{i}, \quad i=0,1, \cdots, 7 \end{array}$
0902.0431_EQ0426	70	0.999	`\varphi(P, A)((X+M) \times(Y+N))=\varphi(P, A)(X+M) \times \varphi(P, A)(Y+N),`	$\varphi(P, A)((X+M) \times(Y+N))=\varphi(P, A)(X+M) \times \varphi(P, A)(Y+N),$	$\varphi(P, A)((X+M) \times(Y+N))=\varphi(P, A)(X+M) \times \varphi(P, A)(Y+N),$
0902.0431_EQ0438	72	0.999	`\begin{aligned} \mathfrak{J}\left(3, \mathfrak{C}^{\prime}\right) & \cong\left\{X \in \mathfrak{J}\left(3, \mathfrak{C}^{C}\right) \mid \tau \gamma X=X\right\}=\left(\mathfrak{J}\left(3, \mathfrak{C}^{C}\right)\right)_{\tau \gamma}, \\ \mathfrak{J}(1,2, \mathfrak{C}) & \cong\left\{X \in \mathfrak{J}\left(3, \mathfrak{C}^{C}\right) \mid \tau \sigma X=X\right\}=\left(\mathfrak{J}\left(3, \mathfrak{C}^{C}\right)\right)_{\tau \sigma} \end{aligned}`	$\begin{aligned} \mathfrak{J}\left(3, \mathfrak{C}^{\prime}\right) & \cong\left\{X \in \mathfrak{J}\left(3, \mathfrak{C}^{C}\right) \mid \tau \gamma X=X\right\}=\left(\mathfrak{J}\left(3, \mathfrak{C}^{C}\right)\right)_{\tau \gamma}, \\ \mathfrak{J}(1,2, \mathfrak{C}) & \cong\left\{X \in \mathfrak{J}\left(3, \mathfrak{C}^{C}\right) \mid \tau \sigma X=X\right\}=\left(\mathfrak{J}\left(3, \mathfrak{C}^{C}\right)\right)_{\tau \sigma} \end{aligned}$	$\begin{aligned} \mathfrak{J}\left(3, \mathfrak{C}^{\prime}\right) & \cong\left\{X \in \mathfrak{J}\left(3, \mathfrak{C}^{C}\right) \mid \tau \gamma X=X\right\}=\left(\mathfrak{J}\left(3, \mathfrak{C}^{C}\right)\right)_{\tau \gamma}, \\ \mathfrak{J}(1,2, \mathfrak{C}) & \cong\left\{X \in \mathfrak{J}\left(3, \mathfrak{C}^{C}\right) \mid \tau \sigma X=X\right\}=\left(\mathfrak{J}\left(3, \mathfrak{C}^{C}\right)\right)_{\tau \sigma} \end{aligned}$
0902.0431_EQ0483	79	0.999	`\left[\phi,\left[\phi, \widetilde{A}_{1}\left(e_{i}\right)\right]\right]=\left[\phi,-\frac{1}{2}\widetilde{F}_{1}\left(e_{i}\right)\right]=\frac{1}{4}\widetilde{A}_{1}\left(e_{i}\right),`	$\left[\phi,\left[\phi, \widetilde{A}_{1}\left(e_{i}\right)\right]\right]=\left[\phi,-\frac{1}{2}\widetilde{F}_{1}\left(e_{i}\right)\right]=\frac{1}{4}\widetilde{A}_{1}\left(e_{i}\right),$	$\left[\phi,\left[\phi, \widetilde{A}_{1}\left(e_{i}\right)\right]\right]=\left[\phi,-\frac{1}{2}\widetilde{F}_{1}\left(e_{i}\right)\right]=\frac{1}{4}\widetilde{A}_{1}\left(e_{i}\right),$
0902.0431_EQ0487	80	0.999	`\operatorname{tr}(\phi \phi)=1 \times 2+\frac{1}{4}\times 8 \times 2=6 .`	$\operatorname{tr}(\phi \phi)=1 \times 2+\frac{1}{4}\times 8 \times 2=6 .$	$\operatorname{tr}(\phi \phi)=1 \times 2+\frac{1}{4}\times 8 \times 2=6 .$
0902.0431_EQ0597	99	0.999	`(M+\boldsymbol{a}) \times(N+\boldsymbol{b})=\left(M \times N-\frac{1}{2}\left(\boldsymbol{a}^{*}\boldsymbol{b}+\boldsymbol{b}^{*} \boldsymbol{a}\right)\right)-\frac{1}{2}(\boldsymbol{a} N+\boldsymbol{b} M) .`	$(M+\boldsymbol{a}) \times(N+\boldsymbol{b})=\left(M \times N-\frac{1}{2}\left(\boldsymbol{a}^{*}\boldsymbol{b}+\boldsymbol{b}^{*} \boldsymbol{a}\right)\right)-\frac{1}{2}(\boldsymbol{a} N+\boldsymbol{b} M) .$	$(M+\boldsymbol{a}) \times(N+\boldsymbol{b})=\left(M \times N-\frac{1}{2}\left(\boldsymbol{a}^{*}\boldsymbol{b}+\boldsymbol{b}^{*} \boldsymbol{a}\right)\right)-\frac{1}{2}(\boldsymbol{a} N+\boldsymbol{b} M) .$
0902.0431_EQ0604	101	0.999	`\mathfrak{J}^{C}=\left(\mathfrak{J}^{C}\right)_{\tau \gamma} \oplus\left(\mathfrak{J}^{C}\right)_{-\tau \gamma}=\left(\mathfrak{J}^{C}\right)_{\tau \gamma} \oplus i\left(\mathfrak{J}^{C}\right)_{\tau \gamma} .`	$\mathfrak{J}^{C}=\left(\mathfrak{J}^{C}\right)_{\tau \gamma} \oplus\left(\mathfrak{J}^{C}\right)_{-\tau \gamma}=\left(\mathfrak{J}^{C}\right)_{\tau \gamma} \oplus i\left(\mathfrak{J}^{C}\right)_{\tau \gamma} .$	$\mathfrak{J}^{C}=\left(\mathfrak{J}^{C}\right)_{\tau \gamma} \oplus\left(\mathfrak{J}^{C}\right)_{-\tau \gamma}=\left(\mathfrak{J}^{C}\right)_{\tau \gamma} \oplus i\left(\mathfrak{J}^{C}\right)_{\tau \gamma} .$
0902.0431_EQ0668	111	0.999	`\mathfrak{P}^{C}=\mathfrak{J}^{C} \oplus \mathfrak{J}^{C} \oplus C \oplus C .`	$\mathfrak{P}^{C}=\mathfrak{J}^{C} \oplus \mathfrak{J}^{C} \oplus C \oplus C .$	$\mathfrak{P}^{C}=\mathfrak{J}^{C} \oplus \mathfrak{J}^{C} \oplus C \oplus C .$
0902.0431_EQ0672	112	0.999	`\begin{aligned} & (P \times Q) P \\ = & \Phi\left(-\frac{1}{2}(X \vee W+Z \vee Y),-\frac{1}{4}(2 Y \times W-\xi Z-\zeta X), \frac{1}{4}(2 X \times Z-\eta W-\omega Y),\right. \\ & \left.\frac{1}{8}((X, W)+(Z, Y)-3(\xi \omega+\zeta \eta))\right)(X, Y, \xi, \eta) \end{aligned}`	$\begin{aligned} & (P \times Q) P \\ = & \Phi\left(-\frac{1}{2}(X \vee W+Z \vee Y),-\frac{1}{4}(2 Y \times W-\xi Z-\zeta X), \frac{1}{4}(2 X \times Z-\eta W-\omega Y),\right. \\ & \left.\frac{1}{8}((X, W)+(Z, Y)-3(\xi \omega+\zeta \eta))\right)(X, Y, \xi, \eta) \end{aligned}$	$\begin{aligned} & (P \times Q) P \\ = & \Phi\left(-\frac{1}{2}(X \vee W+Z \vee Y),-\frac{1}{4}(2 Y \times W-\xi Z-\zeta X), \frac{1}{4}(2 X \times Z-\eta W-\omega Y),\right. \\ & \left.\frac{1}{8}((X, W)+(Z, Y)-3(\xi \omega+\zeta \eta))\right)(X, Y, \xi, \eta) \end{aligned}$
0902.0431_EQ0715	118	0.999	`\mathfrak{e}_{7}=\left\{\Phi(\phi, A,-\tau A, \nu) \mid \phi \in \mathfrak{e}_{6}, A \in \mathfrak{J}^{C}, \nu \in i \boldsymbol{R}\right\},`	$\mathfrak{e}_{7}=\left\{\Phi(\phi, A,-\tau A, \nu) \mid \phi \in \mathfrak{e}_{6}, A \in \mathfrak{J}^{C}, \nu \in i \boldsymbol{R}\right\},$	$\mathfrak{e}_{7}=\left\{\Phi(\phi, A,-\tau A, \nu) \mid \phi \in \mathfrak{e}_{6}, A \in \mathfrak{J}^{C}, \nu \in i \boldsymbol{R}\right\},$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0773	130	0.999	`\alpha=\left(\begin{array}{cccc} \beta & \epsilon & 0 & 0 \\ \delta & \beta_{1} & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right), \quad \beta, \beta_{1}, \delta, \epsilon \in \operatorname{Hom}_{C}\left(\mathfrak{J}^{C} \right) .`	$\alpha=\left(\begin{array}{cccc} \beta & \epsilon & 0 & 0 \\ \delta & \beta_{1} & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right), \quad \beta, \beta_{1}, \delta, \epsilon \in \operatorname{Hom}_{C}\left(\mathfrak{J}^{C} \right) .$	$\alpha=\left(\begin{array}{cccc} \beta & \epsilon & 0 & 0 \\ \delta & \beta_{1} & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right), \quad \beta, \beta_{1}, \delta, \epsilon \in \operatorname{Hom}_{C}\left(\mathfrak{J}^{C} \right) .$
0902.0431_EQ0832	139	0.999	`\begin{aligned} \left(\mathfrak{e}_{7}\right)^{\sigma} & =\left\{\Phi \in \mathfrak{e}_{7} \mid \sigma \Phi=\Phi \sigma\right\} \\ & =\left\{\Phi(\phi, A,-\tau A, \nu) \in \mathfrak{e}_{7} \mid \phi \in\left(\mathfrak{e}_{6}\right)^{\sigma}, A \in\left(\mathfrak{J}^{C}\right)_{ \sigma}\right\} . \end{aligned}`	$\begin{aligned} \left(\mathfrak{e}_{7}\right)^{\sigma} & =\left\{\Phi \in \mathfrak{e}_{7} \mid \sigma \Phi=\Phi \sigma\right\} \\ & =\left\{\Phi(\phi, A,-\tau A, \nu) \in \mathfrak{e}_{7} \mid \phi \in\left(\mathfrak{e}_{6}\right)^{\sigma}, A \in\left(\mathfrak{J}^{C}\right)_{ \sigma}\right\} . \end{aligned}$	$\begin{aligned} \left(\mathfrak{e}_{7}\right)^{\sigma} & =\left\{\Phi \in \mathfrak{e}_{7} \mid \sigma \Phi=\Phi \sigma\right\} \\ & =\left\{\Phi(\phi, A,-\tau A, \nu) \in \mathfrak{e}_{7} \mid \phi \in\left(\mathfrak{e}_{6}\right)^{\sigma}, A \in\left(\mathfrak{J}^{C}\right)_{ \sigma}\right\} . \end{aligned}$
0902.0431_EQ0855	142	0.999	`\tan 2 a=\frac{2 \eta}{\tau \xi-\xi} .`	$\tan 2 a=\frac{2 \eta}{\tau \xi-\xi} .$	$\tan 2 a=\frac{2 \eta}{\tau \xi-\xi} .$
0902.0431_EQ0864	143	0.999	`(P, P)_{\mu}=\frac{1}{2}\{\mu P, P\}=\bar{x} x+(\tau \xi) \xi+(\tau \eta) \eta .`	$(P, P)_{\mu}=\frac{1}{2}\{\mu P, P\}=\bar{x} x+(\tau \xi) \xi+(\tau \eta) \eta .$	$(P, P)_{\mu}=\frac{1}{2}\{\mu P, P\}=\bar{x} x+(\tau \xi) \xi+(\tau \eta) \eta .$
0902.0431_EQ0905	150	0.999	`D(g(\gamma Y)) D^{*} \quad \text { is real diagonal. }`	$D(g(\gamma Y)) D^{*} \quad \text { is real diagonal. }$	$D(g(\gamma Y)) D^{*} \quad \text { is real diagonal. }$
0902.0431_EQ0916	152	0.999	`E_{7, \boldsymbol{C}} / E_{6, \boldsymbol{C}} \simeq \left(\mathfrak{M}_{\boldsymbol{C}}\right)_{1} .`	$E_{7, \boldsymbol{C}} / E_{6, \boldsymbol{C}} \simeq \left(\mathfrak{M}_{\boldsymbol{C}}\right)_{1} .$	$E_{7, \boldsymbol{C}} / E_{6, \boldsymbol{C}} \simeq \left(\mathfrak{M}_{\boldsymbol{C}}\right)_{1} .$
0902.0431_EQ0973	162	0.999	`\left[\left(\Phi_{1}, P_{1}, Q_{1}, r_{1}, s_{1}, t_{1} \right),\left(\Phi_{2}, P_{2}, Q_{2}, r_{2}, s_{2}, t_{2} \right)\right]=(\Phi, P, Q, r, s, t),`	$\left[\left(\Phi_{1}, P_{1}, Q_{1}, r_{1}, s_{1}, t_{1}\right),\left(\Phi_{2}, P_{2}, Q_{2}, r_{2}, s_{2}, t_{2}\right)\right]=(\Phi, P, Q, r, s, t),$	$\left[\left(\Phi_{1}, P_{1}, Q_{1}, r_{1}, s_{1}, t_{1}\right),\left(\Phi_{2}, P_{2}, Q_{2}, r_{2}, s_{2}, t_{2}\right)\right]=(\Phi, P, Q, r, s, t),$
0902.0431_EQ1118	190	0.999	`\phi \boldsymbol{X}=\left(\begin{array}{c} \phi X_{1} \\ \phi X_{2} \\ \phi X_{3} \end{array}\right), \quad D \boldsymbol{X}=\left(\begin{array}{c} d_{11} X_{1}+d_{12} X_{2}+d_{13} X_{3} \\ d_{21} X_{1}+d_{22} X_{2}+d_{23} X_{3} \\ d_{31} X_{1}+d_{32} X_{2}+d_{33} X_{3} \end{array}\right) .`	$\phi \boldsymbol{X}=\left(\begin{array}{c} \phi X_{1} \\ \phi X_{2} \\ \phi X_{3} \end{array}\right), \quad D \boldsymbol{X}=\left(\begin{array}{c} d_{11} X_{1}+d_{12} X_{2}+d_{13} X_{3} \\ d_{21} X_{1}+d_{22} X_{2}+d_{23} X_{3} \\ d_{31} X_{1}+d_{32} X_{2}+d_{33} X_{3} \end{array}\right) .$	$\phi \boldsymbol{X}=\left(\begin{array}{c} \phi X_{1} \\ \phi X_{2} \\ \phi X_{3} \end{array}\right), \quad D \boldsymbol{X}=\left(\begin{array}{c} d_{11} X_{1}+d_{12} X_{2}+d_{13} X_{3} \\ d_{21} X_{1}+d_{22} X_{2}+d_{23} X_{3} \\ d_{31} X_{1}+d_{32} X_{2}+d_{33} X_{3} \end{array}\right) .$
0902.0431_EQ1131	191	0.999	`\left(\operatorname{ad} D_{1}\right)(D, \phi, \boldsymbol{X}, \boldsymbol{Y})=\left(\left( \operatorname{ad} D_{1}\right) D, 0, D_{1} \boldsymbol{X},-{ }^{t} D_{1} \boldsymbol{Y}\right),`	$\left(\operatorname{ad} D_{1}\right)(D, \phi, \boldsymbol{X}, \boldsymbol{Y})=\left(\left(\operatorname{ad} D_{1}\right) D, 0, D_{1} \boldsymbol{X},-{ }^{t} D_{1} \boldsymbol{Y}\right),$	$\left(\operatorname{ad} D_{1}\right)(D, \phi, \boldsymbol{X}, \boldsymbol{Y})=\left(\left(\operatorname{ad} D_{1}\right) D, 0, D_{1} \boldsymbol{X},-{ }^{t} D_{1} \boldsymbol{Y}\right),$
0902.0431_EQ0223	37	0.999	`X \times X=\left(\begin{array}{ccc} \xi_{2} \xi_{3}-x_{1} \bar{x}_{1} & \overline{x_{1} x_{2}}-\xi_{3} x_{3} & x_{3} x_{1}-\xi_{2} \bar{x}_{2} \\ x_{1} x_{2}-\xi_{3} \bar{x}_{3} & \xi_{3} \xi_{1}-x_{2} \bar{x}_{2} & \overline{x_{2} x_{3}}-\xi_{1} x_{1} \\ \overline{x_{3} x_{1}}-\xi_{2} x_{2} & x_{2} x_{3}-\xi_{1} \bar{x}_{1} & \xi_{1} \xi_{2}-x_{3} \bar{x}_{3} \end{array}\right), \quad X=X(\xi, x),`	$X \times X=\left(\begin{array}{ccc} \xi_{2} \xi_{3}-x_{1} \bar{x}_{1} & \overline{x_{1} x_{2}}-\xi_{3} x_{3} & x_{3} x_{1}-\xi_{2} \bar{x}_{2} \\ x_{1} x_{2}-\xi_{3} \bar{x}_{3} & \xi_{3} \xi_{1}-x_{2} \bar{x}_{2} & \overline{x_{2} x_{3}}-\xi_{1} x_{1} \\ \overline{x_{3} x_{1}}-\xi_{2} x_{2} & x_{2} x_{3}-\xi_{1} \bar{x}_{1} & \xi_{1} \xi_{2}-x_{3} \bar{x}_{3} \end{array}\right), \quad X=X(\xi, x),$	$X \times X=\left(\begin{array}{ccc} \xi_{2} \xi_{3}-x_{1} \bar{x}_{1} & \overline{x_{1} x_{2}}-\xi_{3} x_{3} & x_{3} x_{1}-\xi_{2} \bar{x}_{2} \\ x_{1} x_{2}-\xi_{3} \bar{x}_{3} & \xi_{3} \xi_{1}-x_{2} \bar{x}_{2} & \overline{x_{2} x_{3}}-\xi_{1} x_{1} \\ \overline{x_{3} x_{1}}-\xi_{2} x_{2} & x_{2} x_{3}-\xi_{1} \bar{x}_{1} & \xi_{1} \xi_{2}-x_{3} \bar{x}_{3} \end{array}\right), \quad X=X(\xi, x),$

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0902.0431_EQ0243	40	0.999	`\begin{aligned} & 3 \operatorname{det}(\alpha X)= \operatorname{tr}(\alpha X, \alpha X, \alpha X)- \frac{3}{2} \operatorname{tr}(\alpha X)(\alpha X, \alpha X)+\frac{1}{2} \operatorname{tr}(\alpha X)^{3} \\ & \quad=\operatorname{tr}(X, X, X)- \frac{3}{2} \operatorname{tr}(X)(X, X)+\frac{1}{2} \operatorname{tr}(X)^{3}=3 \operatorname{det} X . \end{aligned}`	$\begin{aligned} & 3 \operatorname{det}(\alpha X)= \operatorname{tr}(\alpha X, \alpha X, \alpha X)- \frac{3}{2} \operatorname{tr}(\alpha X)(\alpha X, \alpha X)+\frac{1}{2} \operatorname{tr}(\alpha X)^{3} \\ & \quad=\operatorname{tr}(X, X, X)- \frac{3}{2} \operatorname{tr}(X)(X, X)+\frac{1}{2} \operatorname{tr}(X)^{3}=3 \operatorname{det} X . \end{aligned}$	$\begin{aligned} & 3 \operatorname{det}(\alpha X)= \operatorname{tr}(\alpha X, \alpha X, \alpha X)- \frac{3}{2} \operatorname{tr}(\alpha X)(\alpha X, \alpha X)+\frac{1}{2} \operatorname{tr}(\alpha X)^{3} \\ & \quad=\operatorname{tr}(X, X, X)- \frac{3}{2} \operatorname{tr}(X)(X, X)+\frac{1}{2} \operatorname{tr}(X)^{3}=3 \operatorname{det} X . \end{aligned}$
0902.0431_EQ0706	116	0.999	`\begin{aligned} \Phi & =\left(\begin{array}{cccc} \phi- \frac{1}{3} \nu & 2 B & 0 & A \\ 2 A & \phi^{\prime}+ \frac{1}{3} \nu & B & 0 \\ 0 & A & \nu & 0 \\ B & 0 & 0 & -\nu \end{array}\right) \\ & =\Phi(\phi, A, B, \nu), \quad \phi \in \mathfrak{e}_{6}^{C}, A, B \in \mathfrak{J}^{C}, \nu \in C . \end{aligned}`	$\begin{aligned} \Phi & =\left(\begin{array}{cccc} \phi- \frac{1}{3} \nu & 2 B & 0 & A \\ 2 A & \phi^{\prime}+ \frac{1}{3} \nu & B & 0 \\ 0 & A & \nu & 0 \\ B & 0 & 0 & -\nu \end{array}\right) \\ & =\Phi(\phi, A, B, \nu), \quad \phi \in \mathfrak{e}_{6}^{C}, A, B \in \mathfrak{J}^{C}, \nu \in C . \end{aligned}$	$\begin{aligned} \Phi & =\left(\begin{array}{cccc} \phi- \frac{1}{3} \nu & 2 B & 0 & A \\ 2 A & \phi^{\prime}+ \frac{1}{3} \nu & B & 0 \\ 0 & A & \nu & 0 \\ B & 0 & 0 & -\nu \end{array}\right) \\ & =\Phi(\phi, A, B, \nu), \quad \phi \in \mathfrak{e}_{6}^{C}, A, B \in \mathfrak{J}^{C}, \nu \in C . \end{aligned}$
0902.0431_EQ1071	182	0.999	`\[ \begin{aligned} B & =l\left(D^{\prime}\right)+l(S) I, & & D^{\prime} \in \mathfrak{u}(8), S \in \mathfrak{S}(8, C) \\ & =l(D)+l(S) I+l(i c E), & & D \in \mathfrak{su}(8), S \in \mathfrak{S}(8, C), c \in \boldsymbol{R} . \end{aligned} \] \end{itemize}`	$\begin{aligned} B & =l\left(D^{\prime}\right)+l(S) I, & & D^{\prime} \in \mathfrak{u}(8), S \in \mathfrak{S}(8, C) \\ & =l(D)+l(S) I+l(i c E), & & D \in \mathfrak{su}(8), S \in \mathfrak{S}(8, C), c \in \boldsymbol{R} . \end{aligned}$	$\begin{aligned} B & =l\left(D^{\prime}\right)+l(S) I, & & D^{\prime} \in \mathfrak{u}(8), S \in \mathfrak{S}(8, C) \\ & =l(D)+l(S) I+l(i c E), & & D \in \mathfrak{su}(8), S \in \mathfrak{S}(8, C), c \in \boldsymbol{R} . \end{aligned}$
0902.0431_EQ1110	188	0.999	`\begin{array}{cccccccccc} \omega_{1} & 2 \omega_{1} & \omega_{2} & 2 \omega_{2} & \omega_{3} & \omega_{4} & \omega_{5} & \omega_{6} & \omega_{7} & \omega_{8} & \cdots \\ 16 & 135 & 120 & 5304 & 560 & 1820 & 4368 & 8008 & 128 & 128 & \cdots \end{array}`	$\begin{array}{cccccccccc} \omega_{1} & 2 \omega_{1} & \omega_{2} & 2 \omega_{2} & \omega_{3} & \omega_{4} & \omega_{5} & \omega_{6} & \omega_{7} & \omega_{8} & \cdots \\ 16 & 135 & 120 & 5304 & 560 & 1820 & 4368 & 8008 & 128 & 128 & \cdots \end{array}$	$\begin{array}{cccccccccc} \omega_{1} & 2 \omega_{1} & \omega_{2} & 2 \omega_{2} & \omega_{3} & \omega_{4} & \omega_{5} & \omega_{6} & \omega_{7} & \omega_{8} & \cdots \\ 16 & 135 & 120 & 5304 & 560 & 1820 & 4368 & 8008 & 128 & 128 & \cdots \end{array}$
0902.0431_EQ0006	7	1.000	`\{x, y, a\}=\{y, a, x\}=\{a, x, y\}=-\{y, x, a\}=-\{x, a, y\}=-\{a, y, x\} .`	$\{x, y, a\}=\{y, a, x\}=\{a, x, y\}=-\{y, x, a\}=-\{x, a, y\}=-\{a, y, x\} .$	$\{x, y, a\}=\{y, a, x\}=\{a, x, y\}=-\{y, x, a\}=-\{x, a, y\}=-\{a, y, x\} .$
0902.0431_EQ0011	8	1.000	`\alpha 1=1, \quad \overline{\alpha e_{i}}=-\alpha e_{i}, \quad i=1,2, \cdots, 7 .`	$\alpha 1=1, \quad \overline{\alpha e_{i}}=-\alpha e_{i}, \quad i=1,2, \cdots, 7 .$	$\alpha 1=1, \quad \overline{\alpha e_{i}}=-\alpha e_{i}, \quad i=1,2, \cdots, 7 .$
0902.0431_EQ0019	9	1.000	`\begin{aligned} (\kappa D) x & =\overline{D \bar{x}}, \quad x \in \mathfrak{C}, \\ \pi\left(G_{i j}\right) & =F_{i j}, \quad i, j=0,1, \cdots, 7, i \neq j, \\ \nu & =\pi \kappa . \end{aligned}`	$\begin{aligned} (\kappa D) x & =\overline{D \bar{x}}, \quad x \in \mathfrak{C}, \\ \pi\left(G_{i j}\right) & =F_{i j}, \quad i, j=0,1, \cdots, 7, i \neq j, \\ \nu & =\pi \kappa . \end{aligned}$	$\begin{aligned} (\kappa D) x & =\overline{D \bar{x}}, \quad x \in \mathfrak{C}, \\ \pi\left(G_{i j}\right) & =F_{i j}, \quad i, j=0,1, \cdots, 7, i \neq j, \\ \nu & =\pi \kappa . \end{aligned}$
0902.0431_EQ0026	10	1.000	`L_{a} x=a x, \quad R_{a} x=x a, \quad T_{a} x=a x+x a= \left(L_{a}+R_{a}\right) x, \quad x \in \mathfrak{C} .`	$L_{a} x=a x, \quad R_{a} x=x a, \quad T_{a} x=a x+x a=\left(L_{a}+R_{a}\right) x, \quad x \in \mathfrak{C} .$	$L_{a} x=a x, \quad R_{a} x=x a, \quad T_{a} x=a x+x a=\left(L_{a}+R_{a}\right) x, \quad x \in \mathfrak{C} .$
0902.0431_EQ0032	10	1.000	`\begin{aligned} & L_{e_{i}} x=e_{i} x=2 F_{i 0} x, \quad x \in \mathfrak{C}, \\ & T_{e_{i}} x=e_{i} x+x e_{i}= \begin{cases}2 e_{i}, & x=1 \\ -2, & x=e_{i} \\ 0, & x=e_{j}, \quad j \neq 0, i .\end{cases} \end{aligned}`	$\begin{aligned} & L_{e_{i}} x=e_{i} x=2 F_{i 0} x, \quad x \in \mathfrak{C}, \\ & T_{e_{i}} x=e_{i} x+x e_{i}= \begin{cases}2 e_{i}, & x=1 \\ -2, & x=e_{i} \\ 0, & x=e_{j}, \quad j \neq 0, i .\end{cases} \end{aligned}$	$\begin{aligned} & L_{e_{i}} x=e_{i} x=2 F_{i 0} x, \quad x \in \mathfrak{C}, \\ & T_{e_{i}} x=e_{i} x+x e_{i}= \begin{cases}2 e_{i}, & x=1 \\ -2, & x=e_{i} \\ 0, & x=e_{j}, \quad j \neq 0, i .\end{cases} \end{aligned}$

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0902.0431_EQ0072	15	■1.000	\varphi_{*}(D)(a+\boldsymbol{m})=D \boldsymbol{m}, \quad a+\boldsymbol{m} \in \boldsymbol{C} \oplus \boldsymbol{C}^{3}=\mathfrak{C} .	$\varphi_{*}(D)(a+\boldsymbol{m})=D \boldsymbol{m}, \quad a+\boldsymbol{m} \in \boldsymbol{C} \oplus \boldsymbol{C}^{3}=\mathfrak{C}$.	$\varphi_{*}(D)(a+\boldsymbol{m})=D \boldsymbol{m}, \quad a+\boldsymbol{m} \in \boldsymbol{C} \oplus \boldsymbol{C}^{3}=\mathfrak{C}$.
0902.0431_EQ0089	18	■1.000	B_{2}\left(D_{1}, D_{2}\right)=k \operatorname{tr} \left(D_{1} D_{2}\right) .	$B_{2}\left(D_{1}, D_{2}\right)=k \operatorname{tr}\left(D_{1} D_{2}\right)$.	$B_{2}\left(D_{1}, D_{2}\right)=k \operatorname{tr}\left(D_{1} D_{2}\right)$.
0902.0431_EQ0090	18	■1.000	\begin{array}{ll} {\left[H_{1},\left[H_{1}, L_{12} \right]\right]=\left[H_{1}, 2 L_{21}\right]=-4 L_{12},} & {\left[H_{1},\left[H_{1}, L_{21}\right]\right]= \left[H_{1},-2 L_{12}\right]=-4 L_{21},} \\ {\left[H_{1}, \left[H_{1}, L_{13}\right]\right]=\left[H_{1}, L_{31} \right]=-L_{13},} & {\left[H_{1},\left[H_{1}, L_{31} \right]\right]=\left[H_{1},-L_{13}\right]=-L_{31},} \\ {\left[H_{1},\left[H_{1}, L_{23}\right]\right]=\left[H_{1},-L_{32}\right]=-L_{23},} & {\left[H_{1},\left[H_{1}, L_{32} \right]\right]=\left[H_{1}, L_{23}\right]=-L_{32},} \end{array}	$\begin{array}{ll} {\left[H_{1},\left[H_{1}, L_{12} \right]\right]=\left[H_{1}, 2 L_{21}\right]=-4 L_{12},} & {\left[H_{1},\left[H_{1}, L_{21}\right]\right]= \left[H_{1},-2 L_{12}\right]=-4 L_{21},} \\ {\left[H_{1}, \left[H_{1}, L_{13}\right]\right]=\left[H_{1}, L_{31} \right]=-L_{13},} & {\left[H_{1},\left[H_{1}, L_{31} \right]\right]=\left[H_{1},-L_{13}\right]=-L_{31},} \\ {\left[H_{1},\left[H_{1}, L_{23}\right]\right]=\left[H_{1},-L_{32}\right]=-L_{23},} & {\left[H_{1},\left[H_{1}, L_{32} \right]\right]=\left[H_{1}, L_{23}\right]=-L_{32},} \end{array}$	$\begin{array}{ll} {\left[H_{1},\left[H_{1}, L_{12} \right]\right]=\left[H_{1}, 2 L_{21}\right]=-4 L_{12},} & {\left[H_{1},\left[H_{1}, L_{21}\right]\right]= \left[H_{1},-2 L_{12}\right]=-4 L_{21},} \\ {\left[H_{1}, \left[H_{1}, L_{13}\right]\right]=\left[H_{1}, L_{31} \right]=-L_{13},} & {\left[H_{1},\left[H_{1}, L_{31} \right]\right]=\left[H_{1},-L_{13}\right]=-L_{31},} \\ {\left[H_{1},\left[H_{1}, L_{23}\right]\right]=\left[H_{1},-L_{32}\right]=-L_{23},} & {\left[H_{1},\left[H_{1}, L_{32} \right]\right]=\left[H_{1}, L_{23}\right]=-L_{32},} \end{array}$
0902.0431_EQ0119	23	■1.000	w(a+\boldsymbol{m})=a+\omega_{1} \boldsymbol{m}, \quad a+\boldsymbol{m} \in \boldsymbol{C} \oplus \boldsymbol{C}^{3}=\mathfrak{C} .	$w(a+\boldsymbol{m})=a+\omega_{1} \boldsymbol{m}, \quad a+\boldsymbol{m} \in \boldsymbol{C} \oplus \boldsymbol{C}^{3}=\mathfrak{C}$.	$w(a+\boldsymbol{m})=a+\omega_{1} \boldsymbol{m}, \quad a+\boldsymbol{m} \in \boldsymbol{C} \oplus \boldsymbol{C}^{3}=\mathfrak{C}$.
0902.0431_EQ0146	27	■1.000	G_{2}{ }^{C} \simeq G_{2} \times \boldsymbol{R}^{14} .	${G_{2}}^{C} \simeq G_{2} \times \boldsymbol{R}^{14}$.	${G_{2}}^{C} \simeq G_{2} \times \boldsymbol{R}^{14}$.
0902.0431_EQ0176	31	■1.000	(x \bar{a})(a y a)=(x y) a, \quad x, y \in \mathfrak{C} .	$(x \bar{a})(a y a)=(x y) a, \quad x, y \in \mathfrak{C}$.	$(x \bar{a})(a y a)=(x y) a, \quad x, y \in \mathfrak{C}$.
0902.0431_EQ0181 (i)	31	■1.000	(\alpha x)(\widetilde{\alpha} y)=\alpha^{\prime}(x y), \quad x, y \in \mathfrak{C} .	$(\alpha x)(\widetilde{\alpha} y)=\alpha^{\prime}(x y), \quad x, y \in \mathfrak{C}$.	$(\alpha x)(\widetilde{\alpha} y)=\alpha^{\prime}(x y), \quad x, y \in \mathfrak{C}$.
0902.0431_EQ0185	32	■1.000	\begin{aligned} \left(a_{2}, a_{6}\right) & =\left(a_{2} b_{0}, a_{6} b_{0}\right)=\left(a_{2} b_{0}, a_{2} \left(a_{4} b_{0}\right)\right)=\left(b_{0}, a_{4} b_{0}\right)=\left(1, a_{4}\right)=0, \\ \left(a_{3}, a_{7}\right) & =\left(a_{3} b_{0}, a_{7} b_{0}\right)=\left(a_{2}\left(a_{1} b_{0}\right), a_{6}\left(a_{1} b_{0}\right)\right)=\left(a_{1}\left(a_{2} b_{0}\right), a_{1}\left(a_{6} b_{0}\right)\right) \\ & =\left(a_{2} b_{0}, a_{6} b_{0}\right)=\left(a_{2} b_{0}, a_{2}\left(a_{4} b_{0}\right)\right)=\left(b_{0}, a_{4} b_{0}\right)=\left(1, a_{4}\right)=0 . \end{aligned}	$\begin{aligned} \left(a_{2}, a_{6}\right) & =\left(a_{2} b_{0}, a_{6} b_{0}\right)=\left(a_{2} b_{0}, a_{2} \left(a_{4} b_{0}\right)\right)=\left(b_{0}, a_{4} b_{0}\right)=\left(1, a_{4}\right)=0, \\ \left(a_{3}, a_{7}\right) & =\left(a_{3} b_{0}, a_{7} b_{0}\right)=\left(a_{2}\left(a_{1} b_{0}\right), a_{6}\left(a_{1} b_{0}\right)\right)=\left(a_{1}\left(a_{2} b_{0}\right), a_{1}\left(a_{6} b_{0}\right)\right) \\ & =\left(a_{2} b_{0}, a_{6} b_{0}\right)=\left(a_{2} b_{0}, a_{2}\left(a_{4} b_{0}\right)\right)=\left(b_{0}, a_{4} b_{0}\right)=\left(1, a_{4}\right)=0 . \end{aligned}$	$\begin{aligned} \left(a_{2}, a_{6}\right) & =\left(a_{2} b_{0}, a_{6} b_{0}\right)=\left(a_{2} b_{0}, a_{2} \left(a_{4} b_{0}\right)\right)=\left(b_{0}, a_{4} b_{0}\right)=\left(1, a_{4}\right)=0, \\ \left(a_{3}, a_{7}\right) & =\left(a_{3} b_{0}, a_{7} b_{0}\right)=\left(a_{2}\left(a_{1} b_{0}\right), a_{6}\left(a_{1} b_{0}\right)\right)=\left(a_{1}\left(a_{2} b_{0}\right), a_{1}\left(a_{6} b_{0}\right)\right) \\ & =\left(a_{2} b_{0}, a_{6} b_{0}\right)=\left(a_{2} b_{0}, a_{2}\left(a_{4} b_{0}\right)\right)=\left(b_{0}, a_{4} b_{0}\right)=\left(1, a_{4}\right)=0 . \end{aligned}$
0902.0431_EQ0192 (ii)	33	■1.000	(\alpha x)(\widetilde{\alpha} y)=\widetilde{\alpha}(x y), \quad x, y \in \mathfrak{C} .	$(\alpha x)(\widetilde{\alpha} y)=\widetilde{\alpha}(x y), \quad x, y \in \mathfrak{C}$.	$(\alpha x)(\widetilde{\alpha} y)=\widetilde{\alpha}(x y), \quad x, y \in \mathfrak{C}$.
0902.0431_EQ0194	33	■1.000	(\alpha x)(\widetilde{\alpha} y)=\widetilde{\alpha}(x y), \quad x, y \in \mathfrak{C} .	$(\alpha x)(\widetilde{\alpha} y)=\widetilde{\alpha}(x y), \quad x, y \in \mathfrak{C}$.	$(\alpha x)(\widetilde{\alpha} y)=\widetilde{\alpha}(x y), \quad x, y \in \mathfrak{C}$.
0902.0431_EQ0200	34	■1.000	\left(\alpha_{1}, \alpha_{2}, \alpha_{3}\right) a= \alpha_{1} a, \quad a \in S^{7} .	$\left(\alpha_{1}, \alpha_{2}, \alpha_{3}\right) a=\alpha_{1} a, \quad a \in S^{7}$.	$\left(\alpha_{1}, \alpha_{2}, \alpha_{3}\right) a=\alpha_{1} a, \quad a \in S^{7}$.

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0902.0431_EQ0222	37	■1.000	`\begin{aligned} (X, Y, Z) & =\sum_{i=1}^{3}\left(\frac{1}{2}\left(\xi_{i} \eta_{i+1} \zeta_{i+2}+\xi_{i} \eta_{i+2} \zeta_{i+1}\right)+R\left(x_{i} y_{i+1} z_{i+2}+x_{i} z_{i+1} y_{i+2}\right)\right. \\ & \left.-\left(\xi_{i}\left(y_{i}, z_{i}\right)+\eta_{i} \left(z_{i}, x_{i}\right)+\zeta_{i}\left(x_{i}, y_{i} \right)\right)\right) \\ \operatorname{det} X & =\xi_{1} \xi_{2} \xi_{3}+2 R\left(x_{1} x_{2} x_{3}\right)-\xi_{1} x_{1} \bar{x}_{1}-\xi_{2} x_{2} \bar{x}_{2}-\xi_{3} x_{3} \bar{x}_{3} \end{aligned}`	$\begin{aligned} (X, Y, Z) & =\sum_{i=1}^{3}\left(\frac{1}{2}\left(\xi_{i} \eta_{i+1} \zeta_{i+2}+\xi_{i} \eta_{i+2} \zeta_{i+1}\right)+R\left(x_{i} y_{i+1} z_{i+2}+x_{i} z_{i+1} y_{i+2}\right)\right. \\ & \left.-\left(\xi_{i}\left(y_{i}, z_{i}\right)+\eta_{i} \left(z_{i}, x_{i}\right)+\zeta_{i}\left(x_{i}, y_{i} \right)\right)\right) \\ \operatorname{det} X & =\xi_{1} \xi_{2} \xi_{3}+2 R\left(x_{1} x_{2} x_{3}\right)-\xi_{1} x_{1} \bar{x}_{1}-\xi_{2} x_{2} \bar{x}_{2}-\xi_{3} x_{3} \bar{x}_{3} \end{aligned}$	$\begin{aligned} (X, Y, Z) & =\sum_{i=1}^{3}\left(\frac{1}{2}\left(\xi_{i} \eta_{i+1} \zeta_{i+2}+\xi_{i} \eta_{i+2} \zeta_{i+1}\right)+R\left(x_{i} y_{i+1} z_{i+2}+x_{i} z_{i+1} y_{i+2}\right)\right. \\ & \left.-\left(\xi_{i}\left(y_{i}, z_{i}\right)+\eta_{i} \left(z_{i}, x_{i}\right)+\zeta_{i}\left(x_{i}, y_{i} \right)\right)\right), \\ \operatorname{det} X & =\xi_{1} \xi_{2} \xi_{3}+2 R\left(x_{1} x_{2} x_{3}\right)-\xi_{1} x_{1} \bar{x}_{1}-\xi_{2} x_{2} \bar{x}_{2}-\xi_{3} x_{3} \bar{x}_{3}. \end{aligned}$
0902.0431_EQ0237	39	■1.000	`\begin{aligned} & 3 \operatorname{det}\left({ }^{t} \alpha^{-1} X\right)=\left({ }^{t} \alpha^{-1} X,{ }^{t} \alpha^{-1} X \times{ }^{t} \alpha^{-1} X\right) \\ & \quad=\left({ }^{t} \alpha^{-1} X, \alpha(X \times X)\right)=(X, X \times X)=3 \operatorname{det} X, \end{aligned}`	$\begin{aligned} & 3 \operatorname{det}\left({ }^{t} \alpha^{-1} X\right)=\left({ }^{t} \alpha^{-1} X,{ }^{t} \alpha^{-1} X \times{ }^{t} \alpha^{-1} X\right) \\ & \quad=\left({ }^{t} \alpha^{-1} X, \alpha(X \times X)\right)=(X, X \times X)=3 \operatorname{det} X, \end{aligned}$	$\begin{aligned} & 3 \operatorname{det}\left({ }^{t} \alpha^{-1} X\right)=\left({ }^{t} \alpha^{-1} X,{ }^{t} \alpha^{-1} X \times{ }^{t} \alpha^{-1} X\right) \\ & \quad=\left({ }^{t} \alpha^{-1} X, \alpha(X \times X)\right)=(X, X \times X)=3 \operatorname{det} X, \end{aligned}$
0902.0431_EQ0252	41	■1.000	`\operatorname{tr}(\alpha X, \alpha Y, \alpha Z)= \operatorname{tr}(X, Y, Z) .`	$\operatorname{tr}(\alpha X, \alpha Y, \alpha Z)=\operatorname{tr}(X, Y, Z) .$	$\operatorname{tr}(\alpha X, \alpha Y, \alpha Z)=\operatorname{tr}(X, Y, Z) .$
0902.0431_EQ0256	42	■1.000	`\begin{aligned} \mathfrak{e}_{6(-26)} & =\left\{\phi \in \operatorname{Hom}_{\boldsymbol{R}}(\mathfrak{J}) \mid(\phi X, X, X)=0\right\} \\ & =\left\{\phi \in \operatorname{Hom}_{\boldsymbol{R}}(\mathfrak{J}) \mid(\phi X, Y, Z)+(X, \phi Y, Z)+(X, Y, \phi Z)=0\right\} \\ & =\left\{\phi \in \operatorname{Hom}_{\boldsymbol{R}}(\mathfrak{J}) \mid-{ }^{t} \phi(X \times Y)=\phi X \times Y+X \times \phi Y\right\} . \end{aligned}`	$\begin{aligned} \mathfrak{e}_{6(-26)} & =\left\{\phi \in \operatorname{Hom}_{\boldsymbol{R}}(\mathfrak{J}) \mid(\phi X, X, X)=0\right\} \\ & =\left\{\phi \in \operatorname{Hom}_{\boldsymbol{R}}(\mathfrak{J}) \mid(\phi X, Y, Z)+(X, \phi Y, Z)+(X, Y, \phi Z)=0\right\} \\ & =\left\{\phi \in \operatorname{Hom}_{\boldsymbol{R}}(\mathfrak{J}) \mid-{ }^{t} \phi(X \times Y)=\phi X \times Y+X \times \phi Y\right\} . \end{aligned}$	$\begin{aligned} \mathfrak{e}_{6(-26)} & =\left\{\phi \in \operatorname{Hom}_{\boldsymbol{R}}(\mathfrak{J}) \mid(\phi X, X, X)=0\right\} \\ & =\left\{\phi \in \operatorname{Hom}_{\boldsymbol{R}}(\mathfrak{J}) \mid(\phi X, Y, Z)+(X, \phi Y, Z)+(X, Y, \phi Z)=0\right\} \\ & =\left\{\phi \in \operatorname{Hom}_{\boldsymbol{R}}(\mathfrak{J}) \mid-{ }^{t} \phi(X \times Y)=\phi X \times Y+X \times \phi Y\right\} . \end{aligned}$
0902.0431_EQ0260	42	■1.000	`\widetilde{A} X=\frac{1}{2}[A, X], \quad X \in \mathfrak{J} .`	$\widetilde{A} X=\frac{1}{2}[A, X], \quad X \in \mathfrak{J} .$	$\widetilde{A} X=\frac{1}{2}[A, X], \quad X \in \mathfrak{J} .$
0902.0431_EQ0265	43	■1.000	`(X Y, Z)=(Y Z, X)=(Z X, Y)=(X, Y Z)=(Y, Z X)=(Z, X Y) .`	$(X Y, Z)=(Y Z, X)=(Z X, Y)=(X, Y Z)=(Y, Z X)=(Z, X Y) .$	$(X Y, Z)=(Y Z, X)=(Z X, Y)=(X, Y Z)=(Y, Z X)=(Z, X Y) .$
0902.0431_EQ0266	43	■1.000	`\begin{aligned} (X Y, Z) & =R(X Y, Z)=\frac{1}{2} R \left(\operatorname{tr}\left((X Y) Z+Z^{*}\left(Y^{*} X^{*}\right)\right)\right) \\ & =\frac{1}{2} R\left(\sum_{i, j, k}\left(\left(x_{i j} y_{j k}\right) z_{k i}+ \bar{z}_{j i}\left(\bar{y}_{k j} \bar{x}_{k i}\right) \right)\right) \\ & =\frac{1}{2} R\left(\sum_{i, j, k} \left(\left(y_{j k} z_{k i}\right) x_{i j}+\bar{x}_{k i}\left(\bar{z}_{j i} \bar{y}_{k j}\right)\right) \right)\right) \\ & =\frac{1}{2} R\left(\operatorname{tr}\left((Y Z) X+X^{*}\left(Z^{*} Y^{*}\right)\right)\right)=(Y Z, X) . \end{aligned}`	$\begin{aligned} (X Y, Z) & =R(X Y, Z)=\frac{1}{2} R \left(\operatorname{tr}\left((X Y) Z+Z^{*}\left(Y^{*} X^{*}\right)\right)\right) \\ & =\frac{1}{2} R\left(\sum_{i, j, k}\left(\left(x_{i j} y_{j k}\right) z_{k i}+ \bar{z}_{j i}\left(\bar{y}_{k j} \bar{x}_{k i}\right) \right)\right) \\ & =\frac{1}{2} R\left(\sum_{i, j, k} \left(\left(y_{j k} z_{k i}\right) x_{i j}+\bar{x}_{k i}\left(\bar{z}_{j i} \bar{y}_{k j}\right)\right) \right)\right) \\ & =\frac{1}{2} R\left(\operatorname{tr}\left((Y Z) X+X^{*}\left(Z^{*} Y^{*}\right)\right)\right)=(Y Z, X) . \end{aligned}$	$\begin{aligned} (X Y, Z) & =R(X Y, Z)=\frac{1}{2} R \left(\operatorname{tr}\left((X Y) Z+Z^{*}\left(Y^{*} X^{*}\right)\right)\right) \\ & =\frac{1}{2} R\left(\sum_{i, j, k}\left(\left(x_{i j} y_{j k}\right) z_{k i}+ \bar{z}_{j i}\left(\bar{y}_{k j} \bar{x}_{k i}\right) \right)\right) \\ & =\frac{1}{2} R\left(\sum_{i, j, k} \left(\left(y_{j k} z_{k i}\right) x_{i j}+\bar{x}_{k i}\left(\bar{z}_{j i} \bar{y}_{k j}\right)\right) \right)\right) \\ & =\frac{1}{2} R\left(\operatorname{tr}\left((Y Z) X+X^{*}\left(Z^{*} Y^{*}\right)\right)\right)=(Y Z, X) . \end{aligned}$

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0902.0431_EQ0283	45	1.000	`\left(D_{1} x\right) y+x\left(D_{2} y\right)= \overline{D_{3}(\overline{x y})}, \quad x, y \in \mathfrak{C} .`	$\left(D_{1} x\right) y+x\left(D_{2} y\right)=\overline{D_{3}(\overline{x y})}, \quad x, y \in \mathfrak{C} .$	$\left(D_{1} x\right) y+x\left(D_{2} y\right)=\overline{D_{3}(\overline{x y})}, \quad x, y \in \mathfrak{C} .$
0902.0431_EQ0295 (2)	47	1.000	`\begin{aligned} & {[\widetilde{A}, \widetilde{B}]=\left[\left(A-\frac{1}{3} \operatorname{tr}(A) E\right)^{ \sim},\left(B-\frac{1}{3} \operatorname{tr}(B) E\right)^{ \sim}\right] \in e_{6}^{C},} \\ & {[\widetilde{A}, \widetilde{B}] E=\widetilde{A}(\widetilde{B} E)- \widetilde{B}(\widetilde{A} E)=A \circ B-B \circ A=0 .} \end{aligned}`	$\begin{aligned} & {[\widetilde{A}, \widetilde{B}]=\left[\left(A-\frac{1}{3} \operatorname{tr}(A) E\right)^{\sim},\left(B-\frac{1}{3} \operatorname{tr}(B) E\right)^{\sim}\right] \in e_{6}^{C},} \\ & {[\widetilde{A}, \widetilde{B}] E=\widetilde{A}(\widetilde{B} E)-\widetilde{B}(\widetilde{A} E)=A \circ B-B \circ A=0 .} \end{aligned}$	$\begin{aligned} & {[\widetilde{A}, \widetilde{B}]=\left[\left(A-\frac{1}{3} \operatorname{tr}(A) E\right)^{\sim},\left(B-\frac{1}{3} \operatorname{tr}(B) E\right)^{\sim}\right] \in e_{6}^{C},} \\ & {[\widetilde{A}, \widetilde{B}] E=\widetilde{A}(\widetilde{B} E)-\widetilde{B}(\widetilde{A} E)=A \circ B-B \circ A=0 .} \end{aligned}$
0902.0431_EQ0304	49	1.000	`0 \neq\left[\widetilde{A}_{1}(1), \widetilde{A}_{1} \left(e_{1}\right)\right] \in \mathfrak{d}_{4}{ }^{C} \cap \mathfrak{a}`	$0 \neq\left[\widetilde{A}_{1}(1), \widetilde{A}_{1}\left(e_{1}\right)\right] \in \mathfrak{d}_{4}{}^{C} \cap \mathfrak{a}$	$0 \neq\left[\widetilde{A}_{1}(1), \widetilde{A}_{1}\left(e_{1}\right)\right] \in \mathfrak{d}_{4}{}^{C} \cap \mathfrak{a}$
0902.0431_EQ0311	50	1.000	`F_{3}(1)+F_{1}\left(z_{1}\right) \in W .`	$F_{3}(1)+F_{1}\left(z_{1}\right) \in W .$	$F_{3}(1)+F_{1}\left(z_{1}\right) \in W .$
0902.0431_EQ0320	51	1.000	`B_{4}\left(\delta_{1}, \delta_{2}\right)=k\left( \delta_{1}, \delta_{2}\right)_{4}=k^{\prime} \operatorname{tr}\left(\delta_{1} \delta_{2}\right) .`	$B_{4}\left(\delta_{1}, \delta_{2}\right)=k\left(\delta_{1}, \delta_{2}\right)_{4}=k^{\prime} \operatorname{tr}\left(\delta_{1} \delta_{2}\right) .$	$B_{4}\left(\delta_{1}, \delta_{2}\right)=k\left(\delta_{1}, \delta_{2}\right)_{4}=k^{\prime} \operatorname{tr}\left(\delta_{1} \delta_{2}\right) .$
0902.0431_EQ0321	51	1.000	`\begin{aligned} (\delta, \delta)_{4} & =\left(\widetilde{A}_{1}(1), \widetilde{A}_{1}(1)\right)_{4}=-2 \left(\widetilde{A}_{1}(1),\left[\widetilde{E}_{3}, \widetilde{F}_{1}(1)\right]\right)_{4} \\ & =-2 \left(\widetilde{A}_{1}(1) E_{3}, F_{1}(1)\right)=-\left(F_{1}(1), F_{1}(1)\right)=-2 . \end{aligned}`	$\begin{aligned} (\delta, \delta)_{4} & =\left(\widetilde{A}_{1}(1), \widetilde{A}_{1}(1)\right)_{4}=-2\left(\widetilde{A}_{1}(1),\left[\widetilde{E}_{3}, \widetilde{F}_{1}(1)\right]\right)_{4} \\ & =-2\left(\widetilde{A}_{1}(1) E_{3}, F_{1}(1)\right)=-\left(F_{1}(1), F_{1}(1)\right)=-2 . \end{aligned}$	$\begin{aligned} (\delta, \delta)_{4} & =\left(\widetilde{A}_{1}(1), \widetilde{A}_{1}(1)\right)_{4}=-2\left(\widetilde{A}_{1}(1),\left[\widetilde{E}_{3}, \widetilde{F}_{1}(1)\right]\right)_{4} \\ & =-2\left(\widetilde{A}_{1}(1) E_{3}, F_{1}(1)\right)=-\left(F_{1}(1), F_{1}(1)\right)=-2 . \end{aligned}$
0902.0431_EQ0325	52	1.000	`\operatorname{tr}(\delta \delta)=\operatorname{tr}\left( \left(\widetilde{A}_{1}(1)\right)^{2}\right)=\left(- \frac{1}{2}\right) \times 2-1+\left(-\frac{1}{4}\right) \times 8 \times 2=-6 .`	$\operatorname{tr}(\delta \delta)=\operatorname{tr}\left(\left(\widetilde{A}_{1}(1)\right)^{2}\right)=\left(-\frac{1}{2}\right) \times 2-1+\left(-\frac{1}{4}\right) \times 8 \times 2=-6 .$	$\operatorname{tr}(\delta \delta)=\operatorname{tr}\left(\left(\widetilde{A}_{1}(1)\right)^{2}\right)=\left(-\frac{1}{2}\right) \times 2-1+\left(-\frac{1}{4}\right) \times 8 \times 2=-6 .$
0902.0431_EQ0349	57	1.000	`\varphi\left(\alpha_{1}, \alpha_{2}, \alpha_{3}\right) \left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right)=\left(\begin{array}{ccc} \xi_{1} & \alpha_{3} x_{3} & \overline{\alpha_{2} x_{2}} \\ \overline{\alpha_{3} x_{3}} & \xi_{2} & \alpha_{1} x_{1} \\ \alpha_{2} x_{2} & \overline{\alpha_{1} x_{1}} & \xi_{3} \end{array}\right) .`	$\varphi\left(\alpha_{1}, \alpha_{2}, \alpha_{3}\right) \left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right)=\left(\begin{array}{ccc} \xi_{1} & \alpha_{3} x_{3} & \overline{\alpha_{2} x_{2}} \\ \overline{\alpha_{3} x_{3}} & \xi_{2} & \alpha_{1} x_{1} \\ \alpha_{2} x_{2} & \overline{\alpha_{1} x_{1}} & \xi_{3} \end{array}\right) .$	$\varphi\left(\alpha_{1}, \alpha_{2}, \alpha_{3}\right) \left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right)=\left(\begin{array}{ccc} \xi_{1} & \alpha_{3} x_{3} & \overline{\alpha_{2} x_{2}} \\ \overline{\alpha_{3} x_{3}} & \xi_{2} & \alpha_{1} x_{1} \\ \alpha_{2} x_{2} & \overline{\alpha_{1} x_{1}} & \xi_{3} \end{array}\right) .$
0902.0431_EQ0354	57	1.000	`\left(\alpha_{1} x\right)\left(\alpha_{2} y\right)= \overline{\alpha_{3}(\overline{x y})}, \quad x, y \in \mathfrak{C} .`	$\left(\alpha_{1} x\right)\left(\alpha_{2} y\right)=\overline{\alpha_{3}(\overline{x y})}, \quad x, y \in \mathfrak{C} .$	$\left(\alpha_{1} x\right)\left(\alpha_{2} y\right)=\overline{\alpha_{3}(\overline{x y})}, \quad x, y \in \mathfrak{C} .$
0902.0431_EQ0361	58	1.000	`\begin{array}{ll} Y_{i}=-2 Z_{0} \circ X_{i}, & i=4,5,6,7, \\ Z_{i}=-2 X_{i} \circ Y_{0}, & i=1,3,5,6,7 . \end{array}`	$\begin{array}{ll} Y_{i}=-2 Z_{0} \circ X_{i}, & i=4,5,6,7, \\ Z_{i}=-2 X_{i} \circ Y_{0}, & i=1,3,5,6,7 . \end{array}$	$\begin{array}{ll} Y_{i}=-2 Z_{0} \circ X_{i}, & i=4,5,6,7, \\ Z_{i}=-2 X_{i} \circ Y_{0}, & i=1,3,5,6,7 . \end{array}$
0902.0431_EQ0364	59	1.000	`p:\left(F_{4}\right)_{E_{1}} \rightarrow S O(9) .`	$p:\left(F_{4}\right)_{E_{1}} \rightarrow S O(9) .$	$p:\left(F_{4}\right)_{E_{1}} \rightarrow S O(9) .$

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0902.0431_EQ0393	65	■1.000	`\begin{aligned} F_{4, \boldsymbol{H}} & =\left\{ \alpha \in \operatorname{Iso}_{\boldsymbol{R}}\left(\mathfrak{J}_{\boldsymbol{H}}\right) \mid \alpha(M \circ N)=\alpha M \circ \alpha N\right\} \\ & =\left \{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}\left(\mathfrak{J}_{\boldsymbol{H}}\right) \mid \alpha(M \times N)=\alpha M \times \alpha N\right\} . \end{aligned}`	$\begin{aligned} F_{4,\boldsymbol{H}} & =\left\{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}\left(\mathfrak{J}_{\boldsymbol{H}}\right) \mid \alpha(M \circ N)=\alpha M \circ \alpha N\right\} \\ & =\left\{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}\left(\mathfrak{J}_{\boldsymbol{H}}\right) \mid \alpha(M \times N)=\alpha M \times \alpha N\right\} . \end{aligned}$	$\begin{aligned} F_{4,\boldsymbol{H}} & =\left\{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}\left(\mathfrak{J}_{\boldsymbol{H}}\right) \mid \alpha(M \circ N)=\alpha M \circ \alpha N\right\} \\ & =\left\{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}\left(\mathfrak{J}_{\boldsymbol{H}}\right) \mid \alpha(M \times N)=\alpha M \times \alpha N\right\} . \end{aligned}$
0902.0431_EQ0402	66	■1.000	`\alpha=\varphi(A) \beta=\varphi(A) \varphi(B)=\varphi(A B), \quad A B \in \operatorname{Sp}(3) .`	$\alpha=\varphi(A) \beta=\varphi(A) \varphi(B)=\varphi(A B), \quad A B \in \operatorname{Sp}(3) .$	$\alpha=\varphi(A) \beta=\varphi(A) \varphi(B)=\varphi(A B), \quad A B \in Sp(3) .$
0902.0431_EQ0447	73	■1.000	`\mathfrak{e}_{6}{ }^{C}=\left\{\phi \in \operatorname{Hom}_{C}\left(\mathfrak{J}^{C}\right) \mid(\phi X, X, X)=0\right\} .`	$\mathfrak{e}_{6}{ }^{C}=\left\{\phi \in \operatorname{Hom}_{C}\left(\mathfrak{J}^{C}\right) \mid(\phi X, X, X)=0\right\} .$	$\mathfrak{e}_{6}{ }^{C}=\left\{\phi \in \operatorname{Hom}_{C}\left(\mathfrak{J}^{C}\right) \mid(\phi X, X, X)=0\right\} .$
0902.0431_EQ0468	77	■1.000	`\left(\phi^{\prime} X, Y\right)=-(X, \phi Y), \quad X, Y \in \mathfrak{J}^{C} .`	$\left(\phi^{\prime} X, Y\right)=-(X, \phi Y), \quad X, Y \in \mathfrak{J}^{C} .$	$\left(\phi^{\prime} X, Y\right)=-(X, \phi Y), \quad X, Y \in \mathfrak{J}^{C} .$
0902.0431_EQ0469	77	■1.000	`\phi(X \times Y)=\phi^{\prime} X \times Y+X \times \phi^{ \prime} Y, \quad X, Y \in \mathfrak{J}^{C} .`	$\phi(X \times Y)=\phi^{\prime} X \times Y+X \times \phi^{ \prime} Y, \quad X, Y \in \mathfrak{J}^{C} .$	$\phi(X \times Y)=\phi^{\prime} X \times Y+X \times \phi^{ \prime} Y, \quad X, Y \in \mathfrak{J}^{C} .$
0902.0431_EQ0478	79	■1.000	`\begin{aligned} (\phi, A \vee B)_{6} & =\left(\delta+ \widetilde{T},[\widetilde{A}, \widetilde{B}]+\left(A \circ B-\frac{1}{3}(A, B) E\right)^{\sim}\right)_{6} \\ & =(\delta,[\widetilde{A}, \widetilde{B}])_{4}+\left(T, A \circ B-\frac{1}{3}(A, B) E\right) \\ & =(\delta A, B)+(\widetilde{T} A, B)=((\delta+\widetilde{T}) A, B)=(\phi A, B) . \end{aligned}`	$\begin{aligned} (\phi, A \vee B)_{6} & =\left(\delta+\widetilde{T},[\widetilde{A}, \widetilde{B}]+\left(A \circ B-\frac{1}{3}(A, B) E\right)^{\sim}\right)_{6} \\ & =(\delta,[\widetilde{A}, \widetilde{B}])_{4}+\left(T, A \circ B-\frac{1}{3}(A, B) E\right) \\ & =(\delta A, B)+(\widetilde{T} A, B)=((\delta+\widetilde{T}) A, B)=(\phi A, B) . \end{aligned}$	$\begin{aligned} (\phi, A \vee B)_{6} & =\left(\delta+\widetilde{T},[\widetilde{A}, \widetilde{B}]+\left(A \circ B-\frac{1}{3}(A, B) E\right)^{\sim}\right)_{6} \\ & =(\delta,[\widetilde{A}, \widetilde{B}])_{4}+\left(T, A \circ B-\frac{1}{3}(A, B) E\right) \\ & =(\delta A, B)+(\widetilde{T} A, B)=((\delta+\widetilde{T}) A, B)=(\phi A, B) . \end{aligned}$

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0902.0431_EQ0504	82	■1.000	\begin{aligned} & \pm\left(\lambda_{k}-\lambda_{l} \right), \quad \pm\left(\lambda_{k}+\lambda_{l} \right), \quad 0 \leq k<l \leq 3, \\ & \quad \pm \lambda_{k} \pm \frac{1}{2}\left(\mu_{2}-\mu_{3} \right), \quad 0 \leq k \leq 3, \\ & \pm \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3} \right) \pm \frac{1}{2}\left(\mu_{3}-\mu_{1}\right), \\ & \pm \frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{3}-\mu_{1}\right), \\ & \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{3}-\mu_{1}\right), \\ & \pm \frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{3}-\mu_{1}\right), \\ & \pm \frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{1}-\mu_{2}\right), \\ & \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{1}-\mu_{2}\right), \\ & \pm \frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{1}-\mu_{2}\right), \\ & \pm \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{1}-\mu_{2}\right), \end{aligned}	$$\begin{aligned} & \pm\left(\lambda_{k}-\lambda_{l} \right), \quad \pm\left(\lambda_{k}+\lambda_{l} \right), \quad 0 \leq k<l \leq 3, \\ & \quad \pm \lambda_{k} \pm \frac{1}{2}\left(\mu_{2}-\mu_{3} \right), \quad 0 \leq k \leq 3, \\ & \pm \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3} \right) \pm \frac{1}{2}\left(\mu_{3}-\mu_{1}\right), \\ & \pm \frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{3}-\mu_{1}\right), \\ & \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{3}-\mu_{1}\right), \\ & \pm \frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{3}-\mu_{1}\right), \\ & \pm \frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{1}-\mu_{2}\right), \\ & \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{1}-\mu_{2}\right), \\ & \pm \frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{1}-\mu_{2}\right), \\ & \pm \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{1}-\mu_{2}\right), \end{aligned}$$	$$\begin{aligned} & \pm\left(\lambda_{k}-\lambda_{l} \right), \quad \pm\left(\lambda_{k}+\lambda_{l} \right), \quad 0 \leq k<l \leq 3, \\ & \quad \pm \lambda_{k} \pm \frac{1}{2}\left(\mu_{2}-\mu_{3} \right), \quad 0 \leq k \leq 3, \\ & \pm \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3} \right) \pm \frac{1}{2}\left(\mu_{3}-\mu_{1}\right), \\ & \pm \frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{3}-\mu_{1}\right), \\ & \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{3}-\mu_{1}\right), \\ & \pm \frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{3}-\mu_{1}\right), \\ & \pm \frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{1}-\mu_{2}\right), \\ & \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{1}-\mu_{2}\right), \\ & \pm \frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{1}-\mu_{2}\right), \\ & \pm \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm \frac{1}{2}\left(\mu_{1}-\mu_{2}\right), \end{aligned}$$
0902.0431_EQ0530	89	■1.000	\alpha X=\left(\begin{array}{ccc} \xi_{1} & 0 & 0 \\ 0 & \xi_{2} & 0 \\ 0 & 0 & \xi_{3} \end{array}\right), \quad \xi_{i} \in C .	$$\alpha X=\left(\begin{array}{ccc} \xi_{1} & 0 & 0 \\ 0 & \xi_{2} & 0 \\ 0 & 0 & \xi_{3} \end{array}\right), \quad \xi_{i} \in C .$$	$$\alpha X=\left(\begin{array}{ccc} \xi_{1} & 0 & 0 \\ 0 & \xi_{2} & 0 \\ 0 & 0 & \xi_{3} \end{array}\right), \quad \xi_{i} \in C .$$
0902.0431_EQ0531	89	■1.000	0 \neq x_{1}=p+i q, \quad p, q \in \mathfrak{C} .	$$0 \neq x_{1}=p+i q, \quad p, q \in \mathfrak{C} .$$	$$0 \neq x_{1}=p+i q, \quad p, q \in \mathfrak{C} .$$
0902.0431_EQ0569	95	■1.000	k\left(a+b e_{2}\right)=\left(\begin{array}{cc} a^{\prime} & b^{\prime} \\ -\tau b^{\prime} & \tau a^{\prime} \end{array}\right), \quad a, b \in \boldsymbol{C} .	$$k\left(a+b e_{2}\right)=\left(\begin{array}{cc} a^{\prime} & b^{\prime} \\ -\tau b^{\prime} & \tau a^{\prime} \end{array}\right), \quad a, b \in \boldsymbol{C} .$$	$$k\left(a+b e_{2}\right)=\left(\begin{array}{cc} a^{\prime} & b^{\prime} \\ -\tau b^{\prime} & \tau a^{\prime} \end{array}\right), \quad a, b \in \boldsymbol{C} .$$

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0902.0431_EQ0572	96	■1.000	`\begin{aligned} k\left(M_{1}+i M_{2}\right) & =k \left(M_{1}\right)+i k\left(M_{2}\right), & & M_{1}, M_{2} \in M(3, \boldsymbol{H}), \\ k\left(\boldsymbol{a}_{1}+i \boldsymbol{a}_{2}\right) & =k\left(\boldsymbol{a}_{1}\right)+i k\left(\boldsymbol{a}_{2} \right), & & \boldsymbol{a}_{1}, \boldsymbol{a}_{2} \in \boldsymbol{H}^{3} . \end{aligned}`	$k\left(M_1+iM_2\right)=k\left(M_1\right)+ik\left(M_2\right), \quad M_1,M_2\in M(3,\boldsymbol{H}),$ $k\left(\boldsymbol{a}_1+i\boldsymbol{a}_2\right)=k\left(\boldsymbol{a}_1\right)+ik\left(\boldsymbol{a}_2\right), \quad \boldsymbol{a}_1,\boldsymbol{a}_2\in\boldsymbol{H}^3.$	$k(M_1+iM_2) = k(M_1)+ik(M_2), \quad M_1,M_2\in M(3,\boldsymbol{H}),$ $k(\boldsymbol{a}_1+i\boldsymbol{a}_2) = k(\boldsymbol{a}_1)+ik(\boldsymbol{a}_2), \quad \boldsymbol{a}_1,\boldsymbol{a}_2\in\boldsymbol{H}^3.$
0902.0431_EQ0594	99	■1.000	`\begin{aligned} \varphi(p, A)(M+ \boldsymbol{a})=k_{J}^{-1}(& \left.A\left(k_{J}(M) \right)^{t} A\right)+p \boldsymbol{a} k^{-1}\left(\tau^{t} A\right), \\ & M+\boldsymbol{a} \in\left(\mathfrak{J}_{\boldsymbol{H}}\right)^{C} \oplus\left(\boldsymbol{H}^{3}\right)^{C}=\mathfrak{J}^{C} . \end{aligned}`	$\varphi(p,A)(M+\boldsymbol{a})=k_J^{-1}(\ A\left(k_J(M)\right)^t A\Big)+p\boldsymbol{a}k^{-1}\left(\tau^t A\right),$ $M+\boldsymbol{a}\in\left(\mathfrak{J}_{\boldsymbol{H}}\right)^C\oplus\left(\boldsymbol{H}^3\right)^C=\mathfrak{J}^C.$	$\varphi(p,A)(M+\boldsymbol{a})=k_J{}^{-1}(A(k_J(M))\,{}^tA)+p\boldsymbol{a}k^{-1}(\tau\,{}^tA),$ $M+\boldsymbol{a}\in(\mathfrak{J}_{\boldsymbol{H}})^C\oplus(\boldsymbol{H}^3)^C=\mathfrak{J}^C.$
0902.0431_EQ0640	106	■1.000	`E_{6, \boldsymbol{C}} / F_{4, \boldsymbol{C}} \simeq E I V_{\boldsymbol{C}} .`	$E_{6,\boldsymbol{C}}/F_{4,\boldsymbol{C}}\simeq EIV_{\boldsymbol{C}}.$	$E_{6,\boldsymbol{C}}/F_{4,\boldsymbol{C}}\simeq EIV_{\boldsymbol{C}}.$
0902.0431_EQ0652	108	■1.000	`\begin{aligned} (X+M) \times(Y+N) & =\left(X \times Y-\frac{1}{2}\left(M^{*} N+N^{*} M\right)\right)- \frac{1}{2}(M Y+\overline{M \times N}) \\ \langle X+M, Y+N\rangle & =\langle X, Y\rangle+2\langle M, N \rangle \end{aligned}`	$(X+M)\times(Y+N)=\left(X\times Y-\frac{1}{2}(M^*N+N^*M)\right)-\frac{1}{2}(MY+NX+\overline{M\times N})$ $\langle X+M,Y+N\rangle=\langle X,Y\rangle+2\langle M,N\rangle$	$(X+M)\times(Y+N) = (X\times Y-\frac{1}{2}(M^*N+N^*M))-\frac{1}{2}(MY+NX+\overline{M\times N}),$ $\langle X+M,Y+N\rangle = \langle X,Y\rangle+2\langle M,N\rangle$
0902.0431_EQ0658	108	■1.000	`\beta(X+M)=X+P M=\varphi(P, E, E)(X+M), \quad X+M \in \left(\mathfrak{J}_{\boldsymbol{C}}\right)^{C} \oplus M(3, \boldsymbol{C})^{C}=\mathfrak{J}^{C} .`	$\beta(X+M)=X+PM=\varphi(P,E,E)(X+M), \quad X+M\in(\mathfrak{J}_{\boldsymbol{C}})^C\oplus M(3,\boldsymbol{C})^C=\mathfrak{J}^C.$	$\beta(X+M)=X+PM=\varphi(P,E,E)(X+M), \quad X+M\in(\mathfrak{J}_{\boldsymbol{C}})^C\oplus M(3,\boldsymbol{C})^C=\mathfrak{J}^C.$
0902.0431_EQ0664	110	■1.000	`\begin{aligned} E_{6(6)} & =\left\{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}\left(\mathfrak{J} \left(3, \mathfrak{C}^{\prime}\right)\right) \mid \operatorname{det}(\alpha X)=\operatorname{det} X\right\}, \\ E_{6(2)} & =\left\{\alpha \in \operatorname{Iso}_{C}\left(\mathfrak{J}\left(3, \mathfrak{C}^{C}\right)\right) \mid \operatorname{det}(\alpha X)=\operatorname{det} X,\langle\alpha X, \alpha Y \rangle_{\gamma}=\langle X, Y\rangle_{\gamma}\right\}, \\ E_{6(-14)} & =\left\{\alpha \in \operatorname{Iso}_{C}\left(\mathfrak{J}\left(3, \mathfrak{C}^{C}\right)\right) \mid \operatorname{det}(\alpha X)=\operatorname{det} X,\langle\alpha X, \alpha Y\rangle_{\sigma}=\langle X, Y \rangle_{\sigma}\right\}, \\ E_{6(-26)} & =\left\{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}(\mathfrak{J}(3, \mathfrak{C})) \mid \operatorname{det}(\alpha X)=\operatorname{det} X\right\} . \end{aligned}`	$E_{6(6)}=\{\alpha\in\mathrm{Iso}_{\boldsymbol{R}}(\mathfrak{J}(3,\mathfrak{C}'))\mid\mathrm{det}(\alpha X)=\mathrm{det}\,X\},$ $E_{6(2)}=\{\alpha\in\mathrm{Iso}_C(\mathfrak{J}(3,\mathfrak{C}^C))\mid\mathrm{det}(\alpha X)=\mathrm{det}\,X,\langle\alpha X,\alpha Y\rangle_\gamma=\langle X,Y\rangle_\gamma\},$ $E_{6(-14)}=\{\alpha\in\mathrm{Iso}_C(\mathfrak{J}(3,\mathfrak{C}^C))\mid\mathrm{det}(\alpha X)=\mathrm{det}\,X,\langle\alpha X,\alpha Y\rangle_\sigma=\langle X,Y\rangle_\sigma\},$ $E_{6(-26)}=\{\alpha\in\mathrm{Iso}_{\boldsymbol{R}}(\mathfrak{J}(3,\mathfrak{C}))\mid\mathrm{det}(\alpha X)=\mathrm{det}\,X\}.$	$E_{6(6)} = \{\alpha\in\mathrm{Iso}_{\boldsymbol{R}}(\mathfrak{J}(3,\mathfrak{C}'))\mid\mathrm{det}\,(\alpha X)=\mathrm{det}\,X\},$ $E_{6(2)} = \{\alpha\in\mathrm{Iso}_C(\mathfrak{J}(3,\mathfrak{C}^C))\mid\mathrm{det}\,(\alpha X)=\mathrm{det}\,X,\langle\alpha X,\alpha Y\rangle_\gamma=\langle X,Y\rangle_\gamma\},$ $E_{6(-14)} = \{\alpha\in\mathrm{Iso}_C(\mathfrak{J}(3,\mathfrak{C}^C))\mid\mathrm{det}\,(\alpha X)=\mathrm{det}\,X,\langle\alpha X,\alpha Y\rangle_\sigma=\langle X,Y\rangle_\sigma\},$ $E_{6(-26)} = \{\alpha\in\mathrm{Iso}_{\boldsymbol{R}}(\mathfrak{J}(3,\mathfrak{C}))\mid\mathrm{det}\,(\alpha X)=\mathrm{det}\,X\}.$
0902.0431_EQ0682 (2)	113	■1.000	`\{\alpha P, \alpha Q\}=\{P, Q\}, \quad P, Q \in \mathfrak{P}^{C} .`	$\{\alpha P,\alpha Q\}=\{P,Q\}, \quad P,Q\in\mathfrak{P}^C.$	$\{\alpha P,\alpha Q\}=\{P,Q\}, \quad P,Q\in\mathfrak{P}^C.$
0902.0431_EQ0692	114	■1.000	`f_{r}(X, Y, \xi, \eta)=\left(X, r Y, r^{2} \xi, r^{-1} \eta\right),`	$f_r(X,Y,\xi,\eta)=\left(X,rY,r^2\xi,r^{-1}\eta\right),$	$f_r(X,Y,\xi,\eta)=(X,rY,r^2\xi,r^{-1}\eta),$
0902.0431_EQ0712	118	■1.000	`{ }^{t} \alpha^{-1}=\lambda \alpha \lambda^{-1} .`	${}^t\alpha^{-1}=\lambda\alpha\lambda^{-1}.$	${}^t\alpha^{-1}=\lambda\alpha\lambda^{-1}.$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0743	122	1.000	B_{7}\left(\Phi_{0}, \Phi_{0}\right)=\operatorname{tr} \left(\left(\operatorname{ad} \Phi_{0}\right)^{2}\right)= \frac{4}{9} \times 27 \times 2=24 .	$B_7\left(\Phi_0, \Phi_0\right)=\operatorname{tr}\left(\left(\operatorname{ad} \Phi_0\right)^2\right)=\frac{4}{9} \times 27 \times 2=24 .$	$B_7(\Phi_0, \Phi_0)=\operatorname{tr}((\operatorname{ad}\Phi_0)^2)=\frac{4}{9} \times 27 \times 2=24.$
0902.0431_EQ0747	124	1.000	\begin{aligned} & \pm \frac{1}{2}\left(-\lambda_{0}+ \lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{2}-\frac{2}{3} \nu\right), \\ & \pm \frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}+ \lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{2}- \frac{2}{3} \nu\right), \\ & \pm \frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{3}-\frac{2}{3} \nu\right), \\ & \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+ \lambda_{2}-\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{3}-\frac{2}{3} \nu\right), \\ & \pm \frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3} \right) \pm\left(\frac{1}{2} \mu_{3}-\frac{2}{3} \nu\right), \\ & \pm \frac{1}{2}\left(-\lambda_{0}- \lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{3}-\frac{2}{3} \nu\right) \end{aligned}	$\begin{aligned} & \pm \frac{1}{2}\left(-\lambda_{0}+ \lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{2}-\frac{2}{3} \nu\right), \\ & \pm \frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}+ \lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{2}- \frac{2}{3} \nu\right), \\ & \pm \frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}-\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{3}-\frac{2}{3} \nu\right), \\ & \pm \frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+ \lambda_{2}-\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{3}-\frac{2}{3} \nu\right), \\ & \pm \frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}+\lambda_{3} \right) \pm\left(\frac{1}{2} \mu_{3}-\frac{2}{3} \nu\right), \\ & \pm \frac{1}{2}\left(-\lambda_{0}- \lambda_{1}+\lambda_{2}+\lambda_{3}\right) \pm\left(\frac{1}{2} \mu_{3}-\frac{2}{3} \nu\right) \end{aligned}$	$\begin{aligned} & \pm\frac{1}{2}(-\lambda_0+\lambda_1+\lambda_2+\lambda_3) \pm\left(\frac{1}{2}\mu_2-\frac{2}{3}\nu\right), \\ & \pm\frac{1}{2}(\ \ \lambda_0-\lambda_1+\lambda_2+\lambda_3) \pm\left(\frac{1}{2}\mu_2-\frac{2}{3}\nu\right), \\ & \pm\frac{1}{2}(\ \ \lambda_0-\lambda_1+\lambda_2-\lambda_3) \pm\left(\frac{1}{2}\mu_3-\frac{2}{3}\nu\right), \\ & \pm\frac{1}{2}(-\lambda_0+\lambda_1+\lambda_2-\lambda_3) \pm\left(\frac{1}{2}\mu_3-\frac{2}{3}\nu\right), \\ & \pm\frac{1}{2}(\ \ \lambda_0+\lambda_1+\lambda_2+\lambda_3) \pm\left(\frac{1}{2}\mu_3-\frac{2}{3}\nu\right), \\ & \pm\frac{1}{2}(-\lambda_0-\lambda_1+\lambda_2+\lambda_3) \pm\left(\frac{1}{2}\mu_3-\frac{2}{3}\nu\right) \end{aligned}$
0902.0431_EQ0799	133	1.000	\xi=\cos r_{1} \cos r_{2} \cos r_{3} .	$\xi=\cos r_1 \cos r_2 \cos r_3 .$	$\xi=\cos r_1 \cos r_2 \cos r_3.$
0902.0431_EQ0829	138	1.000	\begin{aligned} \kappa\left(\begin{array}{c} X \\ Y \\ \xi \\ \eta \end{array}\right) &=\left(\begin{array}{c} -\kappa_{1} X \\ \kappa_{1} Y \\ -\xi \\ \eta \end{array} \right), \quad \kappa_{1} X=\left(E_{1}, X\right)-4 E_{1} \times\left(E_{1} \times X\right), \\ \mu\left(\begin{array}{c} X \\ Y \\ \xi \\ \eta \end{array}\right) & =\left(\begin{array}{c} 2 E_{1} \times Y+\eta E_{1} \ \ 2 E_{1} \times X+\xi E_{1} \\ \left(E_{1}, Y\right) \\ \left(E_{1}, X\right) \end{array}\right) . \end{aligned}	$\begin{aligned} \kappa\left(\begin{array}{c} X \\ Y \\ \xi \\ \eta \end{array}\right) &=\left(\begin{array}{c} -\kappa_1 X \\ \kappa_1 Y \\ -\xi \\ \eta \end{array} \right), \quad \kappa_1 X=\left(E_1, X\right)-4 E_1 \times\left(E_1 \times X\right), \\ \mu\left(\begin{array}{c} X \\ Y \\ \xi \\ \eta \end{array}\right) & =\left(\begin{array}{c} 2 E_1 \times Y+\eta E_1 \\ 2 E_1 \times X+\xi E_1 \\ \left(E_1, Y\right) \\ \left(E_1, X\right) \end{array}\right) . \end{aligned}$	$\kappa\begin{pmatrix} X \\ Y \\ \xi \\ \eta \end{pmatrix}=\begin{pmatrix} -\kappa_1 X \\ \kappa_1 Y \\ -\xi \\ \eta \end{pmatrix}, \quad \kappa_1 X=(E_1, X)-4 E_1 \times(E_1 \times X), \\ \mu\begin{pmatrix} X \\ Y \\ \xi \\ \eta \end{pmatrix}=\begin{pmatrix} 2 E_1 \times Y+\eta E_1 \\ 2 E_1 \times X+\xi E_1 \\ (E_1, Y) \\ (E_1, X) \end{pmatrix}.$
0902.0431_EQ0840	140	1.000	\phi(\nu)\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right)=\frac{\nu}{3} \left(\begin{array}{ccc} 4 \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & -2 \xi_{2} & -2 x_{1} \\ x_{2} & -2 \bar{x}_{1} & -2 \xi_{3} \end{array}\right)	$\phi(\nu)\left(\begin{array}{ccc} \xi_1 & x_3 & \bar{x}_2 \\ \bar{x}_3 & \xi_2 & x_1 \\ x_2 & \bar{x}_1 & \xi_3 \end{array}\right)=\frac{\nu}{3}\left(\begin{array}{ccc} 4 \xi_1 & x_3 & \bar{x}_2 \\ \bar{x}_3 & -2 \xi_2 & -2 x_1 \\ x_2 & -2 \bar{x}_1 & -2 \xi_3 \end{array}\right)$	$\phi(\nu)\left(\begin{array}{ccc} \xi_1 & x_3 & \overline{x}_2 \\ \overline{x}_3 & \xi_2 & x_1 \\ x_2 & \overline{x}_1 & \xi_3 \end{array}\right)=\frac{\nu}{3}\left(\begin{array}{ccc} 4 \xi_1 & x_3 & \overline{x}_2 \\ \overline{x}_3 & -2 \xi_2 & -2 x_1 \\ x_2 & -2 \overline{x}_1 & -2 \xi_3 \end{array}\right)$

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0902.0431_EQ0841	140	■1.000	`\left(\mathfrak{e}_{7}\right)^{\sigma} \cong \mathfrak{a}_{1} \oplus\left(\mathfrak{e}_{7}\right)^{ \kappa, \mu} .`	$\left(\mathfrak{e}_{7}\right)^{\sigma} \cong \mathfrak{a}_{1} \oplus\left(\mathfrak{e}_{7}\right)^{\kappa, \mu} .$	$\left(\mathfrak{e}_{7}\right)^{\sigma} \cong \mathfrak{a}_{1} \oplus\left(\mathfrak{e}_{7}\right)^{\kappa, \mu}.$
0902.0431_EQ0852	141	■1.000	`\begin{aligned} V^{11} & =\left\{P \in \mathfrak{P}^{C} \mid \kappa P=P, \mu \tau \lambda P=P, P \times\left(0, E_{1}, 0,1,0\right)=0\right\} \\ & =\left\{\left.\left(\left(\begin{array}{ccc} 0 & 0 & 0 \\ 0 & \xi & x \\ 0 & \bar{x} & -\tau \xi \end{array}\right),\left(\begin{array}{ccc} \eta & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{array}\right), 0, \tau \eta\right) \right\rvert\, x \in \mathfrak{C}, \xi \in C, \eta \in i \boldsymbol{R} \right\} \end{aligned}`	$\begin{aligned} V^{11} & =\left\{P \in \mathfrak{P}^{C} \mid \kappa P=P, \mu \tau \lambda P=P, P \times\left(0, E_{1}, 0,1,0\right)=0\right\} \\ & =\left\{\left.\left(\left(\begin{array}{ccc} 0 & 0 & 0 \\ 0 & \xi & x \\ 0 & \bar{x} & -\tau \xi \end{array}\right),\left(\begin{array}{ccc} \eta & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{array}\right), 0, \tau \eta\right) \right\rvert\, x \in \mathfrak{C}, \xi \in C, \eta \in i \boldsymbol{R} \right\} \end{aligned}$
0902.0431_EQ0872	145	■1.000	`z(\operatorname{Spin}(12))=\{1,-1, \sigma-\sigma\} \cong \{1,-1\} \times\{1, \sigma\} \cong \boldsymbol{Z}_{2} \times \boldsymbol{Z}_{2} .`	$z(\operatorname{Spin}(12))=\{1,-1, \sigma-\sigma\} \cong \{1,-1\} \times\{1, \sigma\} \cong \boldsymbol{Z}_{2} \times \boldsymbol{Z}_{2} .$	$z(\operatorname{Spin}(12))=\{1,-1, \sigma-\sigma\} \cong \{1,-1\} \times\{1, \sigma\} \cong \boldsymbol{Z}_{2} \times \boldsymbol{Z}_{2} .$
0902.0431_EQ0909	151	■1.000	`w(X, Y, \xi, \eta)=(w X, w Y, \xi, \eta) .`	$w(X, Y, \xi, \eta)=(w X, w Y, \xi, \eta) .$	$w(X, Y, \xi, \eta)=(w X, w Y, \xi, \eta) .$
0902.0431_EQ0923	153	■1.000	`\begin{aligned} & h(a, b)=\frac{a+b}{2}+i \frac{(b-a) e_{1}}{2}, \quad a, b \in \boldsymbol{C}, \\ & h\left(a+b e_{1}\right)=a+b i, \quad a, b \in \boldsymbol{R} . \end{aligned}`	$\begin{aligned} & h(a, b)=\frac{a+b}{2}+i \frac{(b-a) e_{1}}{2}, \quad a, b \in \boldsymbol{C}, \\ & h\left(a+b e_{1}\right)=a+b i, \quad a, b \in \boldsymbol{R} . \end{aligned}$	$\begin{aligned} & h(a, b)=\frac{a+b}{2}+i \frac{(b-a) e_{1}}{2}, \quad a, b \in \boldsymbol{C}, \\ & h\left(a+b e_{1}\right)=a+b i, \quad a, b \in \boldsymbol{R} . \end{aligned}$
0902.0431_EQ0957	159	■1.000	`\psi(Q, A) P=f^{-1}((Q, A)(f P)), \quad P \in \mathfrak{P}^{C} .`	$\psi(Q, A) P=f^{-1}((Q, A)(f P)), \quad P \in \mathfrak{P}^{C} .$	$\psi(Q, A) P=f^{-1}((Q, A)(f P)), \quad P \in \mathfrak{P}^{C} .$
0902.0431_EQ0988	164	■1.000	`\left(\left[R, R_{1}\right], R_{2}\right)_{8}+ \left(R_{1},\left[R, R_{2}\right]\right)_{8}=0, \quad R, R_{i} \in \mathfrak{e}_{8}^{C} .`	$\left(\left[R, R_{1}\right], R_{2}\right)_{8}+\left(R_{1},\left[R, R_{2}\right]\right)_{8}=0, \quad R, R_{i} \in \mathfrak{e}_{8}^{C} .$	$\left(\left[R, R_{1}\right], R_{2}\right)_{8}+\left(R_{1},\left[R, R_{2}\right]\right)_{8}=0, \quad R, R_{i} \in \mathfrak{e}_{8}^{C} .$
0902.0431_EQ1003	167	■1.000	`\left\langle R_{1}, R_{2}\right\rangle=-\frac{1}{15} B_{8}\left(\tau \widetilde{\lambda} R_{1}, R_{2}\right) .`	$\left\langle R_{1}, R_{2}\right\rangle=-\frac{1}{15} B_{8}\left(\tau \widetilde{\lambda} R_{1}, R_{2}\right) .$	$\left\langle R_{1}, R_{2}\right\rangle=-\frac{1}{15} B_{8}\left(\tau \widetilde{\lambda} R_{1}, R_{2}\right) .$
0902.0431_EQ1013	168	■1.000	`E_{8}{ }^{C} \simeq E_{8} \times \boldsymbol{R}^{248} .`	$E_{8}{ }^{C} \simeq E_{8} \times \boldsymbol{R}^{248} .$	$E_{8}{ }^{C} \simeq E_{8} \times \boldsymbol{R}^{248} .$
0902.0431_EQ1050 (ii)	179	■1.000	`\left\{\beta_{2} P, \beta_{2} Q\right\}=\{P, Q\} .`	$\left\{\beta_{2} P, \beta_{2} Q\right\}=\{P, Q\} .$	$\left\{\beta_{2} P, \beta_{2} Q\right\}=\{P, Q\} .$
0902.0431_EQ1053	179	■1.000	`\beta_{1} \Phi=\beta \Phi \beta^{-1} .`	$\beta_{1} \Phi=\beta \Phi \beta^{-1} .$	$\beta_{1} \Phi=\beta \Phi \beta^{-1} .$
0902.0431_EQ1144	193	■1.000	`(\boldsymbol{u} \times \boldsymbol{v}) \boldsymbol{x}=*( \boldsymbol{v} \wedge *(\boldsymbol{u} \wedge \boldsymbol{x}))+(-1)^{n-k} \frac{n-k}{n}(\boldsymbol{u}, \boldsymbol{v}) \boldsymbol{x}, \quad \boldsymbol{x} \in C^{n} .`	$(\boldsymbol{u} \times \boldsymbol{v}) \boldsymbol{x}=*(\boldsymbol{v} \wedge *(\boldsymbol{u} \wedge \boldsymbol{x}))+(-1)^{n-k} \frac{n-k}{n}(\boldsymbol{u}, \boldsymbol{v}) \boldsymbol{x}, \quad \boldsymbol{x} \in C^{n} .$	$(\boldsymbol{u} \times \boldsymbol{v}) \boldsymbol{x}=*(\boldsymbol{v} \wedge *(\boldsymbol{u} \wedge \boldsymbol{x}))+(-1)^{n-k} \frac{n-k}{n}(\boldsymbol{u}, \boldsymbol{v}) \boldsymbol{x}, \quad \boldsymbol{x} \in C^{n} .$
0902.0431_EQ1145	193	■1.000	`\mathfrak{e}_{8}{ }^{C}=\mathfrak{s l}(9, C) \oplus \Lambda^{3}\left(C^{9}\right) \oplus \Lambda^{3} \left(C^{9}\right),`	$\mathfrak{e}_{8}{ }^{C}=\mathfrak{s l}(9, C) \oplus \Lambda^{3}\left(C^{9}\right) \oplus \Lambda^{3} \left(C^{9}\right),$	$\mathfrak{e}_{8}{ }^{C}=\mathfrak{s l}(9, C) \oplus \Lambda^{3}\left(C^{9}\right) \oplus \Lambda^{3} \left(C^{9}\right),$

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0902.0431_EQ1147	193	■1.000	`\left\{\begin{array}{l} D=\left[D_{1}, D_{2}\right]+ \boldsymbol{u}_{1} \times \boldsymbol{v}_{2}- \boldsymbol{u}_{2} \times \boldsymbol{v}_{1} \\ \boldsymbol{u}=D_{1} \boldsymbol{u}_{2}-D_{2} \boldsymbol{u}_{1}+*\left(\boldsymbol{v}_{1} \wedge \boldsymbol{v}_{2}\right) \\ \boldsymbol{v}=-{ }^{t} D_{1} \boldsymbol{v}_{2}+{ }^{t} D_{2} \boldsymbol{v}_{1}-*\left(\boldsymbol{u}_{1} \wedge \boldsymbol{u}_{2}\right), \end{array}\right.`	$\left\{\begin{array}{l} D=\left[D_{1}, D_{2}\right]+ \boldsymbol{u}_{1} \times \boldsymbol{v}_{2}- \boldsymbol{u}_{2} \times \boldsymbol{v}_{1} \\ \boldsymbol{u}=D_{1} \boldsymbol{u}_{2}-D_{2} \boldsymbol{u}_{1}+*\left(\boldsymbol{v}_{1} \wedge \boldsymbol{v}_{2}\right) \\ \boldsymbol{v}=-{ }^{t} D_{1} \boldsymbol{v}_{2}+{ }^{t} D_{2} \boldsymbol{v}_{1}-*\left(\boldsymbol{u}_{1} \wedge \boldsymbol{u}_{2}\right), \end{array}\right.$	$\left\{\begin{array}{l} D=\left[D_{1}, D_{2}\right]+ \boldsymbol{u}_{1} \times \boldsymbol{v}_{2}- \boldsymbol{u}_{2} \times \boldsymbol{v}_{1} \\ \boldsymbol{u}=D_{1} \boldsymbol{u}_{2}-D_{2} \boldsymbol{u}_{1}+*\left(\boldsymbol{v}_{1} \wedge \boldsymbol{v}_{2}\right) \\ \boldsymbol{v}=-{ }^{t} D_{1} \boldsymbol{v}_{2}+{ }^{t} D_{2} \boldsymbol{v}_{1}-*\left(\boldsymbol{u}_{1} \wedge \boldsymbol{u}_{2}\right), \end{array}\right.$
0902.0431_EQ1160	196	■1.000	`\begin{aligned} 0 & \neq \operatorname{ad}(T) \operatorname{ad}\left(S_{37}\right) \operatorname{ad} \left(S_{27}\right) \operatorname{ad}\left(S_{17}\right) \operatorname{ad}\left(S_{36}\right) \operatorname{ad} \left(S_{25}\right) \operatorname{ad}\left(S_{14}\right) R \\ & =\left(-E_{34}, 0,0\right) \in \mathfrak{s l}(9, C) \cap \mathfrak{a} . \end{aligned}`	$\begin{aligned} 0 & \neq \operatorname{ad}(T) \operatorname{ad}\left(S_{37}\right) \operatorname{ad} \left(S_{27}\right) \operatorname{ad}\left(S_{17}\right) \operatorname{ad}\left(S_{36}\right) \operatorname{ad} \left(S_{25}\right) \operatorname{ad}\left(S_{14}\right) R \\ & =\left(-E_{34}, 0,0\right) \in \mathfrak{s l}(9, C) \cap \mathfrak{a} . \end{aligned}$	$\begin{aligned} 0 & \neq \operatorname{ad}(T) \operatorname{ad}\left(S_{37}\right) \operatorname{ad} \left(S_{27}\right) \operatorname{ad}\left(S_{17}\right) \operatorname{ad}\left(S_{36}\right) \operatorname{ad} \left(S_{25}\right) \operatorname{ad}\left(S_{14}\right) R \\ & =\left(-E_{34}, 0,0\right) \in \mathfrak{s l}(9, C) \cap \mathfrak{a} . \end{aligned}$
0902.0431_EQ1165	196	■1.000	`\left\langle R_{1}, R_{2}\right\rangle=-B_{8}\left(R_{1}, \tau \widetilde{\lambda} R_{2}\right) .`	$\left\langle R_{1}, R_{2}\right\rangle=-B_{8}\left(R_{1}, \tau \widetilde{\lambda} R_{2}\right) .$	$\left\langle R_{1}, R_{2}\right\rangle=-B_{8}\left(R_{1}, \tau \widetilde{\lambda} R_{2}\right) .$
0902.0431_EQ1168	197	■1.000	`w_{3}(D, \boldsymbol{u}, \boldsymbol{v})=\left(D, \omega \boldsymbol{u}, \omega^{2} \boldsymbol{v}\right),`	$w_{3}(D, \boldsymbol{u}, \boldsymbol{v})=\left(D, \omega \boldsymbol{u}, \omega^{2} \boldsymbol{v}\right),$	$w_{3}(D, \boldsymbol{u}, \boldsymbol{v})=\left(D, \omega \boldsymbol{u}, \omega^{2} \boldsymbol{v}\right),$
0902.0431_EQ1180	199	■1.000	`(*(*(\boldsymbol{x} \wedge \boldsymbol{y}) \wedge \boldsymbol{z}), \boldsymbol{v})=(\boldsymbol{x} \wedge \boldsymbol{y}, \boldsymbol{z} \wedge \boldsymbol{v})=( \boldsymbol{x}, \boldsymbol{z})(\boldsymbol{y}, \boldsymbol{v})-(\boldsymbol{y}, \boldsymbol{z})( \boldsymbol{x}, \boldsymbol{v}) .`	$(*(*(\boldsymbol{x} \wedge \boldsymbol{y}) \wedge \boldsymbol{z}), \boldsymbol{v})=(\boldsymbol{x} \wedge \boldsymbol{y}, \boldsymbol{z} \wedge \boldsymbol{v})=(\boldsymbol{x}, \boldsymbol{z})(\boldsymbol{y}, \boldsymbol{v})-(\boldsymbol{y}, \boldsymbol{z})(\boldsymbol{x}, \boldsymbol{v}) .$	$(*(*(\boldsymbol{x} \wedge \boldsymbol{y}) \wedge \boldsymbol{z}), \boldsymbol{v})=(\boldsymbol{x} \wedge \boldsymbol{y}, \boldsymbol{z} \wedge \boldsymbol{v})=(\boldsymbol{x}, \boldsymbol{z})(\boldsymbol{y}, \boldsymbol{v})-(\boldsymbol{y}, \boldsymbol{z})(\boldsymbol{x}, \boldsymbol{v}) .$
0902.0431_EQ1201	202	■1.000	`\begin{aligned} & B_{8}\left(R_{1}, R_{2}\right)=60 \left(\operatorname{tr}\left(C_{1} C_{2}\right)+ \operatorname{tr}\left(D_{1} D_{2}\right)-\left(\boldsymbol{x}_{1}, \boldsymbol{w}_{2}\right)\left(\boldsymbol{a}_{1}, \boldsymbol{d}_{2}\right)-\left(\boldsymbol{x}_{2}, \boldsymbol{w}_{1}\right)\left(\boldsymbol{a}_{2}, \boldsymbol{d}_{1}\right) \\ & \left.\quad-\left(\boldsymbol{y}_{1}, \boldsymbol{z}_{2}\right) \left(\boldsymbol{b}_{1}, \boldsymbol{c}_{2}\right)-\left(\boldsymbol{y}_{2}, \boldsymbol{z}_{1}\right) \left(\boldsymbol{b}_{2}, \boldsymbol{c}_{1}\right)\right), \end{aligned}`	$\begin{aligned} & B_{8}\left(R_{1}, R_{2}\right)=60 \left(\operatorname{tr}\left(C_{1} C_{2}\right)+ \operatorname{tr}\left(D_{1} D_{2}\right)-\left(\boldsymbol{x}_{1}, \boldsymbol{w}_{2}\right)\left(\boldsymbol{a}_{1}, \boldsymbol{d}_{2}\right)-\left(\boldsymbol{x}_{2}, \boldsymbol{w}_{1}\right)\left(\boldsymbol{a}_{2}, \boldsymbol{d}_{1}\right) \\ & \left.\quad-\left(\boldsymbol{y}_{1}, \boldsymbol{z}_{2}\right) \left(\boldsymbol{b}_{1}, \boldsymbol{c}_{2}\right)-\left(\boldsymbol{y}_{2}, \boldsymbol{z}_{1}\right) \left(\boldsymbol{b}_{2}, \boldsymbol{c}_{1}\right)\right), \end{aligned}$	$\begin{aligned} & B_{8}\left(R_{1}, R_{2}\right)=60 \left(\operatorname{tr}\left(C_{1} C_{2}\right)+ \operatorname{tr}\left(D_{1} D_{2}\right)-\left(\boldsymbol{x}_{1}, \boldsymbol{w}_{2}\right)\left(\boldsymbol{a}_{1}, \boldsymbol{d}_{2}\right)-\left(\boldsymbol{x}_{2}, \boldsymbol{w}_{1}\right)\left(\boldsymbol{a}_{2}, \boldsymbol{d}_{1}\right) \\ & \left.\quad-\left(\boldsymbol{y}_{1}, \boldsymbol{z}_{2}\right) \left(\boldsymbol{b}_{1}, \boldsymbol{c}_{2}\right)-\left(\boldsymbol{y}_{2}, \boldsymbol{z}_{1}\right) \left(\boldsymbol{b}_{2}, \boldsymbol{c}_{1}\right)\right), \end{aligned}$
0902.0431_EQ0001	5	■1.000	`\tau(u+i v)=u-i v .`	$\tau(u+i v)=u-i v .$	$\tau(u+i v)=u-i v .$
0902.0431_EQ0008	7	■1.000	`G_{2}=\left\{\alpha \in \operatorname{Iso}_{ \boldsymbol{R}}(\mathfrak{C}) \mid \alpha(x y)=(\alpha x)(\alpha y)\right\} .`	$G_{2}=\left\{\alpha \in \operatorname{Iso}_{ \boldsymbol{R}}(\mathfrak{C}) \mid \alpha(x y)=(\alpha x)(\alpha y)\right\} .$	$G_{2}=\left\{\alpha \in \operatorname{Iso}_{ \boldsymbol{R}}(\mathfrak{C}) \mid \alpha(x y)=(\alpha x)(\alpha y)\right\} .$
0902.0431_EQ0009	7	■1.000	`(\alpha x, \alpha y)=(x, y), \quad x, y \in \mathfrak{C} .`	$(\alpha x, \alpha y)=(x, y), \quad x, y \in \mathfrak{C} .$	$(\alpha x, \alpha y)=(x, y), \quad x, y \in \mathfrak{C} .$
0902.0431_EQ0010	7	■1.000	`\overline{\alpha x}=\alpha \bar{x} .`	$\overline{\alpha x}=\alpha \bar{x} .$	$\overline{\alpha x}=\alpha \bar{x} .$
0902.0431_EQ0013	8	■1.000	`O(8)=O(\mathfrak{C})=\left\{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}(\mathfrak{C}) \mid( \alpha x, \alpha y)=(x, y)\right\} .`	$O(8)=O(\mathfrak{C})=\left\{\alpha \in \operatorname{Iso}_{ \boldsymbol{R}}(\mathfrak{C}) \mid(\alpha x, \alpha y)=(x, y)\right\} .$	$O(8)=O(\mathfrak{C})=\left\{\alpha \in \operatorname{Iso}_{ \boldsymbol{R}}(\mathfrak{C}) \mid(\alpha x, \alpha y)=(x, y)\right\} .$

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0902.0431_EQ0014	8	■1.000	`\mathfrak{D}_{4}=\mathfrak{s o}(8)=\mathfrak{s o}(\mathfrak{C})=\left\{D \in \operatorname{Hom}_{\boldsymbol{R}}(\mathfrak{C}) \mid (D x, y)+(x, D y)=0 \right\}`	$\mathfrak{D}_4 = \mathfrak{so}(8) = \mathfrak{so}(\mathfrak{C}) = \{D \in \operatorname{Hom}_{\boldsymbol{R}}(\mathfrak{C}) \mid (Dx, y) + (x, Dy) = 0\}$	$\mathfrak{D}_4 = \mathfrak{so}(8) = \mathfrak{so}(\mathfrak{C}) = \{D \in \operatorname{Hom}_{\boldsymbol{R}}(\mathfrak{C}) \mid (Dx, y) + (x, Dy) = 0\}$
0902.0431_EQ0015	8	■1.000	`G_{i j} e_{j}=e_{i}, \quad G_{i j} e_{i}=-e_{j}, \quad G_{i j} e_{k}=0, k \neq i, j .`	$G_{ij} e_j = e_i, \quad G_{ij} e_i = -e_j, \quad G_{ij} e_k = 0, k \neq i, j.$	$G_{ij} e_j = e_i, \quad G_{ij} e_i = -e_j, \quad G_{ij} e_k = 0, \ k \neq i, j.$
0902.0431_EQ0016	8	■1.000	`F_{i j} x=\frac{1}{2} e_{i}\left(\bar{e}_{j} x\right), \quad x \in \mathfrak{C} .`	$F_{ij} x = \frac{1}{2} e_i \left(\bar{e}_j x\right), \quad x \in \mathfrak{C}.$	$F_{ij} x = \frac{1}{2} e_i (\bar{e}_j x), \quad x \in \mathfrak{C}.$
0902.0431_EQ0020	9	■1.000	`\kappa, \pi, \nu \in \operatorname{Aut}\left(\mathfrak{D}_{4}\right) .`	$\kappa, \pi, \nu \in \operatorname{Aut}\left(\mathfrak{D}_4\right).$	$\kappa, \pi, \nu \in \operatorname{Aut}(\mathfrak{D}_4).$
0902.0431_EQ0022	9	■1.000	`\left[\pi G_{i j}, \pi G_{k l}\right]=\pi\left[G_{i j}, G_{k l}\right],`	$\left[\pi G_{ij}, \pi G_{kl}\right] = \pi \left[G_{ij}, G_{kl}\right],$	$[\pi G_{ij}, \pi G_{kl}] = \pi[G_{ij}, G_{kl}],$
0902.0431_EQ0027 (1)	10	■1.000	`L_{a}, R_{a}, T_{a} \in \mathfrak{D}_{4} .`	$L_a, R_a, T_a \in \mathfrak{D}_4.$	$L_a, R_a, T_a \in \mathfrak{D}_4.$
0902.0431_EQ0028 (2)	10	■1.000	`\kappa L_{a}=-R_{a}, \quad \kappa R_{a}=-L_{a}, \quad \kappa T_{a}=-T_{a} .`	$\kappa L_a = -R_a, \quad \kappa R_a = -L_a, \quad \kappa T_a = -T_a.$	$\kappa L_a = -R_a, \ \kappa R_a = -L_a, \quad \kappa T_a = -T_a.$
0902.0431_EQ0029 (3)	10	■1.000	`\pi L_{a}=T_{a}, \quad \pi R_{a}=-R_{a}, \quad \pi T_{a}=L_{a} .`	$\pi L_a = T_a, \quad \pi R_a = -R_a, \quad \pi T_a = L_a.$	$\pi L_a = T_a, \quad \pi R_a = -R_a, \quad \pi T_a = L_a.$
0902.0431_EQ0030 (4)	10	■1.000	`\nu L_{a}=R_{a}, \quad \nu R_{a}=-T_{a}, \quad \nu T_{a}=-L_{a} .`	$\nu L_a = R_a, \quad \nu R_a = -T_a, \quad \nu T_a = -L_a.$	$\nu L_a = R_a, \quad \nu R_a = -T_a, \quad \nu T_a = -L_a.$
0902.0431_EQ0031	10	■1.000	`L_{e_{i}}=2 F_{i 0}, \quad T_{e_{i}}=2 G_{i 0} .`	$L_{e_i} = 2F_{i0}, \quad T_{e_i} = 2G_{i0}.$	$L_{e_i} = 2F_{i0}, \quad T_{e_i} = 2G_{i0}.$
0902.0431_EQ0035	11	■1.000	`D=L_{a}+\sum_{i}\left[L_{b_{i}}, L_{c_{i}}\right], \quad a, b_{i}, c_{i} \in \mathfrak{C}_{0} .`	$D = L_a + \sum_i \left[L_{b_i}, L_{c_i}\right], \quad a, b_i, c_i \in \mathfrak{C}_0.$	$D = L_a + \sum_i [L_{b_i}, L_{c_i}], \quad a, b_i, c_i \in \mathfrak{C}_0.$
0902.0431_EQ0036	11	■1.000	`\kappa^{2}=1, \quad \pi^{2}=1, \quad \nu^{3}=1, \quad \nu=\pi \kappa .`	$\kappa^2 = 1, \quad \pi^2 = 1, \quad \nu^3 = 1, \quad \nu = \pi\kappa.$	$\kappa^2 = 1, \quad \pi^2 = 1, \quad \nu^3 = 1, \quad \nu = \pi\kappa.$
0902.0431_EQ0038	11	■1.000	`\left(D_{1} x\right) y+x\left(D_{2} y\right)=D_{3}(x y), \quad x, y \in \mathfrak{C} .`	$\left(D_1 x\right) y + x \left(D_2 y\right) = D_3(xy), \quad x, y \in \mathfrak{C}.$	$(D_1 x) y + x(D_2 y) = D_3(xy), \quad x, y \in \mathfrak{C}.$
0902.0431_EQ0039	11	■1.000	`D_{2}=\nu D_{1}, \quad D_{3}=\pi D_{1} .`	$D_2 = \nu D_1, \quad D_3 = \pi D_1.$	$D_2 = \nu D_1, \quad D_3 = \pi D_1.$
0902.0431_EQ0040 (i)	11	■1.000	`\left(L_{a} x\right) y+x\left(R_{a} y\right)=T_{a}(x y), \quad x, y \in \mathfrak{C} .`	$\left(L_a x\right) y + x \left(R_a y\right) = T_a(xy), \quad x, y \in \mathfrak{C}.$	$(L_a x) y + x(R_a y) = T_a(xy), \quad x, y \in \mathfrak{C}.$
0902.0431_EQ0042	12	■1.000	`\left(L_{a} L_{b} x\right) y+\left(L_{b} x\right) \left(R_{a} y\right)+\left(L_{a} x\right)\left(R_{b} y\right)+x\left(R_{a} R_{b} y\right)=T_{a} T_{b}(x y) .`	$\left(L_a L_b x\right) y + \left(L_b x\right) \left(R_a y\right) + \left(L_a x\right) \left(R_b y\right) + x \left(R_a R_b y\right) = T_a T_b(xy).$	$(L_a L_b x) y + (L_b x)(R_a y) + (L_a x)(R_b y) + x(R_a R_b y) = T_a T_b(xy).$
0902.0431_EQ0043 (iii)	12	■1.000	`\left(\left[L_{a}, L_{b}\right] x\right) y+x\left(\left[R_{a}, R_{b}\right] y\right)=\left[T_{a}, T_{b}\right](x y) .`	$\left(\left[L_a, L_b\right] x\right) y + x \left(\left[R_a, R_b\right] y\right) = \left[T_a, T_b\right](xy).$	$([L_a, L_b] x) y + x([R_a, R_b] y) = [T_a, T_b](xy).$
0902.0431_EQ0044	12	■1.000	`D_{1}=L_{a}+\sum\left[L_{b}, L_{c}\right], \quad a, b, c \in \mathfrak{C}_{0}`	$D_1 = L_a + \sum \left[L_b, L_c\right], \quad a, b, c \in \mathfrak{C}_0$	$D_1 = L_a + \sum [L_b, L_c], \quad a, b, c \in \mathfrak{C}_0$
0902.0431_EQ0045	12	■1.000	`\left(D_{1} x\right) y+x\left(D_{2} y\right)=D_{3}(x y), \quad x, y \in \mathfrak{C} .`	$\left(D_1 x\right) y + x \left(D_2 y\right) = D_3(xy), \quad x, y \in \mathfrak{C}.$	$(D_1 x) y + x(D_2 y) = D_3(xy), \quad x, y \in \mathfrak{C}.$
0902.0431_EQ0046	12	■1.000	`x\left(D_{2} y\right)=D_{3}(x y), \quad x, y \in \mathfrak{C} .`	$x \left(D_2 y\right) = D_3(xy), \quad x, y \in \mathfrak{C}.$	$x(D_2 y) = D_3(xy), \quad x, y \in \mathfrak{C}.$
0902.0431_EQ0048	12	■1.000	`x(y p)=(x y) p, \quad \text { for all } x, y \in \mathfrak{C} .`	$x(yp) = (xy)p, \quad \text{for all } x, y \in \mathfrak{C}.$	$x(yp) = (xy)p, \quad \text{for all } x, y \in \mathfrak{C}.$
0902.0431_EQ0049	12	■1.000	`\left(D_{1} x\right) y+x\left(D_{2} y\right)=\left(\kappa D_{3}\right)(x y), \quad x, y \in \mathfrak{C}`	$\left(D_1 x\right) y + x \left(D_2 y\right) = \left(\kappa D_3\right)(xy), \quad x, y \in \mathfrak{C}$	$(D_1 x) y + x(D_2 y) = (\kappa D_3)(xy), \quad x, y \in \mathfrak{C}$
0902.0431_EQ0052	13	■1.000	`\begin{aligned} & D_{3}^{\prime}=\nu D_{2}=\nu \nu D_{1}=\nu^{-1} D_{1}=\kappa \pi D_{1}=\kappa \kappa D_{3}=D_{3} \\ & D_{1}^{\prime}=\kappa \pi D_{2}=\nu^{-1} D_{2}=D_{1} \end{aligned}`	$\begin{aligned} & D_3^{\prime}=\nu D_2=\nu \nu D_1=\nu^{-1} D_1=\kappa \pi D_1=\kappa \kappa D_3=D_3 \\ & D_1^{\prime}=\kappa \pi D_2=\nu^{-1} D_2=D_1 \end{aligned}$	$\begin{aligned} & D_3{}'=\nu D_2=\nu \nu D_1=\nu^{-1} D_1=\kappa \pi D_1=\kappa \kappa D_3=D_3, \\ & D_1{}'=\kappa \pi D_2=\nu^{-1} D_2=D_1. \end{aligned}$

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0902.0431_EQ0053	13	1.000	`\mathfrak{g}_{2}=\left\{D \in \operatorname{Hom}_{ \boldsymbol{R}}(\mathfrak{C}) \mid D(x y)=(D x) y+x(D y)\right\} .`	$\mathfrak{g}_2 = \{D \in \operatorname{Hom}_{\boldsymbol{R}}(\mathfrak{C}) \mid D(xy) = (Dx)y + x(Dy)\}\,.$	$\mathfrak{g}_2 = \{D \in \operatorname{Hom}_{\boldsymbol{R}}(\mathfrak{C}) \mid D(xy) = (Dx)y + x(Dy)\}.$
0902.0431_EQ0054	13	1.000	`\begin{aligned} \mathfrak{b}_{3} & =\left\{D \in \mathfrak{D}_{4} \mid D 1=0\right\} \\ & =\left\{D \in \mathfrak{D}_{4} \mid \kappa D=D\right\}=\left\{D \in \mathfrak{D}_{4} \mid \nu D=\pi D\right\} . \end{aligned}`	$\begin{aligned} \mathfrak{b}_3 & = \{D \in \mathfrak{D}_4 \mid D1 = 0\} \\ & = \{D \in \mathfrak{D}_4 \mid \kappa D = D\} = \{D \in \mathfrak{D}_4 \mid \nu D = \pi D\}\,. \end{aligned}$	$\begin{aligned} \mathfrak{b}_3 & = \{D \in \mathfrak{D}_4 \mid D1 = 0\} \\ & = \{D \in \mathfrak{D}_4 \mid \kappa D = D\} = \{D \in \mathfrak{D}_4 \mid \nu D = \pi D\}. \end{aligned}$
0902.0431_EQ0056	13	1.000	`D x \in \mathfrak{C}_{0}, \quad x \in \mathfrak{C} .`	$Dx \in \mathfrak{C}_0, \quad x \in \mathfrak{C}.$	$Dx \in \mathfrak{C}_0, \quad x \in \mathfrak{C}.$
0902.0431_EQ0057	13	1.000	`x y+y x=-(x \bar{y}+y \bar{x})=-2(x, y), \quad x, y \in \mathfrak{C}_{0} .`	$xy + yx = -(x\bar{y} + y\bar{x}) = -2(x, y), \quad x, y \in \mathfrak{C}_0.$	$xy + yx = -(x\overline{y} + y\overline{x}) = -2(x, y), \quad x, y \in \mathfrak{C}_0.$
0902.0431_EQ0058	13	1.000	`(D x, y)+(x, D y)=0, \quad x, y \in \mathfrak{C} .`	$(Dx, y) + (x, Dy) = 0, \quad x, y \in \mathfrak{C}.$	$(Dx, y) + (x, Dy) = 0, \quad x, y \in \mathfrak{C}.$
0902.0431_EQ0060	14	1.000	`\operatorname{dim} \mathfrak{g}_{2}=14 .`	$\operatorname{dim} \mathfrak{g}_2 = 14.$	$\operatorname{dim} \mathfrak{g}_2 = 14.$
0902.0431_EQ0061	14	1.000	`\sum_{0<i<j} \lambda_{i j} F_{i j}=\sum_{0<i<j} \lambda_{i j} G_{i j} .`	$\sum_{0<i<j} \lambda_{ij} F_{ij} = \sum_{0<i<j} \lambda_{ij} G_{ij}.$	$\sum_{0<i<j} \lambda_{ij} F_{ij} = \sum_{0<i<j} \lambda_{ij} G_{ij}.$
0902.0431_EQ0062	14	1.000	`\sum_{0<i<j} \lambda_{i j} e_{j} e_{i}=0 .`	$\sum_{0<i<j} \lambda_{ij} e_j e_i = 0.$	$\sum_{0<i<j} \lambda_{ij} e_j e_i = 0.$
0902.0431_EQ0064	14	1.000	`\boldsymbol{C}=\left\{x_{0}+x_{1} e_{1} \mid x_{i} \in \boldsymbol{R}\right\} .`	$\boldsymbol{C} = \{x_0 + x_1 e_1 \mid x_i \in \boldsymbol{R}\}\,.$	$\boldsymbol{C} = \{x_0 + x_1 e_1 \mid x_i \in \boldsymbol{R}\}.$
0902.0431_EQ0066	15	1.000	`x=a+m_{1} e_{2}+m_{2} e_{4}+m_{3} e_{6}, \quad a, m_{i} \in \boldsymbol{C} .`	$x = a + m_1 e_2 + m_2 e_4 + m_3 e_6, \quad a, m_i \in \boldsymbol{C}.$	$x = a + m_1 e_2 + m_2 e_4 + m_3 e_6, \quad a, m_i \in \boldsymbol{C}.$
0902.0431_EQ0070	15	1.000	`\boldsymbol{C} \oplus \boldsymbol{C}^{3}=\mathfrak{C} .`	$\boldsymbol{C} \oplus \boldsymbol{C}^3 = \mathfrak{C}.$	$\boldsymbol{C} \oplus \boldsymbol{C}^3 = \mathfrak{C}.$
0902.0431_EQ0071	15	1.000	`\left(\mathfrak{g}_{2}\right)_{e_{1}}=\left\{D \in \mathfrak{g}_{2} \mid D e_{1}=0\right\} .`	$(\mathfrak{g}_2)_{e_1} = \{D \in \mathfrak{g}_2 \mid De_1 = 0\}\,.$	$(\mathfrak{g}_2)_{e_1} = \{D \in \mathfrak{g}_2 \mid De_1 = 0\}.$
0902.0431_EQ0074	16	1.000	`\begin{array}{ll} \varphi_{*}\left(e_{1} \left(E_{11}-E_{22}\right)\right)=-G_{23}+G_{45}, & \varphi_{*}\left(e_{1}\left(E_{22}-E_{33}\right) \right)=-G_{45}+G_{67}, \\ \varphi_{*}\left(E_{12}-E_{21} \right)=G_{24}+G_{35}, & \varphi_{*}\left(e_{1} \left(E_{12}+E_{21}\right)\right)=-G_{25}+G_{34}, \\ \varphi_{*}\left(E_{13}-E_{31}\right)=G_{26}+G_{37}, & \varphi_{*}\left(e_{1}\left(E_{13}+E_{31}\right) \right)=-G_{27}+G_{36}, \\ \varphi_{*}\left(E_{23}-E_{32}\right)=G_{46}+G_{57}, & \varphi_{*}\left(e_{1}\left(E_{23}+E_{32}\right)\right)=-G_{47}+G_{56} . \end{array}`	$\begin{array}{ll} \varphi_{*}\left(e_{1}\left(E_{11}-E_{22}\right)\right)=-G_{23}+G_{45}, & \varphi_{*}\left(e_{1}\left(E_{22}-E_{33}\right)\right)=-G_{45}+G_{67}, \\ \varphi_{*}\left(E_{12}-E_{21}\right)=G_{24}+G_{35}, & \varphi_{*}\left(e_{1}\left(E_{12}+E_{21}\right)\right)=-G_{25}+G_{34}, \\ \varphi_{*}\left(E_{13}-E_{31}\right)=G_{26}+G_{37}, & \varphi_{*}\left(e_{1}\left(E_{13}+E_{31}\right)\right)=-G_{27}+G_{36}, \\ \varphi_{*}\left(E_{23}-E_{32}\right)=G_{46}+G_{57}, & \varphi_{*}\left(e_{1}\left(E_{23}+E_{32}\right)\right)=-G_{47}+G_{56}. \end{array}$	$\begin{array}{ll} \varphi_{*}\left(e_{1}\left(E_{11}-E_{22}\right)\right)=-G_{23}+G_{45}, & \varphi_{*}\left(e_{1}\left(E_{22}-E_{33}\right)\right)=-G_{45}+G_{67}, \\ \varphi_{*}\left(E_{12}-E_{21}\right)=G_{24}+G_{35}, & \varphi_{*}\left(e_{1}\left(E_{12}+E_{21}\right)\right)=-G_{25}+G_{34}, \\ \varphi_{*}\left(E_{13}-E_{31}\right)=G_{26}+G_{37}, & \varphi_{*}\left(e_{1}\left(E_{13}+E_{31}\right)\right)=-G_{27}+G_{36}, \\ \varphi_{*}\left(E_{23}-E_{32}\right)=G_{46}+G_{57}, & \varphi_{*}\left(e_{1}\left(E_{23}+E_{32}\right)\right)=-G_{47}+G_{56}. \end{array}$
0902.0431_EQ0078	16	1.000	`-2 x_{1} e_{2}-2 x_{2} e_{3}-2 x_{3} e_{4}-2 x_{4} e_{5}-2 x_{5} e_{6}-2 x_{6} e_{7}=0 .`	$-2x_1e_2 - 2x_2e_3 - 2x_3e_4 - 2x_4e_5 - 2x_5e_6 - 2x_6e_7 = 0.$	$-2x_1e_2 - 2x_2e_3 - 2x_3e_4 - 2x_4e_5 - 2x_5e_6 - 2x_6e_7 = 0.$
0902.0431_EQ0079	16	1.000	`\overline{x_{1}+i x_{2}}=\bar{x}_{1}+i \bar{x}_{2}, \quad \tau\left(x_{1}+i x_{2}\right)=x_{1}-i x_{2}, \quad x_{i} \in \mathfrak{C} .`	$\overline{x_1 + ix_2} = \bar{x}_1 + i\bar{x}_2, \quad \tau\left(x_1 + ix_2\right) = x_1 - ix_2, \quad x_i \in \mathfrak{C}.$	$\overline{x_1 + ix_2} = \overline{x}_1 + i\overline{x}_2, \quad \tau(x_1 + ix_2) = x_1 - ix_2, \quad x_i \in \mathfrak{C}.$
0902.0431_EQ0080	16	1.000	`\tau(x y)=(\tau x)(\tau y), \quad x, y \in \mathfrak{C}^{C} .`	$\tau(xy) = (\tau x)(\tau y), \quad x, y \in \mathfrak{C}^C.$	$\tau(xy) = (\tau x)(\tau y), \quad x, y \in \mathfrak{C}^C.$
0902.0431_EQ0083 (cdots ii)	17	1.000	`-x_{1} S_{6}+x_{2} S_{5} \in W \quad \cdots(\mathrm{i}) \quad \text { and } \quad-x_{1} S_{5}-x_{2} S_{6} \in W`	$-x_1S_6 + x_2S_5 \in W \quad \cdots(\mathrm{i}) \quad \text{and} \quad -x_1S_5 - x_2S_6 \in W$	$-x_1S_6 + x_2S_5 \in W \quad \cdots(\mathrm{i}) \quad \text{and} \quad -x_1S_5 - x_2S_6 \in W$
0902.0431_EQ0085	17	1.000	`\mathfrak{a} \ni\left[D^{\prime}, D+S\right]=\left[D^{ \prime}, D\right]+\left[D^{\prime}, S\right], \quad \left[D^{\prime}, S\right] \in \mathfrak{S}`	$\mathfrak{a} \ni [D', D + S] = [D', D] + [D', S]\,, \quad [D', S] \in \mathfrak{S}$	$\mathfrak{a} \ni [D', D + S] = [D', D] + [D', S], \quad [D', S] \in \mathfrak{S}$

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0902.0431_EQ0096	19	■1.000	`\pm\left(\lambda_{1}-\lambda_{2}\right), \quad \pm \left(\lambda_{1}-\lambda_{3}\right), \quad \pm\left( \lambda_{2}-\lambda_{3}\right), \quad \pm \lambda_{1}, \quad \pm \lambda_{2} \quad \pm \lambda_{3}`	$\pm\left(\lambda_{1}-\lambda_{2}\right), \quad \pm \left(\lambda_{1}-\lambda_{3}\right), \quad \pm\left(\lambda_{2}-\lambda_{3}\right), \quad \pm \lambda_{1}, \quad \pm \lambda_{2} \quad \pm \lambda_{3}$	$\pm(\lambda_1-\lambda_2), \quad \pm(\lambda_1-\lambda_3), \quad \pm(\lambda_2-\lambda_3), \quad \pm\lambda_1, \quad \pm\lambda_2 \quad \pm\lambda_3$
0902.0431_EQ0099	20	■1.000	`\alpha_{1}=\lambda_{1}-\lambda_{2}, \quad \alpha_{2}= \lambda_{2}`	$\alpha_{1}=\lambda_{1}-\lambda_{2}, \quad \alpha_{2}= \lambda_{2}$	$\alpha_1=\lambda_1-\lambda_2, \quad \alpha_2=\lambda_2$
0902.0431_EQ0100	20	■1.000	`\mu=2 \alpha_{1}+3 \alpha_{3}`	$\mu=2 \alpha_{1}+3 \alpha_{3}$	$\mu=2\alpha_1+3\alpha_3$
0902.0431_EQ0102	20	■1.000	`\mathfrak{h}_{\boldsymbol{R}}=\left\{-i \lambda_{1} G_{23}-i \lambda_{2} G_{45}-i \lambda_{3} G_{67} \mid \lambda_{i} \in \boldsymbol{R}, \lambda_{1}+\lambda_{2}+ \lambda_{3}=0\right\}`	$\mathfrak{h}_{\boldsymbol{R}}=\left\{-i \lambda_{1} G_{23}-i \lambda_{2} G_{45}-i \lambda_{3} G_{67} \mid \lambda_{i} \in \boldsymbol{R}, \lambda_{1}+\lambda_{2}+\lambda_{3}=0\right\}$	$\mathfrak{h}_{\boldsymbol{R}}=\{-i\lambda_1G_{23}-i\lambda_2G_{45}-i\lambda_3G_{67}\mid\lambda_i\in\boldsymbol{R},\lambda_1+\lambda_2+\lambda_3=0\}$
0902.0431_EQ0103	20	■1.000	`B_{2}\left(H, H^{\prime}\right)=8 \sum_{k=1}^{3} \lambda_{k} \lambda_{k}^{\prime},`	$B_{2}\left(H, H^{\prime}\right)=8 \sum_{k=1}^{3} \lambda_{k} \lambda_{k}^{\prime},$	$B_2(H,H')=8\sum_{k=1}^{3}\lambda_k\lambda_k{}',$
0902.0431_EQ0104	20	■1.000	`H_{\alpha_{1}}=-\frac{1}{8} i G_{23}+\frac{1}{8} i G_{45}, \quad H_{\alpha_{2}}=\frac{1}{24} i G_{23}- \frac{1}{12} i G_{45}+\frac{1}{24} i G_{67} .`	$H_{\alpha_{1}}=-\frac{1}{8} i G_{23}+\frac{1}{8} i G_{45}, \quad H_{\alpha_{2}}=\frac{1}{24} i G_{23}- \frac{1}{12} i G_{45}+\frac{1}{24} i G_{67} .$	$H_{\alpha_1}=-\frac{1}{8}iG_{23}+\frac{1}{8}iG_{45}, \quad H_{\alpha_2}=\frac{1}{24}iG_{23}-\frac{1}{12}iG_{45}+\frac{1}{24}iG_{67}.$
0902.0431_EQ0106	21	■1.000	`\left(G_{2}\right)_{e_{1}}=\left\{\alpha \in G_{2} \mid \alpha e_{1}=e_{1}\right\} .`	$\left(G_{2}\right)_{e_{1}}=\left\{\alpha \in G_{2} \mid \alpha e_{1}=e_{1}\right\} .$	$\left(G_2\right)_{e_1}=\left\{\alpha \in G_2 \mid \alpha e_1=e_1\right\}.$
0902.0431_EQ0107	21	■1.000	`\varphi(A)(a+\boldsymbol{m})=a+A \boldsymbol{m}, \quad a+\boldsymbol{m} \in \boldsymbol{C} \oplus \boldsymbol{C}^{3}=\mathfrak{C} .`	$\varphi(A)(a+\boldsymbol{m})=a+A \boldsymbol{m}, \quad a+\boldsymbol{m} \in \boldsymbol{C} \oplus \boldsymbol{C}^{3}=\mathfrak{C} .$	$\varphi(A)(a+\boldsymbol{m})=a+A\boldsymbol{m}, \quad a+\boldsymbol{m}\in\boldsymbol{C}\oplus\boldsymbol{C}^3=\mathfrak{C}.$
0902.0431_EQ0109	21	■1.000	`\alpha e_{2}=\boldsymbol{a}_{1}, \quad \alpha e_{4}= \boldsymbol{a}_{2}, \quad \alpha e_{6}=\boldsymbol{a}_{3}`	$\alpha e_{2}=\boldsymbol{a}_{1}, \quad \alpha e_{4}= \boldsymbol{a}_{2}, \quad \alpha e_{6}=\boldsymbol{a}_{3}$	$\alpha e_2=\boldsymbol{a}_1, \quad \alpha e_4=\boldsymbol{a}_2, \quad \alpha e_6=\boldsymbol{a}_3$
0902.0431_EQ0110	21	■1.000	`\left\langle\boldsymbol{a}_{1}, \boldsymbol{a}_{2} \right\rangle=0, \quad \boldsymbol{a}_{3}=\overline{ \boldsymbol{a}_{1} \times \boldsymbol{a}_{2}} .`	$\left\langle\boldsymbol{a}_{1}, \boldsymbol{a}_{2} \right\rangle=0, \quad \boldsymbol{a}_{3}=\overline{ \boldsymbol{a}_{1} \times \boldsymbol{a}_{2}} .$	$\langle\boldsymbol{a}_1,\boldsymbol{a}_2\rangle=0, \quad \boldsymbol{a}_3=\overline{\boldsymbol{a}_1\times\boldsymbol{a}_2}.$
0902.0431_EQ0111	22	■1.000	`a_{3}=a_{1} a_{2} .`	$a_{3}=a_{1} a_{2} .$	$a_3=a_1a_2.$
0902.0431_EQ0112	22	■1.000	`a_{5}=a_{1} a_{4}, \quad a_{6}=a_{4} a_{2}, \quad a_{7}=a_{3} a_{4} .`	$a_{5}=a_{1} a_{4}, \quad a_{6}=a_{4} a_{2}, \quad a_{7}=a_{3} a_{4} .$	$a_5=a_1a_4, \quad a_6=a_4a_2, \quad a_7=a_3a_4.$
0902.0431_EQ0114	22	■1.000	`\alpha e_{i}=a_{i}, \quad i=0,1, \cdots, 7`	$\alpha e_{i}=a_{i}, \quad i=0,1, \cdots, 7$	$\alpha e_i=a_i, \quad i=0,1,\cdots,7$
0902.0431_EQ0115	22	■1.000	`\alpha(x y)=(\alpha x)(\alpha y), \quad x, y \in \mathfrak{C} .`	$\alpha(x y)=(\alpha x)(\alpha y), \quad x, y \in \mathfrak{C} .$	$\alpha(xy)=(\alpha x)(\alpha y), \quad x,y\in\mathfrak{C}.$
0902.0431_EQ0116	22	■1.000	`\alpha\left(e_{i} e_{j}\right)=\left(\alpha e_{i}\right) \left(\alpha e_{j}\right), \quad i, j=0,1, \cdots, 7`	$\alpha\left(e_{i} e_{j}\right)=\left(\alpha e_{i}\right)\left(\alpha e_{j}\right), \quad i, j=0,1, \cdots, 7$	$\alpha(e_ie_j)=(\alpha e_i)(\alpha e_j), \quad i,j=0,1,\cdots,7$
0902.0431_EQ0118	23	■1.000	`w=\varphi\left(\operatorname{diag}\left(\omega_{1}, \omega_{1}, \omega_{1}\right)\right)`	$w=\varphi\left(\operatorname{diag}\left(\omega_{1}, \omega_{1}, \omega_{1}\right)\right)$	$w=\varphi(\operatorname{diag}(\omega_1,\omega_1,\omega_1))$
0902.0431_EQ0120	23	■1.000	`\left(G_{2}\right)^{w}=\left\{\alpha \in G_{2} \mid w \alpha=\alpha w\right\} .`	$\left(G_{2}\right)^{w}=\left\{\alpha \in G_{2} \mid w \alpha=\alpha w\right\} .$	$\left(G_2\right)^w=\left\{\alpha\in G_2\mid w\alpha=\alpha w\right\}.$
0902.0431_EQ0121	23	■1.000	`\begin{aligned} w \varphi(A)(a+\boldsymbol{m}) & =w(a+A \boldsymbol{m})=a+\omega_{1} A \boldsymbol{m} \\ & =a+A \omega_{1} \boldsymbol{m}=\varphi(A) w(a+\boldsymbol{m}) . \end{aligned}`	$\begin{aligned} w \varphi(A)(a+\boldsymbol{m}) & =w(a+A \boldsymbol{m})=a+\omega_{1} A \boldsymbol{m} \\ & =a+A \omega_{1} \boldsymbol{m}=\varphi(A) w(a+\boldsymbol{m}) . \end{aligned}$	$\begin{aligned} w\varphi(A)(a+\boldsymbol{m}) &= w(a+A\boldsymbol{m})=a+\omega_1A\boldsymbol{m} \\ &= a+A\omega_1\boldsymbol{m}=\varphi(A)w(a+\boldsymbol{m}). \end{aligned}$
0902.0431_EQ0124	24	■1.000	`\boldsymbol{H}=\left\{x_{0}+x_{1} e_{1}+x_{2} e_{2}+x_{3} e_{3} \mid x_{i} \in \boldsymbol{R}\right\} .`	$\boldsymbol{H}=\left\{x_{0}+x_{1} e_{1}+x_{2} e_{2}+x_{3} e_{3} \mid x_{i} \in \boldsymbol{R}\right\} .$	$\boldsymbol{H}=\left\{x_0+x_1e_1+x_2e_2+x_3e_3\mid x_i\in\boldsymbol{R}\right\}.$
0902.0431_EQ0126	24	■1.000	`x=m+a e_{4}, \quad m, a \in \boldsymbol{H} .`	$x=m+a e_{4}, \quad m, a \in \boldsymbol{H} .$	$x=m+ae_4, \quad m,a\in\boldsymbol{H}.$

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0902.0431_EQ0127	24	■1.000	`\begin{aligned} \left(m+a e_{4}\right)\left(n+b e_{4} \right) & =(m n-\bar{b} a)+(a \bar{n}+b m) e_{4}, \\ \left(m+a e_{4}, n+b e_{4}\right) & =(m, n)+(a, b), \\ \ \overline{m+a e_{4}} & =\bar{m}-a e_{4}, \\ \gamma \left(m+a e_{4}\right) & =m-a e_{4} . \end{aligned}`	$\begin{aligned} (m+ae_4)\,(n+be_4) &= (mn-\bar{b}a)+(a\bar{n}+bm)e_4, \\ (m+ae_4, n+be_4) &= (m,n)+(a,b), \\ \overline{m+ae_4} &= \bar{m}-ae_4, \\ \gamma\,(m+ae_4) &= m-ae_4. \end{aligned}$	$\begin{aligned} (m+ae_4)(n+be_4) &= (mn-\overline{b}a)+(a\overline{n}+bm)e_4, \\ (m+ae_4, n+be_4) &= (m,n)+(a,b), \\ \overline{m+ae_4} &= \overline{m}-ae_4, \\ \gamma(m+ae_4) &= m-ae_4. \end{aligned}$
0902.0431_EQ0128	24	■1.000	`\boldsymbol{H} \oplus \boldsymbol{H} e_{4}=\mathfrak{C} .`	$\boldsymbol{H} \oplus \boldsymbol{H} e_4=\mathfrak{C}.$	$\boldsymbol{H} \oplus \boldsymbol{H} e_4=\mathfrak{C}.$
0902.0431_EQ0129	24	■1.000	`\left(G_{2}\right)^{\gamma}=\left\{\alpha \in G_{2} \mid \gamma \alpha=\alpha \gamma\right\} .`	$(G_2)^\gamma=\{\alpha \in G_2 \mid \gamma\alpha=\alpha\gamma\}.$	$(G_2)^\gamma=\{\alpha \in G_2 \mid \gamma\alpha=\alpha\gamma\}.$
0902.0431_EQ0130	24	■1.000	`\varphi(p, q)\left(m+a e_{4}\right)=q m \bar{q}+(p a \bar{q}) e_{4}, \quad m+a e_{4} \in \boldsymbol{H} \oplus \boldsymbol{H} e_{4}=\mathfrak{C} .`	$\varphi(p,q)\,(m+ae_4)=qm\bar{q}+(pa\bar{q})e_4, \quad m+ae_4 \in \boldsymbol{H} \oplus \boldsymbol{H} e_4=\mathfrak{C}.$	$\varphi(p,q)(m+ae_4)=qm\overline{q}+(pa\overline{q})e_4, \quad m+ae_4 \in \boldsymbol{H} \oplus \boldsymbol{H} e_4=\mathfrak{C}.$
0902.0431_EQ0132	25	■1.000	`\alpha m=q m \bar{q}, \quad m \in \boldsymbol{H}`	$\alpha m=qm\bar{q}, \quad m \in \boldsymbol{H}$	$\alpha m=qm\overline{q}, \quad m \in \boldsymbol{H}$
0902.0431_EQ0135	25	■1.000	`f(p, q) x=p x \bar{q}, \quad x \in \boldsymbol{H}`	$f(p,q)x=px\bar{q}, \quad x \in \boldsymbol{H}$	$f(p,q)x=px\overline{q}, \quad x \in \boldsymbol{H}$
0902.0431_EQ0137	26	■1.000	`z\left(G_{2}\right)=\{1\} .`	$z\,(G_2)=\{1\}.$	$z(G_2)=\{1\}.$
0902.0431_EQ0140	26	■1.000	`(\alpha x, \alpha y)=(x, y), \quad x, y \in \mathfrak{C}^{C} .`	$(\alpha x, \alpha y)=(x,y), \quad x,y \in \mathfrak{C}^C.$	$(\alpha x, \alpha y)=(x,y), \quad x,y \in \mathfrak{C}^C.$
0902.0431_EQ0141	26	■1.000	`\overline{\alpha e_{k}}=-\alpha e_{k}, \quad k=1,2, \cdots, 7 .`	$\overline{\alpha e_k}=-\alpha e_k, \quad k=1,2,\cdots,7.$	$\overline{\alpha e_k}=-\alpha e_k, \quad k=1,2,\cdots,7.$
0902.0431_EQ0144	26	■1.000	`\langle x, y\rangle=(\tau x, y),`	$\langle x,y\rangle=(\tau x,y),$	$\langle x,y\rangle=(\tau x,y),$
0902.0431_EQ0149	27	■1.000	`G_{2(2)}=\left\{\alpha \in \operatorname{Iso}_{ \boldsymbol{R}}\left(\mathfrak{C}^{\prime}\right) \mid \alpha(x y)=(\alpha x)(\alpha y)\right\} .`	$G_{2(2)}=\{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}\left(\mathfrak{C}'\right) \mid \alpha(xy)=(\alpha x)(\alpha y)\}.$	$G_{2(2)}=\{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}(\mathfrak{C}') \mid \alpha(xy)=(\alpha x)(\alpha y)\}.$
0902.0431_EQ0150	28	■1.000	`G_{2(2)}=\left(G_{2}{ }^{C}\right)^{\tau \gamma}=\left\{ \alpha \in G_{2}{ }^{C} \mid \tau \gamma \alpha=\alpha \gamma \tau\right\} .`	$G_{2(2)}=\left(G_2{}^C\right)^{\tau\gamma}=\left\{\alpha \in G_2{}^C \mid \tau\gamma\alpha=\alpha\gamma\tau\right\}.$	$G_{2(2)}=(G_2{}^C)^{\tau\gamma}=\{\alpha \in G_2{}^C \mid \tau\gamma\alpha=\alpha\gamma\tau\}.$
0902.0431_EQ0153	28	■1.000	`z\left(G_{2(2)}\right)=\{1\} .`	$z\left(G_{2(2)}\right)=\{1\}.$	$z(G_{2(2)})=\{1\}.$
0902.0431_EQ0155	28	■1.000	`A=D_{a_{m}} \cdots D_{a_{2}} D_{a_{1}}, \quad a_{i} \in S^{n-1}`	$A=D_{a_m}\cdots D_{a_2}D_{a_1}, \quad a_i \in S^{n-1}$	$A=D_{a_m}\cdots D_{a_2}D_{a_1}, \quad a_i \in S^{n-1}.$
0902.0431_EQ0156	28	■1.000	`A=D_{a_{2 m}} \cdots D_{a_{2}} D_{a_{1}}, \quad a_{i} \in S^{n-1}`	$A=D_{a_{2m}}\cdots D_{a_2}D_{a_1}, \quad a_i \in S^{n-1}$	$A=D_{a_{2m}}\cdots D_{a_2}D_{a_1}, \quad a_i \in S^{n-1}.$
0902.0431_EQ0157	28	■1.000	`S O(\mathfrak{C})=\left\{\alpha \in \operatorname{Iso}_{ \boldsymbol{R}}(\mathfrak{C}) \mid(\alpha x, \alpha y)=(x, y), \operatorname{det} \alpha=1\right\} .`	$SO(\mathfrak{C})=\{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}(\mathfrak{C}) \mid (\alpha x,\alpha y)=(x,y), \det\alpha=1\}.$	$SO(\mathfrak{C})=\{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}(\mathfrak{C}) \mid (\alpha x,\alpha y)=(x,y), \det\alpha=1\}.$
0902.0431_EQ0159	29	■1.000	`D_{a} x=x-2(x, a) a=x-(x \bar{a}+a \bar{x}) a=-a \bar{x} a, \quad x \in \mathfrak{C},`	$D_a x=x-2(x,a)a=x-(x\bar{a}+a\bar{x})a=-a\bar{x}a, \quad x \in \mathfrak{C},$	$D_a x=x-2(x,a)a=x-(x\overline{a}+a\overline{x})a=-a\overline{x}a, \quad x \in \mathfrak{C},$
0902.0431_EQ0160	29	■1.000	`\left(\alpha_{1} x\right)\left(\alpha_{2} y\right)=(b( \bar{a} x))((y \bar{a}) b)=b(\bar{a}(x y) \bar{a}) b= \alpha_{3}(x y), \quad x, y \in \mathfrak{C} .`	$(\alpha_1 x)\,(\alpha_2 y)=(b(\bar{a}x))((y\bar{a})b)=b(\bar{a}(xy)\bar{a})b=\alpha_3(xy), \quad x,y \in \mathfrak{C}.$	$(\alpha_1 x)(\alpha_2 y)=(b(\overline{a}x))((y\overline{a})b)=b(\overline{a}(xy)\overline{a})b=\alpha_3(xy), \quad x,y \in \mathfrak{C}.$
0902.0431_EQ0163	29	■1.000	`(x p) y=x(p y), \quad x, y \in \mathfrak{C} .`	$(xp)y=x(py), \quad x,y \in \mathfrak{C}.$	$(xp)y=x(py), \quad x,y \in \mathfrak{C}.$
0902.0431_EQ0167	30	■1.000	`\left(\alpha_{2} y\right)\left(\alpha_{3} z\right)= \overline{\alpha_{1}(\overline{y z})} .`	$(\alpha_2 y)\,(\alpha_3 z)=\overline{\alpha_1(\overline{yz})}.$	$(\alpha_2 y)(\alpha_3 z)=\overline{\alpha_1(\overline{yz})}.$
0902.0431_EQ0168	30	■1.000	`\left(\alpha_{1} x\right)\left(\alpha_{2} y\right)= \alpha_{3}(x y), \quad x, y \in \mathfrak{C},`	$(\alpha_1 x)\,(\alpha_2 y)=\alpha_3(xy), \quad x,y \in \mathfrak{C},$	$(\alpha_1 x)(\alpha_2 y)=\alpha_3(xy), \quad x,y \in \mathfrak{C},$

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0902.0431_EQ0169	30	■1.000	`\left(\beta_{1}\left(\alpha_{1} x\right)\right)\left(\beta_{2}\left(\alpha_{2} y\right)\right)=\beta_{3}\left(\left(\alpha_{1} x\right)\left(\alpha_{2} y\right)\right)=\beta_{3}\left(\alpha_{3}(x y)\right), \quad x, y \in \mathfrak{C} .`	$\left(\beta_1\left(\alpha_1 x\right)\right)\left(\beta_2\left(\alpha_2 y\right)\right)=\beta_3\left(\left(\alpha_1 x\right)\left(\alpha_2 y\right)\right)=\beta_3\left(\alpha_3(x y)\right), \quad x, y \in \mathfrak{C} .$	$\left(\beta_1\left(\alpha_1 x\right)\right)\left(\beta_2\left(\alpha_2 y\right)\right)=\beta_3\left(\left(\alpha_1 x\right)\left(\alpha_2 y\right)\right)=\beta_3\left(\alpha_3(x y)\right), \quad x, y \in \mathfrak{C} .$
0902.0431_EQ0170	30	■1.000	`\bar{x}\left(\gamma_{2} y\right)=\gamma_{3}(x y), \quad x, y \in \mathfrak{C} .`	$\bar{x}\left(\gamma_2 y\right)=\gamma_3(x y), \quad x, y \in \mathfrak{C} .$	$\bar{x}\left(\gamma_2 y\right)=\gamma_3(x y), \quad x, y \in \mathfrak{C} .$
0902.0431_EQ0171 (i)	30	■1.000	`\bar{x}\left(\gamma_{2} y\right)=\gamma_{2}(x y), \quad x, y \in \mathfrak{C} .`	$\bar{x}\left(\gamma_2 y\right)=\gamma_2(x y), \quad x, y \in \mathfrak{C} .$	$\bar{x}\left(\gamma_2 y\right)=\gamma_2(x y), \quad x, y \in \mathfrak{C} .$
0902.0431_EQ0173	30	■1.000	`p x=x p \quad \text { for all } x \in \mathfrak{C} .`	$p x=x p \quad \text { for all } x \in \mathfrak{C} .$	$p x=x p \quad \text { for all } x \in \mathfrak{C} .$
0902.0431_EQ0174	30	■1.000	`x y=y x \quad \text { for all } x, y \in \mathfrak{C} .`	$x y=y x \quad \text { for all } x, y \in \mathfrak{C} .$	$x y=y x \quad \text { for all } x, y \in \mathfrak{C} .$
0902.0431_EQ0175	31	■1.000	`\alpha_{a} x=a x a^{-1}, \quad x \in \mathfrak{C}`	$\alpha_a x=a x a^{-1}, \quad x \in \mathfrak{C}$	$\alpha_a x=a x a^{-1}, \quad x \in \mathfrak{C}$
0902.0431_EQ0177	31	■1.000	`(a x \bar{a})\left(a y a^{2}\right)=a(x y) a^{2}, \quad x, y \in \mathfrak{C} .`	$(a x \bar{a})\left(a y a^2\right)=a(x y) a^2, \quad x, y \in \mathfrak{C} .$	$(a x \bar{a})\left(a y a^2\right)=a(x y) a^2, \quad x, y \in \mathfrak{C} .$
0902.0431_EQ0179	31	■1.000	`a y a^{2}= \pm a y \bar{a} .`	$a y a^2=\pm a y \bar{a} .$	$a y a^2=\pm a y \bar{a} .$
0902.0431_EQ0184	32	■1.000	`a_{5} b_{0}=a_{1}\left(a_{4} b_{0}\right), \quad a_{6} b_{0}=a_{2}\left(a_{4} b_{0}\right), \quad a_{7} b_{0}=a_{6}\left(a_{1} b_{0}\right) .`	$a_5 b_0=a_1\left(a_4 b_0\right), \quad a_6 b_0=a_2\left(a_4 b_0\right), \quad a_7 b_0=a_6\left(a_1 b_0\right) .$	$a_5 b_0=a_1\left(a_4 b_0\right), \quad a_6 b_0=a_2\left(a_4 b_0\right), \quad a_7 b_0=a_6\left(a_1 b_0\right) .$
0902.0431_EQ0186	32	■1.000	`\alpha e_{i}=a_{i}, \quad i=0,1, \cdots, 7`	$\alpha e_i=a_i, \quad i=0,1, \cdots, 7$	$\alpha e_i=a_i, \quad i=0,1, \cdots, 7$
0902.0431_EQ0188	32	■1.000	`\left(\alpha e_{i}\right)\left(\left(\alpha e_{j}\right) b_{0}\right)=\left(\alpha\left(e_{i} e_{j}\right)\right) b_{0}, \quad i, j=0,1, \cdots, 7 .`	$\left(\alpha e_i\right)\left(\left(\alpha e_j\right) b_0\right)=\left(\alpha\left(e_i e_j\right)\right) b_0, \quad i, j=0,1, \cdots, 7 .$	$\left(\alpha e_i\right)\left(\left(\alpha e_j\right) b_0\right)=\left(\alpha\left(e_i e_j\right)\right) b_0, \quad i, j=0,1, \cdots, 7 .$
0902.0431_EQ0190	33	■1.000	`b_{i}=a_{i} b_{0}, \quad i=0,1, \cdots, 7,`	$b_i=a_i b_0, \quad i=0,1, \cdots, 7,$	$b_i=a_i b_0, \quad i=0,1, \cdots, 7,$
0902.0431_EQ0193	33	■1.000	`\widetilde{B}_{3} \cong \operatorname{Spin}(7) .`	$\widetilde{B}_3 \cong \operatorname{Spin}(7) .$	$\widetilde{B}_3 \cong \operatorname{Spin}(7) .$
0902.0431_EQ0196	33	■1.000	`\widetilde{B}_{3} /\{1,-1\} \cong S O(7) .`	$\widetilde{B}_3 /\{1,-1\} \cong S O(7) .$	$\widetilde{B}_3 /\{1,-1\} \cong S O(7) .$
0902.0431_EQ0198	34	■1.000	`\operatorname{Spin}(7) \ni \widetilde{\alpha} \longleftrightarrow(\alpha, \widetilde{\alpha}, \kappa \widetilde{\alpha}) \in \widetilde{D}_{4} .`	$\operatorname{Spin}(7) \ni \widetilde{\alpha} \longleftrightarrow(\alpha, \widetilde{\alpha}, \kappa \widetilde{\alpha}) \in \widetilde{D}_4 .$	$\operatorname{Spin}(7) \ni \widetilde{\alpha} \longleftrightarrow(\alpha, \widetilde{\alpha}, \kappa \widetilde{\alpha}) \in \widetilde{D}_4 .$
0902.0431_EQ0199	34	■1.000	`\widetilde{D}_{4} / \operatorname{Spin}(7) \simeq S^{7} .`	$\widetilde{D}_4 / \operatorname{Spin}(7) \simeq S^7 .$	$\widetilde{D}_4 / \operatorname{Spin}(7) \simeq S^7 .$
0902.0431_EQ0202	34	■1.000	`\widetilde{D}_{4} \cong \operatorname{Spin}(8) .`	$\widetilde{D}_4 \cong \operatorname{Spin}(8) .$	$\widetilde{D}_4 \cong \operatorname{Spin}(8) .$
0902.0431_EQ0203	34	■1.000	`p\left(\alpha_{1}, \alpha_{2}, \alpha_{3}\right)= \alpha_{1} .`	$p\left(\alpha_1, \alpha_2, \alpha_3\right)=\alpha_1 .$	$p\left(\alpha_1, \alpha_2, \alpha_3\right)=\alpha_1 .$
0902.0431_EQ0204	34	■1.000	`\widetilde{D}_{4} /\{(1,1,1),(1,-1,-1)\} \cong S O(8) .`	$\widetilde{D}_4 /\{(1,1,1),(1,-1,-1)\} \cong S O(8) .$	$\widetilde{D}_4 /\{(1,1,1),(1,-1,-1)\} \cong S O(8) .$
0902.0431_EQ0205	34	■1.000	`\begin{aligned} z(\operatorname{Spin}(8)) & = \{(1,1,1),(1,-1,-1),(-1,-1,1),(-1,1,-1)\} \\ & = \{(1,1,1),(1,-1,-1)\} \times\{(1,1,1),(-1,-1,1)\} \cong \boldsymbol{Z}_{2} \times \boldsymbol{Z}_{2} . \end{aligned}`	$\begin{aligned} z(\operatorname{Spin}(8)) & =\{(1,1,1),(1,-1,-1),(-1,-1,1),(-1,1,-1)\} \\ & =\{(1,1,1),(1,-1,-1)\} \times\{(1,1,1),(-1,-1,1)\} \cong \boldsymbol{Z}_2 \times \boldsymbol{Z}_2 . \end{aligned}$	$\begin{aligned} z(\operatorname{Spin}(8)) & =\{(1,1,1),(1,-1,-1),(-1,-1,1),(-1,1,-1)\} \\ & =\{(1,1,1),(1,-1,-1)\} \times\{(1,1,1),(-1,-1,1)\} \cong \boldsymbol{Z}_2 \times \boldsymbol{Z}_2 . \end{aligned}$
0902.0431_EQ0207	35	■1.000	`\kappa^{2}=1, \quad \pi^{2}=1, \quad \nu^{3}=1, \quad \nu=\pi \kappa .`	$\kappa^2=1, \quad \pi^2=1, \quad \nu^3=1, \quad \nu=\pi \kappa .$	$\kappa^2=1, \quad \pi^2=1, \quad \nu^3=1, \quad \nu=\pi \kappa .$
0902.0431_EQ0210	35	■1.000	`S O(8) \cong S s(8)`	$S O(8) \cong S s(8)$	$S O(8) \cong S s(8)$
0902.0431_EQ0212 (i)	35	■1.000	`(\alpha x)(\alpha y)=\kappa \alpha(x y), \quad x, y \in \mathfrak{C},`	$(\alpha x)(\alpha y)=\kappa \alpha(x y), \quad x, y \in \mathfrak{C},$	$(\alpha x)(\alpha y)=\kappa \alpha(x y), \quad x, y \in \mathfrak{C},$
0902.0431_EQ0213	35	■1.000	`a(\alpha x)=(\alpha x) a \quad \text { for all } \quad x \in \mathfrak{C} .`	$a(\alpha x)=(\alpha x) a \quad \text { for all } \quad x \in \mathfrak{C} .$	$a(\alpha x)=(\alpha x) a \quad \text { for all } \quad x \in \mathfrak{C} .$
0902.0431_EQ0214	35	■1.000	`\nu^{2}(-1,-1,1)=(1,-1,-1),`	$\nu^2(-1,-1,1)=(1,-1,-1),$	$\nu^2(-1,-1,1)=(1,-1,-1),$
0902.0431_EQ0215	36	■1.000	`\mathfrak{J}=\left\{X \in M(3, \mathfrak{C}) \mid X^{*}=X \right\},`	$\mathfrak{J}=\left\{X \in M(3, \mathfrak{C}) \mid X^*=X\right\},$	$\mathfrak{J}=\left\{X \in M(3, \mathfrak{C}) \mid X^*=X\right\},$

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0902.0431_EQ0217	36	1.000	X \circ Y=\frac{1}{2}(X Y+Y X)	$X \circ Y=\frac{1}{2}(X Y+Y X)$	$X \circ Y=\frac{1}{2}(X Y+Y X).$
0902.0431_EQ0218	36	1.000	\begin{gathered} \operatorname{tr}(X)=\xi_{1}+\xi_{2}+ \xi_{3}, \quad X=X(\xi, x), \\ (X, Y)=\operatorname{tr}(X \circ Y), \quad \operatorname{tr}(X, Y, Z)=(X, Y \circ Z) . \end{gathered}	$\operatorname{tr}(X)=\xi_{1}+\xi_{2}+\xi_{3}, \quad X=X(\xi, x),$ $(X, Y)=\operatorname{tr}(X \circ Y), \quad \operatorname{tr}(X, Y, Z)=(X, Y \circ Z).$	$\operatorname{tr}(X)=\xi_{1}+\xi_{2}+\xi_{3}, \quad X=X(\xi, x),$ $(X, Y)=\operatorname{tr}(X \circ Y), \quad \operatorname{tr}(X, Y, Z)=(X, Y \circ Z).$
0902.0431_EQ0219	36	1.000	X \times Y=\frac{1}{2}(2 X \circ Y-\operatorname{tr}(X) Y-\operatorname{tr}(Y) X+(\operatorname{tr}(X) \operatorname{tr}(Y)-(X, Y)) E),	$X \times Y=\frac{1}{2}(2 X \circ Y-\operatorname{tr}(X) Y-\operatorname{tr}(Y) X+(\operatorname{tr}(X) \operatorname{tr}(Y)-(X, Y)) E),$	$X \times Y=\frac{1}{2}(2 X \circ Y-\operatorname{tr}(X) Y-\operatorname{tr}(Y) X+(\operatorname{tr}(X) \operatorname{tr}(Y)-(X, Y)) E),$
0902.0431_EQ0220	36	1.000	(X, Y, Z)=(X, Y \times Z), \quad \operatorname{det} X= \frac{1}{3}(X, X, X) .	$(X, Y, Z)=(X, Y \times Z), \quad \operatorname{det} X=\frac{1}{3}(X, X, X).$	$(X, Y, Z)=(X, Y \times Z), \quad \operatorname{det} X=\frac{1}{3}(X, X, X).$
0902.0431_EQ0227	38	1.000	F_{4}=\left\{\alpha \in \operatorname{Iso}_{ \boldsymbol{R}}(\mathfrak{J}) \mid \alpha(X \circ Y)= \alpha X \circ \alpha Y\right\} .	$F_{4}=\left\{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}(\mathfrak{J}) \mid \alpha(X \circ Y)=\alpha X \circ \alpha Y\right\} .$	$F_{4}=\left\{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}(\mathfrak{J}) \mid \alpha(X \circ Y)=\alpha X \circ \alpha Y\right\}.$
0902.0431_EQ0228 (i)	38	1.000	X \circ(X \circ X)-\operatorname{tr}(X) X^{2}+\frac{1}{2} \left(\operatorname{tr}(X)^{2}-\operatorname{tr} \left(X^{2}\right)\right) X=(\operatorname{det} X) E .	$X \circ(X \circ X)-\operatorname{tr}(X) X^{2}+\frac{1}{2}\left(\operatorname{tr}(X)^{2}-\operatorname{tr}\left(X^{2}\right)\right) X=(\operatorname{det} X) E.$	$X \circ(X \circ X)-\operatorname{tr}(X) X^{2}+\frac{1}{2}(\operatorname{tr}(X)^{2}-\operatorname{tr}(X^{2})) X=(\operatorname{det} X) E.$
0902.0431_EQ0229 (ii)	38	1.000	X \circ(X \circ X)-\operatorname{tr}(\alpha X) X^{2}+ \frac{1}{2}\left(\operatorname{tr}(\alpha X)^{2}- \operatorname{tr}\left(\left(\alpha X^{2}\right)\right) X=(\operatorname{det} \alpha X) E .\right.	$X \circ(X \circ X)-\operatorname{tr}(\alpha X) X^{2}+\frac{1}{2}\left(\operatorname{tr}(\alpha X)^{2}-\operatorname{tr}\left(\left(\alpha X^{2}\right)\right) X=(\operatorname{det} \alpha X) E.\right.$	$X \circ(X \circ X)-\operatorname{tr}(\alpha X) X^{2}+\frac{1}{2}(\operatorname{tr}(\alpha X)^{2}-\operatorname{tr}((\alpha X^{2})) X=(\operatorname{det} \alpha X) E.$
0902.0431_EQ0231	38	1.000	\begin{aligned} & \operatorname{tr}\left(\alpha F_{i} \left(e_{j}\right)\right)\left(E_{i+1}+E_{i+2}\right)+ \frac{1}{2}\left(-\operatorname{tr}\left(\alpha F_{i} \left(e_{j}\right)\right)^{2}+\operatorname{tr} \left(\left(\alpha F_{i}\left(e_{j}\right)\right)^{2} \right)-2\right) F_{i}\left(e_{j}\right) \\ & \quad=- \operatorname{det}\left(\alpha F_{i}\left(e_{j}\right) \right) E . \end{aligned}	$\begin{aligned} & \operatorname{tr}\left(\alpha F_{i}\left(e_{j}\right)\right)\left(E_{i+1}+E_{i+2}\right)+\frac{1}{2}\left(-\operatorname{tr}\left(\alpha F_{i}\left(e_{j}\right)\right)^{2}+\operatorname{tr}\left(\left(\alpha F_{i}\left(e_{j}\right)\right)^{2}\right)-2\right) F_{i}\left(e_{j}\right) \\ & \quad=-\operatorname{det}\left(\alpha F_{i}\left(e_{j}\right)\right) E. \end{aligned}$	$\begin{aligned} & \operatorname{tr}(\alpha F_{i}(e_{j}))(E_{i+1}+E_{i+2})+\frac{1}{2}(-\operatorname{tr}(\alpha F_{i}(e_{j}))^{2}+\operatorname{tr}((\alpha F_{i}(e_{j}))^{2})-2) F_{i}(e_{j}) \\ & \quad=-\operatorname{det}(\alpha F_{i}(e_{j})) E. \end{aligned}$
0902.0431_EQ0232	38	1.000	\operatorname{tr}\left(\alpha F_{i}\left(e_{j}\right) \right)=0\left(=\operatorname{tr}\left(F_{i}\left(e_{j} \right)\right)\right)	$\operatorname{tr}\left(\alpha F_{i}\left(e_{j}\right)\right)=0\left(=\operatorname{tr}\left(F_{i}\left(e_{j}\right)\right)\right)$	$\operatorname{tr}(\alpha F_{i}(e_{j}))=0\ (=\operatorname{tr}(F_{i}(e_{j})))$
0902.0431_EQ0233	38	1.000	\operatorname{tr}\left(\alpha E_{i}\right)= \operatorname{tr}\left(\alpha\left(E-F_{i}(1)^{2} \right)\right)=\operatorname{tr}(E)-\operatorname{tr} \left(\left(\alpha F_{i}(1)\right)^{2}\right)=3-2=1= \operatorname{tr}\left(E_{i}\right),	$\operatorname{tr}\left(\alpha E_{i}\right)=\operatorname{tr}\left(\alpha\left(E-F_{i}(1)^{2}\right)\right)=\operatorname{tr}(E)-\operatorname{tr}\left(\left(\alpha F_{i}(1)\right)^{2}\right)=3-2=1=\operatorname{tr}\left(E_{i}\right),$	$\operatorname{tr}(\alpha E_{i})=\operatorname{tr}(\alpha(E-F_{i}(1)^{2}))=\operatorname{tr}(E)-\operatorname{tr}((\alpha F_{i}(1))^{2})=3-2=1=\operatorname{tr}(E_{i}),$
0902.0431_EQ0236	39	1.000	{ }^{t} \alpha^{-1}((\operatorname{det} X) X) \times{ }^{t} \alpha^{-1}((\operatorname{det} X) X)=\alpha((\operatorname{det} X) X \times(\operatorname{det} X) X) .	${}^{t}\alpha^{-1}((\operatorname{det} X) X) \times {}^{t}\alpha^{-1}((\operatorname{det} X) X)=\alpha((\operatorname{det} X) X \times(\operatorname{det} X) X).$	${}^{t}\alpha^{-1}((\operatorname{det} X) X) \times {}^{t}\alpha^{-1}((\operatorname{det} X) X)=\alpha((\operatorname{det} X) X \times(\operatorname{det} X) X).$
0902.0431_EQ0238 (1)	40	1.000	\alpha(X \circ Y)=\alpha X \circ \alpha Y .	$\alpha(X \circ Y)=\alpha X \circ \alpha Y.$	$\alpha(X \circ Y)=\alpha X \circ \alpha Y.$
0902.0431_EQ0239 (2)	40	1.000	\operatorname{tr}(\alpha X, \alpha Y, \alpha Z)= \operatorname{tr}(X, Y, Z),(\alpha X, \alpha Y)=(X, Y) .	$\operatorname{tr}(\alpha X, \alpha Y, \alpha Z)=\operatorname{tr}(X, Y, Z),(\alpha X, \alpha Y)=(X, Y).$	$\operatorname{tr}(\alpha X, \alpha Y, \alpha Z)=\operatorname{tr}(X, Y, Z),\ (\alpha X, \alpha Y)=(X, Y).$
0902.0431_EQ0241 (4)	40	1.000	\operatorname{det}(\alpha X)=\operatorname{det} X, \alpha E=E .	$\operatorname{det}(\alpha X)=\operatorname{det} X, \alpha E=E.$	$\operatorname{det}(\alpha X)=\operatorname{det} X,\ \alpha E=E.$
0902.0431_EQ0242 (5)	40	1.000	\alpha(X \times Y)=\alpha X \times \alpha Y .	$\alpha(X \times Y)=\alpha X \times \alpha Y.$	$\alpha(X \times Y)=\alpha X \times \alpha Y.$

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0902.0431_EQ0245	40	1.000	`\alpha X \circ \alpha E=\alpha(X \times E)=\frac{1}{2} \alpha(\operatorname{tr}(X) E-X),`	$\alpha X \circ \alpha E=\alpha(X \times E)=\frac{1}{2} \alpha(\operatorname{tr}(X) E-X),$	$\alpha X \circ \alpha E=\alpha(X \times E)=\frac{1}{2} \alpha(\operatorname{tr}(X) E-X),$
0902.0431_EQ0246	40	1.000	`\alpha X \times P=\frac{1}{2} \operatorname{tr}(X) P-\frac{1}{2} \alpha X, \quad X \in \mathfrak{J} .`	$\alpha X \times P=\frac{1}{2} \operatorname{tr}(X) P-\frac{1}{2} \alpha X, \quad X \in \mathfrak{J} .$	$\alpha X \times P=\frac{1}{2} \operatorname{tr}(X) P-\frac{1}{2} \alpha X, \quad X \in \mathfrak{J} .$
0902.0431_EQ0247	40	1.000	`\begin{aligned} & \frac{1}{2}\left(\rho_{2} E_{3}+\rho_{3} E_{2}-F_{1}\left(p_{1}\right)\right) \\ & \quad=\frac{1}{2}\left(\lambda\left(\rho_{1} E_{1}+\rho_{2} E_{2}+\rho_{3} E_{3}+F_{1}\left(p_{1}\right)+F_{2}\left(p_{2}\right)+F_{3}\left(p_{3}\right)\right)-E_{1}\right) \end{aligned}`	$\begin{aligned} & \frac{1}{2}\left(\rho_{2} E_{3}+\rho_{3} E_{2}-F_{1}\left(p_{1}\right)\right) \\ & \quad=\frac{1}{2}\left(\lambda\left(\rho_{1} E_{1}+\rho_{2} E_{2}+\rho_{3} E_{3}+F_{1}\left(p_{1}\right)+F_{2}\left(p_{2}\right)+F_{3}\left(p_{3}\right)\right)-E_{1}\right) \end{aligned}$	$\begin{aligned} & \frac{1}{2}\left(\rho_{2} E_{3}+\rho_{3} E_{2}-F_{1}\left(p_{1}\right)\right) \\ & \quad=\frac{1}{2}\left(\lambda\left(\rho_{1} E_{1}+\rho_{2} E_{2}+\rho_{3} E_{3}+F_{1}\left(p_{1}\right)+F_{2}\left(p_{2}\right)+F_{3}\left(p_{3}\right)\right)-E_{1}\right), \end{aligned}$
0902.0431_EQ0248	41	1.000	`0=\lambda \rho_{1}-1, \quad \rho_{3}=\lambda \rho_{2}, \quad \rho_{2}=\lambda \rho_{3}, \quad-p_{1}=\lambda p_{1}, \quad 0=\lambda p_{2}, \quad 0=\lambda p_{3} .`	$0=\lambda \rho_{1}-1, \quad \rho_{3}=\lambda \rho_{2}, \quad \rho_{2}=\lambda \rho_{3}, \quad-p_{1}=\lambda p_{1}, \quad 0=\lambda p_{2}, \quad 0=\lambda p_{3} .$	$0=\lambda \rho_{1}-1, \quad \rho_{3}=\lambda \rho_{2}, \quad \rho_{2}=\lambda \rho_{3}, \quad-p_{1}=\lambda p_{1}, \quad 0=\lambda p_{2}, \quad 0=\lambda p_{3} .$
0902.0431_EQ0249	41	1.000	`-\frac{1}{2} \rho_{1} F_{1}(1)=\frac{1}{2}\left(\mu \left(\rho_{1} E_{1}+\rho_{2} E_{2}+\rho_{3} E_{3} \right)-F_{1}(1)\right),`	$-\frac{1}{2} \rho_{1} F_{1}(1)=\frac{1}{2}\left(\mu \left(\rho_{1} E_{1}+\rho_{2} E_{2}+\rho_{3} E_{3} \right)-F_{1}(1)\right),$	$-\frac{1}{2} \rho_{1} F_{1}(1)=\frac{1}{2}\left(\mu \left(\rho_{1} E_{1}+\rho_{2} E_{2}+\rho_{3} E_{3} \right)-F_{1}(1)\right),$
0902.0431_EQ0251	41	1.000	`(\alpha X, \alpha Y)=(X, Y) .`	$(\alpha X, \alpha Y)=(X, Y) .$	$(\alpha X, \alpha Y)=(X, Y) .$
0902.0431_EQ0254	41	1.000	`\widetilde{\alpha}\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right)=\left(\begin{array}{ccc} \xi_{1} & \alpha x_{3} & \overline{\alpha x_{2}} \\ \overline{\alpha x_{3}} & \xi_{2} & \alpha x_{1} \\ \alpha x_{2} & \overline{\alpha x_{1}} & \xi_{3} \end{array}\right) .`	$\widetilde{\alpha}\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right)=\left(\begin{array}{ccc} \xi_{1} & \alpha x_{3} & \overline{\alpha x_{2}} \\ \overline{\alpha x_{3}} & \xi_{2} & \alpha x_{1} \\ \alpha x_{2} & \overline{\alpha x_{1}} & \xi_{3} \end{array}\right) .$	$\widetilde{\alpha}\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right)=\left(\begin{array}{ccc} \xi_{1} & \alpha x_{3} & \overline{\alpha x_{2}} \\ \overline{\alpha x_{3}} & \xi_{2} & \alpha x_{1} \\ \alpha x_{2} & \overline{\alpha x_{1}} & \xi_{3} \end{array}\right) .$
0902.0431_EQ0258	42	1.000	`\mathfrak{M}^{-}=\left\{A \in M(3, \mathfrak{C}) \mid A^{*}=-A\right\} .`	$\mathfrak{M}^{-}=\left\{A \in M(3, \mathfrak{C}) \mid A^{*}=-A\right\} .$	$\mathfrak{M}^{-}=\left\{A \in M(3, \mathfrak{C}) \mid A^{*}=-A\right\} .$
0902.0431_EQ0261	42	1.000	`[X, X X]=a E .`	$[X, X X]=a E .$	$[X, X X]=a E .$
0902.0431_EQ0262	42	1.000	`a_{i j}=\sum_{k, l}\left(x_{i k}\left(x_{k l} x_{l j} \right)-\left(x_{i k} x_{k l}\right) x_{l j}\right)=-\sum_{k, l}\left\{x_{i k}, x_{k l}, x_{l j}\right\}, \quad i, j=1,2,3 .`	$a_{ij}=\sum_{k,l}\left(x_{ik}\left(x_{kl}x_{lj}\right)-\left(x_{ik}x_{kl}\right)x_{lj}\right)=-\sum_{k,l}\left\{x_{ik},x_{kl},x_{lj}\right\}, \quad i,j=1,2,3.$	$a_{ij}=\sum_{k,l}\left(x_{ik}\left(x_{kl}x_{lj}\right)-\left(x_{ik}x_{kl}\right)x_{lj}\right)=-\sum_{k,l}\left\{x_{ik},x_{kl},x_{lj}\right\}, \quad i,j=1,2,3.$
0902.0431_EQ0268	43	1.000	`([A, X], X X)=0, \quad X \in \mathfrak{J} .`	$([A, X], X X)=0, \quad X \in \mathfrak{J} .$	$([A, X], X X)=0, \quad X \in \mathfrak{J} .$
0902.0431_EQ0270	44	1.000	`([A, X], Y Z+Z Y)+([A, Y], X Z+Z X)+([A, Z], X Y+Y X)=0,`	$([A, X], Y Z+Z Y)+([A, Y], X Z+Z X)+([A, Z], X Y+Y X)=0,$	$([A, X], Y Z+Z Y)+([A, Y], X Z+Z X)+([A, Z], X Y+Y X)=0,$
0902.0431_EQ0271	44	1.000	`A_{1}(a)=\left(\begin{array}{ccc} 0 & 0 & 0 \\ 0 & 0 & a \\ 0 & -\bar{a} & 0 \end{array}\right), \quad A_{2}(a)=\left(\begin{array}{ccc} 0 & 0 & -\bar{a} \\ 0 & 0 & 0 \\ a & 0 & 0 \end{array}\right), \quad A_{3}(a)=\left(\begin{array}{ccc} 0 & a & 0 \\ -\bar{a} & 0 & 0 \\ 0 & 0 & 0 \end{array}\right) .`	$A_{1}(a)=\left(\begin{array}{ccc} 0 & 0 & 0 \\ 0 & 0 & a \\ 0 & -\bar{a} & 0 \end{array}\right), \quad A_{2}(a)=\left(\begin{array}{ccc} 0 & 0 & -\bar{a} \\ 0 & 0 & 0 \\ a & 0 & 0 \end{array}\right), \quad A_{3}(a)=\left(\begin{array}{ccc} 0 & a & 0 \\ -\bar{a} & 0 & 0 \\ 0 & 0 & 0 \end{array}\right) .$	$A_{1}(a)=\left(\begin{array}{ccc} 0 & 0 & 0 \\ 0 & 0 & a \\ 0 & -\bar{a} & 0 \end{array}\right), \quad A_{2}(a)=\left(\begin{array}{ccc} 0 & 0 & -\bar{a} \\ 0 & 0 & 0 \\ a & 0 & 0 \end{array}\right), \quad A_{3}(a)=\left(\begin{array}{ccc} 0 & a & 0 \\ -\bar{a} & 0 & 0 \\ 0 & 0 & 0 \end{array}\right) .$
0902.0431_EQ0273	44	1.000	`\mathfrak{d}_{4}=\left\{\delta \in \mathfrak{f}_{4} \mid \delta E_{i}=0, i=1,2,3\right\}`	$\mathfrak{d}_{4}=\left\{\delta \in \mathfrak{f}_{4} \mid \delta E_{i}=0, i=1,2,3\right\}$	$\mathfrak{d}_{4}=\left\{\delta \in \mathfrak{f}_{4} \mid \delta E_{i}=0, i=1,2,3\right\}$
0902.0431_EQ0274	44	1.000	`\mathfrak{D}_{4}=\left\{D \in \operatorname{Hom}_{\boldsymbol{R}}(\mathfrak{C}) \mid(D x, y)+(x, D y)=0 \right\}`	$\mathfrak{D}_{4}=\left\{D \in \operatorname{Hom}_{\boldsymbol{R}}(\mathfrak{C}) \mid(D x, y)+(x, D y)=0 \right\}$	$\mathfrak{D}_{4}=\left\{D \in \operatorname{Hom}_{\boldsymbol{R}}(\mathfrak{C}) \mid(D x, y)+(x, D y)=0 \right\}$

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0902.0431_EQ0275	44	■1.000	`\mathfrak{D}_{4} \ni D_{1} \longrightarrow \delta \in \mathfrak{d}_{4}`	$\mathfrak{D}_4 \ni D_1 \longrightarrow \delta \in \mathfrak{d}_4$	$\mathfrak{D}_4 \ni D_1 \longrightarrow \delta \in \mathfrak{d}_4$
0902.0431_EQ0276	44	■1.000	`\delta\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right)=\left(\begin{array}{ccc} 0 & D_{3} x_{3} & \overline{D_{2} x_{2}} \\ \overline{D_{3} x_{3}} & 0 & D_{1} x_{1} \\ D_{2} x_{2} & \overline{D_{1} x_{1}} & 0 \end{array}\right),`	$\delta\left(\begin{array}{ccc} \xi_1 & x_3 & \bar{x}_2 \\ \bar{x}_3 & \xi_2 & x_1 \\ x_2 & \bar{x}_1 & \xi_3 \end{array}\right)=\left(\begin{array}{ccc} 0 & D_3 x_3 & \overline{D_2 x_2} \\ \overline{D_3 x_3} & 0 & D_1 x_1 \\ D_2 x_2 & \overline{D_1 x_1} & 0 \end{array}\right),$	$\delta\left(\begin{array}{ccc} \xi_1 & x_3 & \bar{x}_2 \\ \bar{x}_3 & \xi_2 & x_1 \\ x_2 & \bar{x}_1 & \xi_3 \end{array}\right)=\left(\begin{array}{ccc} 0 & D_3 x_3 & \overline{D_2 x_2} \\ \overline{D_3 x_3} & 0 & D_1 x_1 \\ D_2 x_2 & \overline{D_1 x_1} & 0 \end{array}\right),$
0902.0431_EQ0277	44	■1.000	`\left(D_{1} x\right) y+x\left(D_{2} y\right)= \overline{D_{3}(\overline{x y})}, \quad x, y \in \mathfrak{C} .`	$\left(D_1 x\right) y+x\left(D_2 y\right)= \overline{D_3(\overline{x y})}, \quad x, y \in \mathfrak{C} .$	$\left(D_1 x\right) y+x\left(D_2 y\right)= \overline{D_3(\overline{x y})}, \quad x, y \in \mathfrak{C} .$
0902.0431_EQ0281	45	■1.000	`\delta F_{i}(x)=F_{i}\left(D_{i} x\right), \quad x \in \mathfrak{C},`	$\delta F_i(x)=F_i\left(D_i x\right), \quad x \in \mathfrak{C},$	$\delta F_i(x)=F_i\left(D_i x\right), \quad x \in \mathfrak{C},$
0902.0431_EQ0284	45	■1.000	`\delta=D+\widetilde{A}, \quad D \in \mathfrak{d}_{4}, A \in \mathfrak{M}^{-}, \operatorname{diag} A=0,`	$\delta=D+\widetilde{A}, \quad D \in \mathfrak{d}_4, A \in \mathfrak{M}^{-}, \operatorname{diag} A=0,$	$\delta=D+\widetilde{A}, \quad D \in \mathfrak{d}_4, A \in \mathfrak{M}^{-}, \operatorname{diag} A=0,$
0902.0431_EQ0285	45	■1.000	`\operatorname{dim} \mathfrak{f}_{4}=28+24=52 .`	$\operatorname{dim} \mathfrak{f}_4=28+24=52 .$	$\operatorname{dim} \mathfrak{f}_4=28+24=52 .$
0902.0431_EQ0287	46	■1.000	`\delta E_{1}=\left(\begin{array}{ccc} 0 & -a_{3} & \bar{a}_{2} \\ -\bar{a}_{3} & 0 & 0 \\ a_{2} & 0 & 0 \end{array}\right), \delta E_{2}=\left(\begin{array}{ccc} 0 & a_{3} & 0 \\ \bar{a}_{3} & 0 & -a_{1} \\ 0 & -\bar{a}_{1} & 0 \end{array}\right), \delta E_{3}=\left(\begin{array}{ccc} 0 & 0 & -\bar{a}_{2} \\ 0 & 0 & a_{1} \\ -a_{2} & \bar{a}_{1} & 0 \end{array}\right),`	$\delta E_1=\left(\begin{array}{ccc} 0 & -a_3 & \bar{a}_2 \\ -\bar{a}_3 & 0 & 0 \\ a_2 & 0 & 0 \end{array}\right), \delta E_2=\left(\begin{array}{ccc} 0 & a_3 & 0 \\ \bar{a}_3 & 0 & -a_1 \\ 0 & -\bar{a}_1 & 0 \end{array}\right), \delta E_3=\left(\begin{array}{ccc} 0 & 0 & -\bar{a}_2 \\ 0 & 0 & a_1 \\ -a_2 & \bar{a}_1 & 0 \end{array}\right),$	$\delta E_1=\left(\begin{array}{ccc} 0 & -a_3 & \bar{a}_2 \\ -\bar{a}_3 & 0 & 0 \\ a_2 & 0 & 0 \end{array}\right), \delta E_2=\left(\begin{array}{ccc} 0 & a_3 & 0 \\ \bar{a}_3 & 0 & -a_1 \\ 0 & -\bar{a}_1 & 0 \end{array}\right), \delta E_3=\left(\begin{array}{ccc} 0 & 0 & -\bar{a}_2 \\ 0 & 0 & a_1 \\ -a_2 & \bar{a}_1 & 0 \end{array}\right),$
0902.0431_EQ0288	46	■1.000	`\delta E_{i}=\widetilde{A} E_{i}, \quad i=1,2,3 .`	$\delta E_i=\widetilde{A} E_i, \quad i=1,2,3 .$	$\delta E_i=\widetilde{A} E_i, \quad i=1,2,3 .$
0902.0431_EQ0290	46	■1.000	`\overline{X_{1}+i X_{2}}=\bar{X}_{1}+i \bar{X}_{2}, \quad \tau\left(X_{1}+i X_{2}\right)=X_{1}-i X_{2}, \quad X_{i} \in \mathfrak{J} .`	$\overline{X_1+i X_2}=\bar{X}_1+i \bar{X}_2, \quad \tau\left(X_1+i X_2\right)=X_1-i X_2, \quad X_i \in \mathfrak{J} .$	$\overline{X_1+i X_2}=\bar{X}_1+i \bar{X}_2, \quad \tau\left(X_1+i X_2\right)=X_1-i X_2, \quad X_i \in \mathfrak{J} .$
0902.0431_EQ0291	46	■1.000	`\tau(X \circ Y)=\tau X \circ \tau Y, \quad \tau(X \times Y)=\tau X \times \tau Y, \quad X, Y \in \mathfrak{J}^{C} .`	$\tau(X \circ Y)=\tau X \circ \tau Y, \quad \tau(X \times Y)=\tau X \times \tau Y, \quad X, Y \in \mathfrak{J}^{C} .$	$\tau(X \circ Y)=\tau X \circ \tau Y, \quad \tau(X \times Y)=\tau X \times \tau Y, \quad X, Y \in \mathfrak{J}^{C} .$
0902.0431_EQ0294	47	■1.000	`=(A,(\operatorname{det} X) E)=(\operatorname{det} X)(A, E)=(\operatorname{det} X) \operatorname{tr}(A)=0, \quad X \in \mathfrak{J}^{C} .`	$=(A,(\operatorname{det} X) E)=(\operatorname{det} X)(A, E)=(\operatorname{det} X) \operatorname{tr}(A)=0, \quad X \in \mathfrak{J}^{C} .$	$=(A,(\operatorname{det} X) E)=(\operatorname{det} X)(A, E)=(\operatorname{det} X) \operatorname{tr}(A)=0, \quad X \in \mathfrak{J}^{C} .$
0902.0431_EQ0303	48	■1.000	`\widetilde{A}_{1}(1)+\widetilde{A}_{2}(b)+ \widetilde{A}_{3}(c) \in \mathfrak{a} .`	$\widetilde{A}_1(1)+\widetilde{A}_2(b)+\widetilde{A}_3(c) \in \mathfrak{a} .$	$\widetilde{A}_1(1)+\widetilde{A}_2(b)+\widetilde{A}_3(c) \in \mathfrak{a} .$
0902.0431_EQ0305	49	■1.000	`-\widetilde{A}_{3}(\bar{b})+\widetilde{A}_{2}(\bar{c}) \in \mathfrak{a} \quad \text { and then } \quad \widetilde{A}_{3}(1)+\widetilde{A}_{2}\left(c^{\prime} \right) \in \mathfrak{a}`	$-\widetilde{A}_3(\bar{b})+\widetilde{A}_2(\bar{c}) \in \mathfrak{a} \quad \text { and then } \quad \widetilde{A}_3(1)+\widetilde{A}_2\left(c^{\prime}\right) \in \mathfrak{a}$	$-\widetilde{A}_3(\bar{b})+\widetilde{A}_2(\bar{c}) \in \mathfrak{a} \quad \text { and then } \quad \widetilde{A}_3(1)+\widetilde{A}_2\left(c^{\prime}\right) \in \mathfrak{a}$
0902.0431_EQ0306	49	■1.000	`[\delta,[\widetilde{A}, \widetilde{B}]]=[\widetilde{ \delta A}, \widetilde{B}]+[\widetilde{A}, \widetilde{ \delta B}] .`	$[\delta,[\widetilde{A}, \widetilde{B}]]=[\widetilde{\delta A}, \widetilde{B}]+[\widetilde{A}, \widetilde{\delta B}] .$	$[\delta,[\widetilde{A}, \widetilde{B}]]=[\widetilde{\delta A}, \widetilde{B}]+[\widetilde{A}, \widetilde{\delta B}] .$
0902.0431_EQ0308	49	■1.000	`F_{i}(1) \xrightarrow{\widetilde{A}_{i}(1)} E_{i+1}-E_{i+2} \xrightarrow{\widetilde{A}_{i+2}(1)} F_{i+2}(1) \longrightarrow \cdots \longrightarrow F_{i+1}(1),`	$F_i(1) \xrightarrow{\widetilde{A}_i(1)} E_{i+1}-E_{i+2} \xrightarrow{\widetilde{A}_{i+2}(1)} F_{i+2}(1) \longrightarrow \cdots \longrightarrow F_{i+1}(1),$	$F_i(1) \xrightarrow{\widetilde{A}_i(1)} E_{i+1}-E_{i+2} \xrightarrow{\widetilde{A}_{i+2}(1)} F_{i+2}(1) \longrightarrow \cdots \longrightarrow F_{i+1}(1),$

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0902.0431_EQ0309	49	■1.000	`0 \neq X=\xi\left(E_{1}-E_{2}\right)+\eta \left(E_{2}-E_{3}\right)+F_{1}\left(x_{1}\right)+F_{2} \left(x_{2}\right)+F_{3}\left(x_{3}\right) \in W .`	$0 \neq X=\xi\left(E_{1}-E_{2}\right)+\eta\left(E_{2}-E_{3}\right)+F_{1}\left(x_{1}\right)+F_{2}\left(x_{2}\right)+F_{3}\left(x_{3}\right) \in W .$	$0 \neq X=\xi(E_1-E_2)+\eta(E_2-E_3)+F_1(x_1)+F_2(x_2)+F_3(x_3) \in W.$
0902.0431_EQ0310	50	■1.000	`F_{1}(1)+F_{2}\left(y_{2}\right)+F_{3}\left(y_{3}\right) \in W .`	$F_{1}(1)+F_{2}\left(y_{2}\right)+F_{3}\left(y_{3}\right) \in W .$	$F_1(1)+F_2(y_2)+F_3(y_3) \in W.$
0902.0431_EQ0312	50	■1.000	`X=\xi\left(E_{1}-E_{2}\right)+\eta\left(E_{2}-E_{3} \right) \in W,`	$X=\xi\left(E_{1}-E_{2}\right)+\eta\left(E_{2}-E_{3}\right) \in W,$	$X=\xi(E_1-E_2)+\eta(E_2-E_3) \in W,$
0902.0431_EQ0313	50	■1.000	`([\widetilde{A}, \widetilde{B}] C, D)=([\widetilde{C}, \widetilde{D}] A, B) .`	$([\widetilde{A}, \widetilde{B}] C, D)=([\widetilde{C}, \widetilde{D}] A, B) .$	$([\widetilde{A}, \widetilde{B}]C, D)=([\widetilde{C}, \widetilde{D}]A, B).$
0902.0431_EQ0316	50	■1.000	`\left(\delta_{1}, \delta_{2}\right)_{4}=\sum_{i, j}\left( \left[\widetilde{A}_{i}, \widetilde{B}_{i}\right] C_{j}, D_{j}\right)=\sum_{i, j}\left(\left[\widetilde{C}_{j}, \widetilde{D}_{j}\right] A_{i}, B_{i}\right),`	$\left(\delta_{1}, \delta_{2}\right)_{4}=\sum_{i, j}\left(\left[\widetilde{A}_{i}, \widetilde{B}_{i}\right] C_{j}, D_{j}\right)=\sum_{i, j}\left(\left[\widetilde{C}_{j}, \widetilde{D}_{j}\right] A_{i}, B_{i}\right),$	$(\delta_1, \delta_2)_4=\sum_{i,j}([\widetilde{A}_i, \widetilde{B}_i]C_j, D_j)=\sum_{i,j}([\widetilde{C}_j, \widetilde{D}_j]A_i, B_i),$
0902.0431_EQ0326	52	■1.000	`\mathfrak{D}_{4}{ }^{C}=\left\{D \in \operatorname{Hom}_{C}\left(\mathfrak{C}^{C}\right) \mid(D x, y)+(x, D y)=0\right\} .`	$\mathfrak{D}_{4}{ }^{C}=\left\{D \in \operatorname{Hom}_{C}\left(\mathfrak{C}^{C}\right) \mid(D x, y)+(x, D y)=0\right\} .$	$\mathfrak{D}_4{}^C=\{D \in \operatorname{Hom}_C(\mathfrak{C}^C) \mid (Dx, y)+(x, Dy)=0\}.$
0902.0431_EQ0327	52	■1.000	`\mathfrak{h}=\left\{H=\sum_{k=0}^{3} \lambda_{i} H_{k} \mid \lambda_{k} \in C\right\}`	$\mathfrak{h}=\left\{H=\sum_{k=0}^{3} \lambda_{i} H_{k} \mid \lambda_{k} \in C\right\}$	$\mathfrak{h}=\{H=\sum_{k=0}^{3} \lambda_i H_k \mid \lambda_k \in C\}$
0902.0431_EQ0331	53	■1.000	`\nu=\pi \kappa=\frac{1}{2}\left(\begin{array}{rrrr} -1 & -1 & 1 & -1 \\ 1 & 1 & 1 & -1 \\ -1 & 1 & 1 & 1 \\ 1 & 1 & -1 & 1 \end{array}\right), \quad \pi=\frac{1}{2}\left( \begin{array}{rrrr} 1 & -1 & 1 & -1 \\ -1 & 1 & 1 & -1 \\ 1 & 1 & 1 & 1 \\ -1 & -1 & 1 & 1 \end{array}\right)`	$\nu=\pi \kappa=\frac{1}{2}\left(\begin{array}{rrrr} -1 & -1 & 1 & -1 \\ 1 & 1 & 1 & -1 \\ -1 & 1 & 1 & 1 \\ 1 & -1 & 1 & 1 \end{array}\right), \quad \pi=\frac{1}{2}\left(\begin{array}{rrrr} 1 & -1 & 1 & -1 \\ -1 & 1 & 1 & -1 \\ 1 & 1 & 1 & 1 \\ -1 & -1 & 1 & 1 \end{array}\right)$	$\nu=\pi\kappa=\frac{1}{2}\begin{pmatrix} -1 & -1 & 1 & -1 \\ 1 & 1 & 1 & -1 \\ -1 & 1 & 1 & 1 \\ 1 & -1 & 1 & 1 \end{pmatrix}, \quad \pi=\frac{1}{2}\begin{pmatrix} 1 & -1 & 1 & -1 \\ -1 & 1 & 1 & -1 \\ 1 & 1 & 1 & 1 \\ -1 & -1 & 1 & 1 \end{pmatrix}$
0902.0431_EQ0334	53	■1.000	`\pm\left(\lambda_{k}-\lambda_{l}\right), \quad \pm\left( \lambda_{k}+\lambda_{l}\right), \quad 0 \leq k<l \leq 3`	$\pm\left(\lambda_{k}-\lambda_{l}\right), \quad \pm\left(\lambda_{k}+\lambda_{l}\right), \quad 0 \leq k<l \leq 3$	$\pm(\lambda_k-\lambda_l), \quad \pm(\lambda_k+\lambda_l), \quad 0 \leq k<l \leq 3$
0902.0431_EQ0336	54	■1.000	`\begin{aligned} \nu H= & \nu\left(\sum_{k=0}^{3} \lambda_{k} H_{k}\right) \\ = & \frac{1}{2}\left(\lambda_{0}\left(-H_{0}+H_{1}-H_{2}+H_{3}\right)+ \lambda_{1}\left(-H_{0}+H_{1}+H_{2}-H_{3}\right)\right. \\ & \left.+\lambda_{2}\left(H_{0}+H_{1}+H_{2}+H_{3} \right)+\lambda_{3}\left(-H_{0}-H_{1}+H_{2}+H_{3}\right) \right) \\ = & \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+ \lambda_{2}-\lambda_{3}\right) H_{0}+\frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right) H_{1} \\ & +\frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+ \lambda_{2}+\lambda_{3}\right) H_{2}+\frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right) H_{3}, \end{aligned}`	$\begin{aligned} \nu H= & \nu\left(\sum_{k=0}^{3} \lambda_{k} H_{k}\right) \\ = & \frac{1}{2}\left(\lambda_{0}\left(-H_{0}+H_{1}-H_{2}+H_{3}\right)+ \lambda_{1}\left(-H_{0}+H_{1}+H_{2}-H_{3}\right)\right. \\ & \left.+\lambda_{2}\left(H_{0}+H_{1}+H_{2}+H_{3} \right)+\lambda_{3}\left(-H_{0}-H_{1}+H_{2}+H_{3}\right) \right) \\ = & \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}+ \lambda_{2}-\lambda_{3}\right) H_{0}+\frac{1}{2}\left(\lambda_{0}+\lambda_{1}+\lambda_{2}-\lambda_{3}\right) H_{1} \\ & +\frac{1}{2}\left(-\lambda_{0}+\lambda_{1}+ \lambda_{2}+\lambda_{3}\right) H_{2}+\frac{1}{2}\left(\lambda_{0}-\lambda_{1}+\lambda_{2}+\lambda_{3}\right) H_{3}, \end{aligned}$	$\begin{aligned} \nu H &= \nu\Big(\sum_{k=0}^{3} \lambda_k H_k\Big) \\ &= \frac{1}{2}(\lambda_0(-H_0+H_1-H_2+H_3)+\lambda_1(-H_0+H_1+H_2-H_3) \\ &\quad +\lambda_2(H_0+H_1+H_2+H_3)+\lambda_3(-H_0-H_1+H_2+H_3)) \\ &= \frac{1}{2}(-\lambda_0-\lambda_1+\lambda_2-\lambda_3)H_0+\frac{1}{2}(\lambda_0+\lambda_1+\lambda_2-\lambda_3)H_1 \\ &\quad +\frac{1}{2}(-\lambda_0+\lambda_1+\lambda_2+\lambda_3)H_2+\frac{1}{2}(\lambda_0-\lambda_1+\lambda_2+\lambda_3)H_3, \end{aligned}$

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0902.0431_EQ0338	54	1.000	`\alpha_{1}=\lambda_{0}-\lambda_{1}, \quad \alpha_{2}= \lambda_{1}-\lambda_{2}, \quad \alpha_{3}=\lambda_{2}, \quad \alpha_{4}=\frac{1}{2}\left(-\lambda_{0}- \lambda_{1}-\lambda_{2}+\lambda_{3}\right)`	$\alpha_1=\lambda_0-\lambda_1, \quad \alpha_2=\lambda_1-\lambda_2, \quad \alpha_3=\lambda_2, \quad \alpha_4=\frac{1}{2}\left(-\lambda_0-\lambda_1-\lambda_2+\lambda_3\right)$	$\alpha_1=\lambda_0-\lambda_1, \quad \alpha_2=\lambda_1-\lambda_2, \quad \alpha_3=\lambda_2, \quad \alpha_4=\frac{1}{2}(-\lambda_0-\lambda_1-\lambda_2+\lambda_3)$
0902.0431_EQ0339	54	1.000	`\mu=2 \alpha_{1}+3 \alpha_{2}+4 \alpha_{3}+2 \alpha_{4}`	$\mu=2\alpha_1+3\alpha_2+4\alpha_3+2\alpha_4$	$\mu=2\alpha_1+3\alpha_2+4\alpha_3+2\alpha_4$
0902.0431_EQ0342	55	1.000	`\mathfrak{h}_{\boldsymbol{R}}=\left\{H=\sum_{k=0}^{3} \lambda_{k} H_{k} \mid \lambda_{k} \in \boldsymbol{R} \right\} .`	$\mathfrak{h}_{\boldsymbol{R}}=\left\{H=\sum_{k=0}^{3} \lambda_{k} H_{k} \mid \lambda_{k} \in \boldsymbol{R}\right\} .$	$\mathfrak{h}_{\boldsymbol{R}}=\{H=\sum_{k=0}^{3} \lambda_{k} H_{k} \mid \lambda_{k} \in \boldsymbol{R}\}.$
0902.0431_EQ0347	56	1.000	`\left(\alpha_{1}, \alpha_{1}\right)=B_{4}\left(H_{ \alpha_{1}}, H_{\alpha_{1}}\right)=18 \frac{1}{18} \frac{1}{18}(1+1)=\frac{1}{9}`	$\left(\alpha_1, \alpha_1\right)=B_4\left(H_{\alpha_1}, H_{\alpha_1}\right)=18 \frac{1}{18} \frac{1}{18}(1+1)=\frac{1}{9}$	$(\alpha_1, \alpha_1)=B_4(H_{\alpha_1}, H_{\alpha_1})=18 \frac{1}{18} \frac{1}{18}(1+1)=\frac{1}{9}$
0902.0431_EQ0352	57	1.000	`\alpha F_{i}(x)=F_{i}\left(\alpha_{i} x\right), \quad x \in \mathfrak{C},`	$\alpha F_i(x)=F_i\left(\alpha_i x\right), \quad x \in \mathfrak{C},$	$\alpha F_i(x)=F_i(\alpha_i x), \quad x \in \mathfrak{C},$
0902.0431_EQ0353	57	1.000	`\left(\alpha_{i} x, \alpha_{i} y\right)=(x, y), \quad x, y \in \mathfrak{C} .`	$\left(\alpha_i x, \alpha_i y\right)=(x, y), \quad x, y \in \mathfrak{C}.$	$(\alpha_i x, \alpha_i y)=(x, y), \quad x, y \in \mathfrak{C}.$
0902.0431_EQ0355	57	1.000	`\left(F_{4}\right)_{E_{1}}=\left\{\alpha \in F_{4} \mid \alpha E_{1}=E_{1}\right\} .`	$\left(F_4\right)_{E_1}=\left\{\alpha \in F_4 \mid \alpha E_1=E_1\right\} .$	$(F_4)_{E_1}=\{\alpha \in F_4 \mid \alpha E_1=E_1\}.$
0902.0431_EQ0356	57	1.000	`\mathfrak{J}_{01}=\left\{X \in \mathfrak{J} \mid E_{1} \circ X=0, \operatorname{tr}(X)=0\right\}=\left\{\left. \left(\begin{array}{ccc} 0 & 0 & 0 \\ 0 & \xi & x \\ 0 & \bar{x} & -\xi \end{array}\right) \right\rvert\, \xi \in \boldsymbol{R}, x \in \mathfrak{C}\right\},`	$\mathfrak{J}_{01}=\left\{X \in \mathfrak{J} \mid E_1 \circ X=0, \operatorname{tr}(X)=0\right\}=\left\{\left.\left(\begin{array}{ccc} 0 & 0 & 0 \\ 0 & \xi & x \\ 0 & \bar{x} & -\xi \end{array}\right) \right\rvert\, \xi \in \boldsymbol{R}, x \in \mathfrak{C}\right\},$	$\mathfrak{J}_{01}=\{X \in \mathfrak{J} \mid E_1 \circ X=0, \operatorname{tr}(X)=0\}=\left\{\left.\left(\begin{array}{ccc} 0 & 0 & 0 \\ 0 & \xi & x \\ 0 & \bar{x} & -\xi \end{array}\right) \right\rvert\, \xi \in \boldsymbol{R}, x \in \mathfrak{C}\right\},$
0902.0431_EQ0357	58	1.000	`\mathfrak{J}_{23}=\left\{Y \in \mathfrak{J} \mid 2 E_{1} \circ Y=Y\right\}=\left\{\left.\left(\begin{array}{ccc} 0 & y_{3} & \bar{y}_{2} \\ \bar{y}_{3} & 0 & 0 \\ y_{2} & 0 & 0 \end{array}\right) \right\rvert\, y_{2}, y_{3} \in \mathfrak{C}\right\} .`	$\mathfrak{J}_{23}=\left\{Y \in \mathfrak{J} \mid 2 E_1 \circ Y=Y\right\}=\left\{\left.\left(\begin{array}{ccc} 0 & y_3 & \bar{y}_2 \\ \bar{y}_3 & 0 & 0 \\ y_2 & 0 & 0 \end{array}\right) \right\rvert\, y_2, y_3 \in \mathfrak{C}\right\}.$	$\mathfrak{J}_{23}=\{Y \in \mathfrak{J} \mid 2 E_1 \circ Y=Y\}=\left\{\left.\left(\begin{array}{ccc} 0 & y_3 & \bar{y}_2 \\ \bar{y}_3 & 0 & 0 \\ y_2 & 0 & 0 \end{array}\right) \right\rvert\, y_2, y_3 \in \mathfrak{C}\right\}.$
0902.0431_EQ0358	58	1.000	`Z_{0}=2 X_{0} \circ Y_{0} .`	$Z_0=2 X_0 \circ Y_0.$	$Z_0=2 X_0 \circ Y_0.$
0902.0431_EQ0359	58	1.000	`Y_{1}=-2 Z_{0} \circ X_{1}, \quad Z_{2}=-2 X_{2} \circ Y_{0}, \quad X_{3}=-2 Y_{1} \circ Z_{2} .`	$Y_1=-2 Z_0 \circ X_1, \quad Z_2=-2 X_2 \circ Y_0, \quad X_3=-2 Y_1 \circ Z_2.$	$Y_1=-2 Z_0 \circ X_1, \quad Z_2=-2 X_2 \circ Y_0, \quad X_3=-2 Y_1 \circ Z_2.$
0902.0431_EQ0360	58	1.000	`\begin{array}{lll} Z_{4}=-2 X_{4} \circ Y_{0}, & Y_{2}=-2 Z_{0} \circ X_{2}, & Y_{3}=-2 Z_{0} \circ X_{3}, \\ X_{5}=-2 Y_{1} \circ Z_{4}, & X_{6}=2 Y_{2} \circ Z_{4}, & X_{7}=-2 Y_{3} \circ Z_{4} \end{array}`	$\begin{array}{lll} Z_4=-2 X_4 \circ Y_0, & Y_2=-2 Z_0 \circ X_2, & Y_3=-2 Z_0 \circ X_3, \\ X_5=-2 Y_1 \circ Z_4, & X_6=2 Y_2 \circ Z_4, & X_7=-2 Y_3 \circ Z_4 \end{array}$	$\begin{array}{lll} Z_4=-2 X_4 \circ Y_0, & Y_2=-2 Z_0 \circ X_2, & Y_3=-2 Z_0 \circ X_3, \\ X_5=-2 Y_1 \circ Z_4, & X_6=2 Y_2 \circ Z_4, & X_7=-2 Y_3 \circ Z_4 \end{array}$
0902.0431_EQ0363	58	1.000	`\alpha(X \circ Y)=\alpha X \circ \alpha Y, \quad X, Y \in \mathfrak{J} .`	$\alpha(X \circ Y)=\alpha X \circ \alpha Y, \quad X, Y \in \mathfrak{J}.$	$\alpha(X \circ Y)=\alpha X \circ \alpha Y, \quad X, Y \in \mathfrak{J}.$
0902.0431_EQ0366	59	1.000	`\left(F_{4}\right)_{E_{1}} /\{1, \sigma\} \cong S O(9) .`	$\left(F_4\right)_{E_1} /\{1, \sigma\} \cong S O(9).$	$(F_4)_{E_1}/\{1, \sigma\} \cong SO(9).$
0902.0431_EQ0367	60	1.000	`f\left(\alpha^{\prime}\right)=\varepsilon \alpha^{ \prime} \varepsilon^{-1}, \quad(\epsilon x=\bar{x}, x \in \mathfrak{C})`	$f\left(\alpha^{\prime}\right)=\varepsilon \alpha^{\prime} \varepsilon^{-1}, \quad(\epsilon x=\bar{x}, x \in \mathfrak{C})$	$f(\alpha^{\prime})=\varepsilon \alpha^{\prime} \varepsilon^{-1}, \quad(\epsilon x=\overline{x}, x \in \mathfrak{C})$
0902.0431_EQ0369	61	1.000	`\alpha X=\left(\begin{array}{ccc} \xi_{1} & 0 & 0 \\ 0 & \xi_{2} & 0 \\ 0 & 0 & \xi_{3} \end{array}\right), \quad \xi_{i} \in \boldsymbol{R}`	$\alpha X=\left(\begin{array}{ccc} \xi_1 & 0 & 0 \\ 0 & \xi_2 & 0 \\ 0 & 0 & \xi_3 \end{array}\right), \quad \xi_i \in \boldsymbol{R}$	$\alpha X=\left(\begin{array}{ccc} \xi_1 & 0 & 0 \\ 0 & \xi_2 & 0 \\ 0 & 0 & \xi_3 \end{array}\right), \quad \xi_i \in \boldsymbol{R}.$

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0902.0431_EQ0373	62	1.000	`\mathfrak{C} P_{2}=\left\{X \in \mathfrak{J} \mid X^{2}=X, \operatorname{tr}(X)=1\right\} .`	$\mathfrak{C} P_{2}=\left\{X \in \mathfrak{J} \mid X^{2}=X, \operatorname{tr}(X)=1\right\} .$	$\mathfrak{C} P_{2}=\{X \in \mathfrak{J} \mid X^{2}=X, \operatorname{tr}(X)=1\}.$
0902.0431_EQ0375	62	1.000	`\alpha X=\left(\begin{array}{ccc} \xi_{1} & 0 & 0 \\ 0 & \xi_{2} & 0 \\ 0 & 0 & \xi_{3} \end{array}\right), \quad \xi_{i} \in \boldsymbol{R}`	$\alpha X=\left(\begin{array}{ccc} \xi_{1} & 0 & 0 \\ 0 & \xi_{2} & 0 \\ 0 & 0 & \xi_{3} \end{array}\right), \quad \xi_{i} \in \boldsymbol{R}$	$\alpha X=\left(\begin{array}{ccc} \xi_{1} & 0 & 0 \\ 0 & \xi_{2} & 0 \\ 0 & 0 & \xi_{3} \end{array}\right), \quad \xi_{i} \in \boldsymbol{R}$
0902.0431_EQ0376	62	1.000	`\left(\begin{array}{ccc} \xi_{1}{ }^{2} & 0 & 0 \\ 0 & \xi_{2}{ }^{2} & 0 \\ 0 & 0 & \xi_{3}{ }^{2} \end{array}\right)=\left(\begin{array}{ccc} \xi_{1} & 0 & 0 \\ 0 & \xi_{2} & 0 \\ 0 & 0 & \xi_{3} \end{array}\right) .`	$\left(\begin{array}{ccc} \xi_{1}{ }^{2} & 0 & 0 \\ 0 & \xi_{2}{ }^{2} & 0 \\ 0 & 0 & \xi_{3}{ }^{2} \end{array}\right)=\left(\begin{array}{ccc} \xi_{1} & 0 & 0 \\ 0 & \xi_{2} & 0 \\ 0 & 0 & \xi_{3} \end{array}\right) .$	$\left(\begin{array}{ccc} \xi_{1}{ }^{2} & 0 & 0 \\ 0 & \xi_{2}{ }^{2} & 0 \\ 0 & 0 & \xi_{3}{ }^{2} \end{array}\right)=\left(\begin{array}{ccc} \xi_{1} & 0 & 0 \\ 0 & \xi_{2} & 0 \\ 0 & 0 & \xi_{3} \end{array}\right) .$
0902.0431_EQ0377	63	1.000	`\sigma\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right)=\left(\begin{array}{ccc} \xi_{1} & -x_{3} & -\bar{x}_{2} \\ -\bar{x}_{3} & \xi_{2} & x_{1} \\ -x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right) .`	$\sigma\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right)=\left(\begin{array}{ccc} \xi_{1} & -x_{3} & -\bar{x}_{2} \\ -\bar{x}_{3} & \xi_{2} & x_{1} \\ -x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right) .$	$\sigma\left(\begin{array}{ccc} \xi_{1} & x_{3} & \overline{x}_{2} \\ \overline{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \overline{x}_{1} & \xi_{3} \end{array}\right)=\left(\begin{array}{ccc} \xi_{1} & -x_{3} & -\overline{x}_{2} \\ -\overline{x}_{3} & \xi_{2} & x_{1} \\ -x_{2} & \overline{x}_{1} & \xi_{3} \end{array}\right) .$
0902.0431_EQ0378	63	1.000	`\left(F_{4}\right)^{\sigma}=\left\{\alpha \in F_{4} \mid \sigma \alpha=\alpha \sigma\right\} .`	$\left(F_{4}\right)^{\sigma}=\left\{\alpha \in F_{4} \mid \sigma \alpha=\alpha \sigma\right\} .$	$\left(F_{4}\right)^{\sigma}=\left\{\alpha \in F_{4} \mid \sigma \alpha=\alpha \sigma\right\}.$
0902.0431_EQ0380	63	1.000	`\alpha E_{2}, \alpha E_{3} \in \mathfrak{J}(2, \mathfrak{C}) .`	$\alpha E_{2}, \alpha E_{3} \in \mathfrak{J}(2, \mathfrak{C}) .$	$\alpha E_{2}, \alpha E_{3} \in \mathfrak{J}(2, \mathfrak{C}).$
0902.0431_EQ0382	63	1.000	`\alpha E_{1}=E_{1}+\xi_{2} E_{2}+\xi_{3} E_{3}+F_{1} \left(x_{1}\right) .`	$\alpha E_{1}=E_{1}+\xi_{2} E_{2}+\xi_{3} E_{3}+F_{1}\left(x_{1}\right) .$	$\alpha E_{1}=E_{1}+\xi_{2} E_{2}+\xi_{3} E_{3}+F_{1}(x_{1}).$
0902.0431_EQ0385	64	1.000	`z\left(F_{4}\right)=\{1\} .`	$z\left(F_{4}\right)=\{1\} .$	$z(F_{4})=\{1\}.$
0902.0431_EQ0386	64	1.000	`\alpha=1 \quad \text { or } \quad \alpha=\sigma .`	$\alpha=1 \quad \text { or } \quad \alpha=\sigma .$	$\alpha=1 \quad \text{or} \quad \alpha=\sigma.$
0902.0431_EQ0388	65	1.000	`\left(F_{4}\right)^{\gamma}=\left\{\alpha \in F_{4} \mid \gamma \alpha=\alpha \gamma\right\} .`	$\left(F_{4}\right)^{\gamma}=\left\{\alpha \in F_{4} \mid \gamma \alpha=\alpha \gamma\right\} .$	$\left(F_{4}\right)^{\gamma}=\left\{\alpha \in F_{4} \mid \gamma \alpha=\alpha \gamma\right\}.$
0902.0431_EQ0389	65	1.000	`X=\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right)=\left(\begin{array}{ccc} \xi_{1} & m_{3} & \bar{m}_{2} \\ \bar{m}_{3} & \xi_{2} & m_{1} \\ m_{2} & \bar{m}_{1} & \xi_{3} \end{array}\right)+\left(\begin{array}{ccc} 0 & a_{3} e_{4} & -a_{2} e_{4} \\ -a_{3} e_{4} & 0 & a_{1} e_{4} \\ a_{2} e_{4} & -a_{1} e_{4} & 0 \end{array}\right),`	$X=\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right)=\left(\begin{array}{ccc} \xi_{1} & m_{3} & \bar{m}_{2} \\ \bar{m}_{3} & \xi_{2} & m_{1} \\ m_{2} & \bar{m}_{1} & \xi_{3} \end{array}\right)+\left(\begin{array}{ccc} 0 & a_{3} e_{4} & -a_{2} e_{4} \\ -a_{3} e_{4} & 0 & a_{1} e_{4} \\ a_{2} e_{4} & -a_{1} e_{4} & 0 \end{array}\right),$	$X=\left(\begin{array}{ccc} \xi_{1} & x_{3} & \overline{x}_{2} \\ \overline{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \overline{x}_{1} & \xi_{3} \end{array}\right)=\left(\begin{array}{ccc} \xi_{1} & m_{3} & \overline{m}_{2} \\ \overline{m}_{3} & \xi_{2} & m_{1} \\ m_{2} & \overline{m}_{1} & \xi_{3} \end{array}\right)+\left(\begin{array}{ccc} 0 & a_{3} e_{4} & -a_{2} e_{4} \\ -a_{3} e_{4} & 0 & a_{1} e_{4} \\ a_{2} e_{4} & -a_{1} e_{4} & 0 \end{array}\right),$
0902.0431_EQ0390	65	1.000	`\left(\begin{array}{ccc} \xi_{1} & m_{3} & \bar{m}_{2} \\ \bar{m}_{3} & \xi_{2} & m_{1} \\ m_{2} & \bar{m}_{1} & \xi_{3} \end{array}\right)+\left(a_{1}, a_{2}, a_{3}\right) .`	$\left(\begin{array}{ccc} \xi_{1} & m_{3} & \bar{m}_{2} \\ \bar{m}_{3} & \xi_{2} & m_{1} \\ m_{2} & \bar{m}_{1} & \xi_{3} \end{array}\right)+\left(a_{1}, a_{2}, a_{3}\right) .$	$\left(\begin{array}{ccc} \xi_{1} & m_{3} & \overline{m}_{2} \\ \overline{m}_{3} & \xi_{2} & m_{1} \\ m_{2} & \overline{m}_{1} & \xi_{3} \end{array}\right)+(a_{1}, a_{2}, a_{3}).$

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0902.0431_EQ0391	65	■1.000	`\begin{aligned} (M+\boldsymbol{a}) \times(N+ \boldsymbol{b}) & =\left(M \times N-\frac{1}{2}\left(\boldsymbol{a}^{*} \boldsymbol{b}+\boldsymbol{b}^{*} \boldsymbol{a}\right)\right)-\frac{1}{2}(\boldsymbol{a} N+\boldsymbol{b} M), \\ (M+\boldsymbol{a}, N+ \boldsymbol{b}) & =(M, N)+2(\boldsymbol{a}, \boldsymbol{b}), \\ \gamma(M+\boldsymbol{a}) & =M-\boldsymbol{a} . \end{aligned}`	$\begin{aligned} (M+\boldsymbol{a}) \times(N+\boldsymbol{b}) & =\left(M \times N-\frac{1}{2}\left(\boldsymbol{a}^{*} \boldsymbol{b}+\boldsymbol{b}^{*} \boldsymbol{a}\right)\right)-\frac{1}{2}(\boldsymbol{a} N+\boldsymbol{b} M), \\ (M+\boldsymbol{a}, N+\boldsymbol{b}) & =(M, N)+2(\boldsymbol{a}, \boldsymbol{b}), \\ \gamma(M+\boldsymbol{a}) & =M-\boldsymbol{a} . \end{aligned}$	$\begin{aligned} (M+\boldsymbol{a}) \times(N+\boldsymbol{b}) & =\left(M \times N-\frac{1}{2}\left(\boldsymbol{a}^{*} \boldsymbol{b}+\boldsymbol{b}^{*} \boldsymbol{a}\right)\right)-\frac{1}{2}(\boldsymbol{a} N+\boldsymbol{b} M), \\ (M+\boldsymbol{a}, N+\boldsymbol{b}) & =(M, N)+2(\boldsymbol{a}, \boldsymbol{b}), \\ \gamma(M+\boldsymbol{a}) & =M-\boldsymbol{a} . \end{aligned}$
0902.0431_EQ0392	65	■1.000	`\mathfrak{J}(3, \boldsymbol{H}) \oplus \boldsymbol{H}^{3}=\mathfrak{J} .`	$\mathfrak{J}(3, \boldsymbol{H}) \oplus \boldsymbol{H}^{3}=\mathfrak{J} .$	$\mathfrak{J}(3, \boldsymbol{H}) \oplus \boldsymbol{H}^{3}=\mathfrak{J} .$
0902.0431_EQ0394	65	■1.000	`\varphi(A) M=A M A^{*}, \quad M \in \mathfrak{J}_{ \boldsymbol{H}} .`	$\varphi(A) M=A M A^{*}, \quad M \in \mathfrak{J}_{\boldsymbol{H}} .$	$\varphi(A) M=A M A^{*}, \quad M \in \mathfrak{J}_{\boldsymbol{H}} .$
0902.0431_EQ0395	66	■1.000	`\alpha E_{i}=A E_{i} A^{*}, \quad i=1,2,3 .`	$\alpha E_{i}=A E_{i} A^{*}, \quad i=1,2,3 .$	$\alpha E_{i}=A E_{i} A^{*}, \quad i=1,2,3 .$
0902.0431_EQ0396	66	■1.000	`\beta E_{i}=E_{i}, \quad i=1,2,3 .`	$\beta E_{i}=E_{i}, \quad i=1,2,3 .$	$\beta E_{i}=E_{i}, \quad i=1,2,3 .$
0902.0431_EQ0397 (i)	66	■1.000	`\left(\beta_{1} m\right)\left(\beta_{2} n\right)= \overline{\beta_{3}(\overline{m n})}, \quad m, n \in \boldsymbol{H} .`	$\left(\beta_{1} m\right)\left(\beta_{2} n\right)=\overline{\beta_{3}(\overline{m n})}, \quad m, n \in \boldsymbol{H} .$	$\left(\beta_{1} m\right)\left(\beta_{2} n\right)=\overline{\beta_{3}(\overline{m n})}, \quad m, n \in \boldsymbol{H} .$
0902.0431_EQ0398	66	■1.000	`\beta_{2} m=\bar{p}\left(\beta_{1} m\right) q, \quad \beta_{3} m=\overline{\left(\beta_{1} \bar{m}\right)} q .`	$\beta_{2} m=\bar{p}\left(\beta_{1} m\right) q, \quad \beta_{3} m=\overline{\left(\beta_{1} \bar{m}\right)} q .$	$\beta_{2} m=\bar{p}\left(\beta_{1} m\right) q, \quad \beta_{3} m=\overline{\left(\beta_{1} \bar{m}\right)} q .$
0902.0431_EQ0399	66	■1.000	`(\zeta m)(\zeta n)=\zeta(m n), \quad m, n \in \boldsymbol{H},`	$(\zeta m)(\zeta n)=\zeta(m n), \quad m, n \in \boldsymbol{H},$	$(\zeta m)(\zeta n)=\zeta(m n), \quad m, n \in \boldsymbol{H},$
0902.0431_EQ0401	66	■1.000	`\beta M=B M B^{*}, \quad M \in \mathfrak{J}_{ \boldsymbol{H}},`	$\beta M=B M B^{*}, \quad M \in \mathfrak{J}_{\boldsymbol{H}},$	$\beta M=B M B^{*}, \quad M \in \mathfrak{J}_{\boldsymbol{H}},$
0902.0431_EQ0403	67	■1.000	`\varphi(p, A)(M+\boldsymbol{a})=A M A^{*}+p \boldsymbol{a} A^{*}, \quad M+\boldsymbol{a} \in \mathfrak{J}_{\boldsymbol{H}} \oplus \boldsymbol{H}^{3}= \mathfrak{J} .`	$\varphi(p, A)(M+\boldsymbol{a})=A M A^{*}+p \boldsymbol{a} A^{*}, \quad M+\boldsymbol{a} \in \mathfrak{J}_{\boldsymbol{H}} \oplus \boldsymbol{H}^{3}=\mathfrak{J} .$	$\varphi(p, A)(M+\boldsymbol{a})=A M A^{*}+p \boldsymbol{a} A^{*}, \quad M+\boldsymbol{a} \in \mathfrak{J}_{\boldsymbol{H}} \oplus \boldsymbol{H}^{3}=\mathfrak{J} .$
0902.0431_EQ0406	67	■1.000	`\alpha M=A M A^{*}, \quad M \in \mathfrak{J}_{ \boldsymbol{H}}`	$\alpha M=A M A^{*}, \quad M \in \mathfrak{J}_{\boldsymbol{H}}$	$\alpha M=A M A^{*}, \quad M \in \mathfrak{J}_{\boldsymbol{H}}$
0902.0431_EQ0407	67	■1.000	`\beta\left(m+a e_{4}\right)=m+(p a) e_{4}, \quad m+a e_{4} \in \boldsymbol{H} \oplus \boldsymbol{H} e_{4}= \mathfrak{C},`	$\beta\left(m+a e_{4}\right)=m+(p a) e_{4}, \quad m+a e_{4} \in \boldsymbol{H} \oplus \boldsymbol{H} e_{4}=\mathfrak{C},$	$\beta\left(m+a e_{4}\right)=m+(p a) e_{4}, \quad m+a e_{4} \in \boldsymbol{H} \oplus \boldsymbol{H} e_{4}=\mathfrak{C},$
0902.0431_EQ0408	67	■1.000	`\beta(M+\boldsymbol{a})=M+p \boldsymbol{a}=\varphi(p, E)(M+\boldsymbol{a}),`	$\beta(M+\boldsymbol{a})=M+p \boldsymbol{a}=\varphi(p, E)(M+\boldsymbol{a}),$	$\beta(M+\boldsymbol{a})=M+p \boldsymbol{a}=\varphi(p, E)(M+\boldsymbol{a}),$
0902.0431_EQ0411	68	■1.000	`\left(F_{4}\right)^{w}=\left\{\alpha \in F_{4} \mid w \alpha=\alpha w\right\} .`	$\left(F_{4}\right)^{w}=\left\{\alpha \in F_{4} \mid w \alpha=\alpha w\right\} .$	$\left(F_{4}\right)^{w}=\left\{\alpha \in F_{4} \mid w \alpha=\alpha w\right\} .$
0902.0431_EQ0415	68	■1.000	`P M \times P N={ }^{t} \widetilde{P}(M \times N), \quad M A \times N A=(M \times N)^{t} \widetilde{A},`	$P M \times P N={ }^{t} \widetilde{P}(M \times N), \quad M A \times N A=(M \times N)^{t} \widetilde{A},$	$P M \times P N={ }^{t} \widetilde{P}(M \times N), \quad M A \times N A=(M \times N)^{t} \widetilde{A},$
0902.0431_EQ0416	68	■1.000	`(M, N)=\frac{1}{2} \operatorname{tr}\left(M^{*} N+N^{*} M \right)=\sum_{i, j}\left(m_{i j}, n_{i j}\right),`	$(M, N)=\frac{1}{2} \operatorname{tr}\left(M^{*} N+N^{*} M\right)=\sum_{i, j}\left(m_{i j}, n_{i j}\right),$	$(M, N)=\frac{1}{2} \operatorname{tr}\left(M^{*} N+N^{*} M\right)=\sum_{i, j}\left(m_{i j}, n_{i j}\right),$
0902.0431_EQ0418	69	■1.000	`\mathfrak{J}(3, \boldsymbol{C}) \oplus M(3, \boldsymbol{C})=\mathfrak{J}`	$\mathfrak{J}(3, \boldsymbol{C}) \oplus M(3, \boldsymbol{C})=\mathfrak{J}$	$\mathfrak{J}(3, \boldsymbol{C}) \oplus M(3, \boldsymbol{C})=\mathfrak{J}.$

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0902.0431_EQ0419	69	■1.000	`\begin{aligned} F_{4, \boldsymbol{C}} & =\left\{ \alpha \in \operatorname{Iso}_{\boldsymbol{R}}\left(\mathfrak{J}_{\boldsymbol{C}}\right) \mid \alpha(X \circ Y)=\alpha X \circ \alpha Y\right\} \\ & =\left \{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}\left(\mathfrak{J}_{\boldsymbol{C}}\right) \mid \alpha(X \times Y)=\alpha X \times \alpha Y\right\} . \end{aligned}`	$\begin{aligned} F_{4,\boldsymbol{C}} &= \{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}(\mathfrak{J}_{\boldsymbol{C}}) \mid \alpha(X \circ Y) = \alpha X \circ \alpha Y\} \\ &= \{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}(\mathfrak{J}_{\boldsymbol{C}}) \mid \alpha(X \times Y) = \alpha X \times \alpha Y\}. \end{aligned}$	$\begin{aligned} F_{4,\boldsymbol{C}} &= \{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}(\mathfrak{J}_{\boldsymbol{C}}) \mid \alpha(X \circ Y) = \alpha X \circ \alpha Y\} \\ &= \{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}(\mathfrak{J}_{\boldsymbol{C}}) \mid \alpha(X \times Y) = \alpha X \times \alpha Y\}. \end{aligned}$
0902.0431_EQ0420	69	■1.000	`\epsilon A=\bar{A}, \quad A \in S U(3),`	$\epsilon A = \bar{A}, \quad A \in SU(3),$	$\epsilon A = \overline{A}, \quad A \in SU(3),$
0902.0431_EQ0422	69	■1.000	`\beta_{1} x=p x, \beta_{2} x=x q, \beta_{3} x=\bar{q} x \bar{p} \quad \text { or } \quad \beta_{1} x=p \bar{x}, \beta_{2} x=\bar{x} q, \beta_{3} x=\bar{q} \bar{x} \bar{p} .`	$\beta_1 x = px, \beta_2 x = xq, \beta_3 x = \bar{q}x\bar{p} \quad \text{or} \quad \beta_1 x = p\bar{x}, \beta_2 x = \bar{x}q, \beta_3 x = \bar{q}\,\bar{x}\,\bar{p}.$	$\beta_1 x = px, \beta_2 x = xq, \beta_3 x = \overline{q}x\overline{p} \quad \text{or} \quad \beta_1 x = p\overline{x}, \beta_2 x = \overline{x}q, \beta_3 x = \overline{q}\,\overline{x}\,\overline{p}.$
0902.0431_EQ0424	69	■1.000	`\varphi(P, A)(X+M)=A X A^{*}+P M A^{*}, \quad X+M \in \mathfrak{J}(3, \boldsymbol{C}) \oplus M(3, \boldsymbol{C})=\mathfrak{J} .`	$\varphi(P, A)(X+M) = AXA^* + PMA^*, \quad X+M \in \mathfrak{J}(3, \boldsymbol{C}) \oplus M(3, \boldsymbol{C}) = \mathfrak{J}.$	$\varphi(P, A)(X+M) = AXA^* + PMA^*, \quad X+M \in \mathfrak{J}(3, \boldsymbol{C}) \oplus M(3, \boldsymbol{C}) = \mathfrak{J}.$
0902.0431_EQ0427	70	■1.000	`\alpha X=A X A^{*} \quad \text { or } \quad \alpha X=A \bar{X} A^{*}, \quad X \in \mathfrak{J}_{C}`	$\alpha X = AXA^* \quad \text{or} \quad \alpha X = A\bar{X}A^*, \quad X \in \mathfrak{J}_C$	$\alpha X = AXA^* \quad \text{or} \quad \alpha X = A\overline{X}A^*, \quad X \in \mathfrak{J}_{\boldsymbol{C}}$
0902.0431_EQ0428	70	■1.000	`\beta(X+M)=X+P M=\varphi(P, E)(X+M), \quad X+M \in \mathfrak{J}_{C} \oplus M(3, \boldsymbol{C})=\mathfrak{J} .`	$\beta(X+M) = X + PM = \varphi(P, E)(X+M), \quad X+M \in \mathfrak{J}_C \oplus M(3, \boldsymbol{C}) = \mathfrak{J}.$	$\beta(X+M) = X + PM = \varphi(P, E)(X+M), \quad X+M \in \mathfrak{J}_C \oplus M(3, \boldsymbol{C}) = \mathfrak{J}.$
0902.0431_EQ0429	70	■1.000	`\alpha=\varphi(E, A) \beta=\varphi(E, A) \varphi(P, E)= \varphi(P, A) .`	$\alpha = \varphi(E, A)\beta = \varphi(E, A)\varphi(P, E) = \varphi(P, A).$	$\alpha = \varphi(E, A)\beta = \varphi(E, A)\varphi(P, E) = \varphi(P, A).$
0902.0431_EQ0430	70	■1.000	`\begin{aligned} & G_{01}, \quad G_{23}, \quad G_{45}, \quad G_{67}, \quad G_{26}+G_{37}, \quad-G_{27}+G_{36}, \\ & G_{24}+G_{35}, \quad-G_{25}+G_{34}, \quad G_{46}+G_{57}, \quad-G_{47}+G_{56}, \\ & \widetilde{A}_{1}(1), \quad \widetilde{A}_{2}(1), \quad \widetilde{A}_{3}(1), \quad \widetilde{A}_{1}\left(e_{1}\right), \quad \widetilde{A}_{2}\left(e_{1}\right), \quad \widetilde{A}_{3}\left(e_{1}\right) \end{aligned}`	$\begin{aligned} & G_{01}, \quad G_{23}, \quad G_{45}, \quad G_{67}, \quad G_{26}+G_{37}, \quad-G_{27}+G_{36}, \\ & G_{24}+G_{35}, \quad-G_{25}+G_{34}, \quad G_{46}+G_{57}, \quad-G_{47}+G_{56}, \\ & \widetilde{A}_{1}(1), \quad \widetilde{A}_{2}(1), \quad \widetilde{A}_{3}(1), \quad \widetilde{A}_{1}\left(e_{1}\right), \quad \widetilde{A}_{2}\left(e_{1}\right), \quad \widetilde{A}_{3}\left(e_{1}\right) \end{aligned}$	$\begin{aligned} & G_{01}, \quad G_{23}, \quad G_{45}, \quad G_{67}, \quad G_{26}+G_{37}, \quad-G_{27}+G_{36}, \\ & G_{24}+G_{35}, \quad-G_{25}+G_{34}, \quad G_{46}+G_{57}, \quad-G_{47}+G_{56}, \\ & \widetilde{A}_{1}(1), \quad \widetilde{A}_{2}(1), \quad \widetilde{A}_{3}(1), \quad \widetilde{A}_{1}(e_{1}), \quad \widetilde{A}_{2}(e_{1}), \quad \widetilde{A}_{3}(e_{1}) \end{aligned}$
0902.0431_EQ0432	71	■1.000	`\langle X, Y\rangle=(\tau X, Y) .`	$\langle X, Y\rangle = (\tau X, Y).$	$\langle X, Y\rangle = (\tau X, Y).$
0902.0431_EQ0437	72	■1.000	`X \circ Y=\frac{1}{2}(X Y+Y X)`	$X \circ Y = \frac{1}{2}(XY + YX)$	$X \circ Y = \frac{1}{2}(XY + YX).$
0902.0431_EQ0439	72	■1.000	`\begin{aligned} F_{4(4)} & =\left\{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}\left(\mathfrak{J}\left(3, \mathfrak{C}^{\prime}\right)\right) \mid \alpha(X \circ Y)=\alpha X \circ \alpha Y\right\}, \\ F_{4(-20)} & =\left\{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}(\mathfrak{J}(1,2, \mathfrak{C})) \mid \alpha(X \circ Y)=\alpha X \circ \alpha Y\right\} . \end{aligned}`	$\begin{aligned} F_{4(4)} &= \{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}(\mathfrak{J}(3, \mathfrak{C}')) \mid \alpha(X \circ Y) = \alpha X \circ \alpha Y\}, \\ F_{4(-20)} &= \{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}(\mathfrak{J}(1, 2, \mathfrak{C})) \mid \alpha(X \circ Y) = \alpha X \circ \alpha Y\}. \end{aligned}$	$\begin{aligned} F_{4(4)} &= \{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}(\mathfrak{J}(3, \mathfrak{C}')) \mid \alpha(X \circ Y) = \alpha X \circ \alpha Y\}, \\ F_{4(-20)} &= \{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}(\mathfrak{J}(1, 2, \mathfrak{C})) \mid \alpha(X \circ Y) = \alpha X \circ \alpha Y\}. \end{aligned}$
0902.0431_EQ0442	72	■1.000	`z\left(F_{4(4)}\right)=\{1\}, \quad z\left(F_{4(-20)} \right)=\{1\} .`	$z\left(F_{4(4)}\right) = \{1\}, \quad z\left(F_{4(-20)}\right) = \{1\}.$	$z(F_{4(4)}) = \{1\}, \quad z(F_{4(-20)}) = \{1\}.$
0902.0431_EQ0444	73	■1.000	`\lambda(\alpha)={ }^{t} \alpha^{-1}, \quad \alpha \in E_{6}{ }^{C}`	$\lambda(\alpha) = {}^t\alpha^{-1}, \quad \alpha \in {E_6}^C$	$\lambda(\alpha) = {}^t\alpha^{-1}, \quad \alpha \in {E_6}^C$
0902.0431_EQ0445	73	■1.000	`E_{6}=\left\{\alpha \in E_{6}{ }^{C} \mid \tau \lambda( \alpha) \tau=\alpha\right\}=\left(E_{6}{ }^{C}\right)^{ \tau \lambda} .`	$E_6 = \left\{\alpha \in {E_6}^C \mid \tau\lambda(\alpha)\tau = \alpha\right\} = \left({E_6}^C\right)^{\tau\lambda}.$	$E_6 = \{\alpha \in {E_6}^C \mid \tau\lambda(\alpha)\tau = \alpha\} = ({E_6}^C)^{\tau\lambda}.$

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0902.0431_EQ0446	73	■1.000	U(27)=U\left(\mathfrak{J}^{C}\right)=\left\{\alpha \in \operatorname{Iso}_{C}\left(\mathfrak{J}^{C}\right) \mid\langle\alpha X, \alpha Y\rangle=\langle X, Y\rangle \right\} .	$U(27)=U\left(\mathfrak{J}^{C}\right)=\left\{\alpha \in \operatorname{Iso}_{C}\left(\mathfrak{J}^{C}\right) \mid\langle\alpha X, \alpha Y\rangle=\langle X, Y\rangle \right\} .$	$U(27)=U(\mathfrak{J}^{C})=\{\alpha \in \operatorname{Iso}_{C}(\mathfrak{J}^{C}) \mid \langle\alpha X, \alpha Y\rangle=\langle X, Y\rangle\}.$
0902.0431_EQ0451	74	■1.000	\left[\delta_{1}+\widetilde{T}_{1}, \delta_{2}+\widetilde{T}_{2}\right]=\left(\left[\delta_{1}, \delta_{2}\right]+\left[\widetilde{T}_{1}, \widetilde{T}_{2}\right]\right)+\left(\widetilde{\delta_{1} T_{2}}-\widetilde{\delta_{2} T_{1}}\right),	$\left[\delta_{1}+\widetilde{T}_{1}, \delta_{2}+\widetilde{T}_{2}\right]=\left(\left[\delta_{1}, \delta_{2}\right]+\left[\widetilde{T}_{1}, \widetilde{T}_{2}\right]\right)+\left(\widetilde{\delta_{1} T_{2}}-\widetilde{\delta_{2} T_{1}}\right),$	$[\delta_{1}+\widetilde{T}_{1}, \delta_{2}+\widetilde{T}_{2}]=([\delta_{1}, \delta_{2}]+[\widetilde{T}_{1}, \widetilde{T}_{2}])+(\widetilde{\delta_{1} T_{2}}-\widetilde{\delta_{2} T_{1}}),$
0902.0431_EQ0453	74	■1.000	\lambda(\phi)=-{ }^{t} \phi=-{ }^{t}(\delta+\widetilde{T})=\delta-\widetilde{T} .	$\lambda(\phi)=-{}^{t}\phi=-{}^{t}(\delta+\widetilde{T})=\delta-\widetilde{T}.$	$\lambda(\phi)=-{}^{t}\phi=-{}^{t}(\delta+\widetilde{T})=\delta-\widetilde{T}.$
0902.0431_EQ0455	74	■1.000	\mathfrak{e}_{6}=\left\{\phi \in \operatorname{Hom}_{C}\left(\mathfrak{J}^{C}\right) \mid(\phi X, X, X)=0, \langle\phi X, Y\rangle+\langle X, \phi Y\rangle=0\right\} .	$\mathfrak{e}_{6}=\left\{\phi \in \operatorname{Hom}_{C}\left(\mathfrak{J}^{C}\right) \mid(\phi X, X, X)=0, \langle\phi X, Y\rangle+\langle X, \phi Y\rangle=0\right\} .$	$\mathfrak{e}_{6}=\{\phi \in \operatorname{Hom}_{C}(\mathfrak{J}^{C}) \mid (\phi X, X, X)=0, \langle\phi X, Y\rangle+\langle X, \phi Y\rangle=0\}.$
0902.0431_EQ0456	74	■1.000	\phi=\delta+i \widetilde{T}, \quad \delta \in \mathfrak{f}_{4}, T \in \mathfrak{J}_{0} .	$\phi=\delta+i \widetilde{T}, \quad \delta \in \mathfrak{f}_{4}, T \in \mathfrak{J}_{0} .$	$\phi=\delta+i \widetilde{T}, \quad \delta \in \mathfrak{f}_{4}, T \in \mathfrak{J}_{0}.$
0902.0431_EQ0461	76	■1.000	A \circ X=\left(A-\frac{1}{3} \operatorname{tr}(A) E \right)^{\sim} X+\frac{1}{3} \operatorname{tr}(A) X \in W .	$A \circ X=\left(A-\frac{1}{3} \operatorname{tr}(A) E \right)^{\sim} X+\frac{1}{3} \operatorname{tr}(A) X \in W .$	$A \circ X=\left(A-\frac{1}{3} \operatorname{tr}(A) E \right)^{\sim} X+\frac{1}{3} \operatorname{tr}(A) X \in W.$
0902.0431_EQ0462	76	■1.000	A \vee B=[\widetilde{A}, \widetilde{B}]+\left(A \circ B-\frac{1}{3}(A, B) E\right)^{\sim}	$A \vee B=[\widetilde{A}, \widetilde{B}]+\left(A \circ B-\frac{1}{3}(A, B) E\right)^{\sim}$	$A \vee B=[\widetilde{A}, \widetilde{B}]+\left(A \circ B-\frac{1}{3}(A, B) E\right)^{\sim}$
0902.0431_EQ0463	76	■1.000	(A \vee B) X=\frac{1}{2}(B, X) A+\frac{1}{6}(A, B) X-2 B \times(A \times X), \quad X \in \mathfrak{J}^{C} .	$(A \vee B) X=\frac{1}{2}(B, X) A+\frac{1}{6}(A, B) X-2 B \times(A \times X), \quad X \in \mathfrak{J}^{C} .$	$(A \vee B) X=\frac{1}{2}(B, X) A+\frac{1}{6}(A, B) X-2 B \times(A \times X), \quad X \in \mathfrak{J}^{C}.$
0902.0431_EQ0464	76	■1.000	X \circ(X \circ X)-\operatorname{tr}(X) X \circ X+\frac{1}{2}\left(\operatorname{tr}(X)^{2}-(X, X)\right) X=\frac{1}{3}(X, X, X) E .	$X \circ(X \circ X)-\operatorname{tr}(X) X \circ X+\frac{1}{2}\left(\operatorname{tr}(X)^{2}-(X, X)\right) X=\frac{1}{3}(X, X, X) E .$	$X \circ(X \circ X)-\operatorname{tr}(X) X \circ X+\frac{1}{2}(\operatorname{tr}(X)^{2}-(X, X)) X=\frac{1}{3}(X, X, X) E.$
0902.0431_EQ0467	77	■1.000	\[\left(E_{1} \vee E_{1}\right)\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array} \right)=\frac{1}{6}\left(\begin{array}{ccc} 4 \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & -2 \xi_{2} & -2 x_{1} \\ x_{2} & -2 \bar{x}_{1} & -2 \xi_{3} \end{array} \right) . \] \end{itemize}	$\left(E_{1} \vee E_{1}\right)\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array} \right)=\frac{1}{6}\left(\begin{array}{ccc} 4 \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & -2 \xi_{2} & -2 x_{1} \\ x_{2} & -2 \bar{x}_{1} & -2 \xi_{3} \end{array} \right) .$	$\left(E_{1} \vee E_{1}\right)\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array} \right)=\frac{1}{6}\left(\begin{array}{ccc} 4 \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & -2 \xi_{2} & -2 x_{1} \\ x_{2} & -2 \bar{x}_{1} & -2 \xi_{3} \end{array} \right) .$
0902.0431_EQ0470	77	■1.000	\[(A \vee B)^{\prime}=-B \vee A . \] \end{itemize}	$(A \vee B)^{\prime}=-B \vee A .$	$(A \vee B)^{\prime}=-B \vee A.$
0902.0431_EQ0471	78	■1.000	[\phi, A \vee B]=\phi A \vee B+A \vee \phi^{\prime} B .	$[\phi, A \vee B]=\phi A \vee B+A \vee \phi^{\prime} B .$	$[\phi, A \vee B]=\phi A \vee B+A \vee \phi^{\prime} B.$
0902.0431_EQ0475	78	■1.000	\[(\phi, A \vee B)_{6}=(\phi A, B) . \] \end{itemize}	$(\phi, A \vee B)_{6}=(\phi A, B) .$	$(\phi, A \vee B)_{6}=(\phi A, B).$
0902.0431_EQ0476	78	■1.000	\begin{aligned} & \left(\left[\phi, \phi_{1}\right], \phi_{2}\right)_{6} \\ & =\left(\left[\delta+\widetilde{T}, \delta_{1}+\widetilde{T}_{1}\right], \delta_{2}+\widetilde{T}_{2}\right)_{6} \end{aligned}	$\begin{aligned} & \left(\left[\phi, \phi_{1}\right], \phi_{2}\right)_{6} \\ & =\left(\left[\delta+\widetilde{T}, \delta_{1}+\widetilde{T}_{1}\right], \delta_{2}+\widetilde{T}_{2}\right)_{6} \end{aligned}$	$\begin{aligned} & \left(\left[\phi, \phi_{1}\right], \phi_{2}\right)_{6} \\ & =\left(\left[\delta+\widetilde{T}, \delta_{1}+\widetilde{T}_{1}\right], \delta_{2}+\widetilde{T}_{2}\right)_{6} \end{aligned}$
0902.0431_EQ0481	79	■1.000	B_{6}\left(\phi_{1}, \phi_{2}\right)=k\left(\phi_{1}, \phi_{2}\right)_{6}=k^{\prime} \operatorname{tr}\left(\phi_{1} \phi_{2}\right) .	$B_{6}\left(\phi_{1}, \phi_{2}\right)=k\left(\phi_{1}, \phi_{2}\right)_{6}=k^{\prime} \operatorname{tr}\left(\phi_{1} \phi_{2}\right) .$	$B_{6}(\phi_{1}, \phi_{2})=k(\phi_{1}, \phi_{2})_{6}=k^{\prime} \operatorname{tr}(\phi_{1} \phi_{2}).$

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0902.0431_EQ0482	79	■1.000	(\phi, \phi)_{6}=\left(\left(E_{1}-E_{2}\right)^{ \sim},\left(E_{1}-E_{2}\right)^{\sim}\right)_{6}= \left(E_{1}-E_{2}, E_{1}-E_{2}\right)=2 .	$(\phi, \phi)_{6}=\left(\left(E_{1}-E_{2}\right)^{\sim},\left(E_{1}-E_{2}\right)^{\sim}\right)_{6}=\left(E_{1}-E_{2}, E_{1}-E_{2}\right)=2$.	$(\phi, \phi)_{6}=\left(\left(E_{1}-E_{2}\right)^{\sim},\left(E_{1}-E_{2}\right)^{\sim}\right)_{6}=\left(E_{1}-E_{2}, E_{1}-E_{2}\right)=2$.
0902.0431_EQ0486	80	■1.000	\begin{array}{ll} \phi \phi E_{1}=\phi E_{1}=E_{1}, & \phi \phi \widetilde{F}_{1}\left(e_{i}\right)=- \frac{1}{2} \phi \widetilde{F}_{1}\left(e_{i}\right)= \frac{1}{4} \widetilde{F}_{1}\left(e_{i}\right), \ \ \phi \phi E_{2}=-\phi E_{2}=E_{2}, & \phi \phi \widetilde{F}_{2}\left(e_{i}\right)=\frac{1}{2} \phi \widetilde{F}_{2}\left(e_{i}\right)=\frac{1}{4} \widetilde{F}_{2}\left(e_{i}\right), \\ \phi \phi E_{3}= \phi 0=0, & \phi \phi \widetilde{F}_{3}\left(e_{i} \right)=\phi 0=0 . \end{array}	$\begin{array}{ll} \phi \phi E_{1}=\phi E_{1}=E_{1}, & \phi \phi \widetilde{F}_{1}\left(e_{i}\right)=-\frac{1}{2} \phi \widetilde{F}_{1}\left(e_{i}\right)=\frac{1}{4} \widetilde{F}_{1}\left(e_{i}\right), \\ \phi \phi E_{2}=-\phi E_{2}=E_{2}, & \phi \phi \widetilde{F}_{2}\left(e_{i}\right)=\frac{1}{2} \phi \widetilde{F}_{2}\left(e_{i}\right)=\frac{1}{4} \widetilde{F}_{2}\left(e_{i}\right), \\ \phi \phi E_{3}=\phi 0=0, & \phi \phi \widetilde{F}_{3}\left(e_{i}\right)=\phi 0=0. \end{array}$	$\begin{array}{ll} \phi \phi E_{1}=\phi E_{1}=E_{1}, & \phi \phi \widetilde{F}_{1}\left(e_{i}\right)=-\frac{1}{2} \phi \widetilde{F}_{1}\left(e_{i}\right)=\frac{1}{4} \widetilde{F}_{1}\left(e_{i}\right), \\ \phi \phi E_{2}=-\phi E_{2}=E_{2}, & \phi \phi \widetilde{F}_{2}\left(e_{i}\right)=\frac{1}{2} \phi \widetilde{F}_{2}\left(e_{i}\right)=\frac{1}{4} \widetilde{F}_{2}\left(e_{i}\right), \\ \phi \phi E_{3}=\phi 0=0, & \phi \phi \widetilde{F}_{3}\left(e_{i}\right)=\phi 0=0. \end{array}$
0902.0431_EQ0488	80	■1.000	A \vee(B \times C)+B \vee(C \times A)+C \vee(A \times B)=0, \quad A, B, C \in \mathfrak{J}^{C} .	$A \vee(B \times C)+B \vee(C \times A)+C \vee(A \times B)=0, \quad A, B, C \in \mathfrak{J}^{C}$.	$A \vee(B \times C)+B \vee(C \times A)+C \vee(A \times B)=0, \quad A, B, C \in \mathfrak{J}^{C}$.
0902.0431_EQ0490	80	■1.000	\mathfrak{M}^{r}=\{X \in M(3, \mathfrak{C}) \mid \text { all diagonal elements of } X \text { are real }\},	$\mathfrak{M}^{r}=\{X \in M(3, \mathfrak{C}) \mid \text { all diagonal elements of } X \text { are real }\}$,	$\mathfrak{M}^{r}=\{X \in M(3, \mathfrak{C}) \mid \text { all diagonal elements of } X \text { are real}\}$,
0902.0431_EQ0491	81	■1.000	X \circ Y=\frac{1}{2}\left(X Y+Y^{*} X^{*}\right)	$X \circ Y=\frac{1}{2}\left(X Y+Y^{*} X^{*}\right)$	$X \circ Y=\frac{1}{2}(X Y+Y^{*} X^{*})$,
0902.0431_EQ0498	81	■1.000	\begin{aligned} & =\sum_{k} \sigma_{i j}\left(x_{i k} y_{k j}\right)+\sum_{k} \overline{\sigma_{j i} \left(x_{j k} y_{k i}\right)} \\ & =\sum_{k} \sigma_{i j}\left(x_{i k} y_{k j}\right)+\sum_{k} \sigma_{i j}\left(\overline{x_{j k} y_{k i}}\right)=(i, j) \text {-element of } \delta(X \circ Y) . \end{aligned}	$\begin{aligned} & =\sum_{k} \sigma_{i j}\left(x_{i k} y_{k j}\right)+\sum_{k} \overline{\sigma_{j i}\left(x_{j k} y_{k i}\right)} \\ & =\sum_{k} \sigma_{i j}\left(x_{i k} y_{k j}\right)+\sum_{k} \sigma_{i j}\left(\overline{x_{j k} y_{k i}}\right)=(i, j) \text {-element of } \delta(X \circ Y). \end{aligned}$	$\begin{aligned} & =\sum_{k} \sigma_{i j}\left(x_{i k} y_{k j}\right)+\sum_{k} \overline{\sigma_{j i}\left(x_{j k} y_{k i}\right)} \\ & =\sum_{k} \sigma_{i j}\left(x_{i k} y_{k j}\right)+\sum_{k} \sigma_{i j}\left(\overline{x_{j k} y_{k i}}\right)=(i, j) \text {-element of } \delta(X \circ Y). \end{aligned}$
0902.0431_EQ0500	82	■1.000	[\delta, \widetilde{R}]=\widetilde{\delta R} .	$[\delta, \widetilde{R}]=\widetilde{\delta R}$.	$[\delta, \widetilde{R}]=\widetilde{\delta R}$.
0902.0431_EQ0501	82	■1.000	\[[\widetilde{H}, \widetilde{T}]=\frac{1}{2}[H, T]^{ \sim} . \] \end{itemize}	$[\widetilde{H}, \widetilde{T}]=\frac{1}{2}[H, T]^{\sim}$.	$[\widetilde{H}, \widetilde{T}]=\frac{1}{2}[H, T]^{\sim}$.
0902.0431_EQ0503	82	■1.000	=\frac{1}{4}\left([H, T] X+X[H, T]^{*}\right)= \frac{1}{2}[H, T]^{\sim} X, \quad X \in \mathfrak{J}^{C} .	$=\frac{1}{4}\left([H, T] X+X[H, T]^{*}\right)=\frac{1}{2}[H, T]^{\sim} X, \quad X \in \mathfrak{J}^{C}$.	$=\frac{1}{4}\left([H, T] X+X[H, T]^{*}\right)=\frac{1}{2}[H, T]^{\sim} X, \quad X \in \mathfrak{J}^{C}$.
0902.0431_EQ0510	84	■1.000	\left[h, \widetilde{F}_{32}(a)\right]=\left(-\lambda_{k}+ \frac{1}{2}\left(\mu_{3}-\mu_{2}\right)\right) \widetilde{F}_{32}(a), \quad a=e_{k}+i e_{4+k},	$\left[h, \widetilde{F}_{32}(a)\right]=\left(-\lambda_{k}+\frac{1}{2}\left(\mu_{3}-\mu_{2}\right)\right) \widetilde{F}_{32}(a), \quad a=e_{k}+i e_{4+k},$	$\left[h, \widetilde{F}_{32}(a)\right]=\left(-\lambda_{k}+\frac{1}{2}(\mu_{3}-\mu_{2})\right) \widetilde{F}_{32}(a), \quad a=e_{k}+i e_{4+k},$
0902.0431_EQ0514	84	■1.000	\mu=\alpha_{1}+2 \alpha_{2}+3 \alpha_{3}+2 \alpha_{4}+2 \alpha_{5}+\alpha_{6}	$\mu=\alpha_{1}+2 \alpha_{2}+3 \alpha_{3}+2 \alpha_{4}+2 \alpha_{5}+\alpha_{6}$	$\mu=\alpha_{1}+2 \alpha_{2}+3 \alpha_{3}+2 \alpha_{4}+2 \alpha_{5}+\alpha_{6}$
0902.0431_EQ0519	86	■1.000	\mathfrak{h}_{\boldsymbol{R}}=\left\{\sum_{k=0}^{3} \lambda_{k} H_{k}+\left(\sum_{j=1}^{3} \mu_{j} E_{j}\right)^{\sim} \mid \lambda_{k}, \mu_{j} \in \boldsymbol{R}, \mu_{1}+\mu_{2}+\mu_{3}=0\right\} .	$\mathfrak{h}_{\boldsymbol{R}}=\left\{\sum_{k=0}^{3} \lambda_{k} H_{k}+\left(\sum_{j=1}^{3} \mu_{j} E_{j}\right)^{\sim} \mid \lambda_{k}, \mu_{j} \in \boldsymbol{R}, \mu_{1}+\mu_{2}+\mu_{3}=0\right\}$.	$\mathfrak{h}_{\boldsymbol{R}}=\left\{\sum_{k=0}^{3} \lambda_{k} H_{k}+\left(\sum_{j=1}^{3} \mu_{j} E_{j}\right)^{\sim} \mid \lambda_{k}, \mu_{j} \in \boldsymbol{R}, \mu_{1}+\mu_{2}+\mu_{3}=0\right\}$.
0902.0431_EQ0523	86	■1.000	\left(\alpha_{1}, \alpha_{1}\right)=B_{6}\left(H_{ \alpha_{1}}, H_{\alpha_{1}}\right)=24 \frac{1}{24} \frac{1}{24} 2=\frac{1}{12},	$\left(\alpha_{1}, \alpha_{1}\right)=B_{6}\left(H_{\alpha_{1}}, H_{\alpha_{1}}\right)=24 \frac{1}{24} \frac{1}{24} 2=\frac{1}{12},$	$\left(\alpha_{1}, \alpha_{1}\right)=B_{6}\left(H_{\alpha_{1}}, H_{\alpha_{1}}\right)=24 \frac{1}{24} \frac{1}{24} 2=\frac{1}{12},$

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0902.0431_EQ0525	87	■1.000	`\begin{aligned} \left(E_{6}\right)^{\tau} & =\left\{ \alpha \in E_{6} \mid \tau \alpha=\alpha \tau\right\} \ \ & =\left\{\alpha \in E_{6} \mid \lambda(\alpha)=\alpha \right\}=\left(E_{6}\right)^{\lambda} . \end{aligned}`	$\begin{aligned} \left(E_{6}\right)^{\tau} & =\left\{ \alpha \in E_{6} \mid \tau \alpha=\alpha \tau\right\} \ \ & =\left\{\alpha \in E_{6} \mid \lambda(\alpha)=\alpha \right\}=\left(E_{6}\right)^{\lambda} . \end{aligned}$	$\begin{aligned} \left(E_{6}\right)^{\tau} & =\left\{ \alpha \in E_{6} \mid \tau \alpha=\alpha \tau\right\} \ \ & =\left\{\alpha \in E_{6} \mid \lambda(\alpha)=\alpha \right\}=\left(E_{6}\right)^{\lambda} . \end{aligned}$
0902.0431_EQ0526	87	■1.000	`\begin{aligned} \left(E_{6}\right)^{\tau} & =\left\{ \alpha \in E_{6} \mid(\alpha X, \alpha Y)=(X, Y), X, Y \in \mathfrak{J}^{C}\right\} \\ & =\left\{\alpha \in E_{6} \mid \alpha E=E\right\}=\left(E_{6}\right)_{E} . \end{aligned}`	$\begin{aligned} \left(E_{6}\right)^{\tau} & =\left\{ \alpha \in E_{6} \mid(\alpha X, \alpha Y)=(X, Y), X, Y \in \mathfrak{J}^{C}\right\} \\ & =\left\{\alpha \in E_{6} \mid \alpha E=E\right\}=\left(E_{6}\right)_{E} . \end{aligned}$	$\begin{aligned} \left(E_{6}\right)^{\tau} & =\left\{ \alpha \in E_{6} \mid(\alpha X, \alpha Y)=(X, Y), X, Y \in \mathfrak{J}^{C}\right\} \\ & =\left\{\alpha \in E_{6} \mid \alpha E=E\right\}=\left(E_{6}\right)_{E} . \end{aligned}$
0902.0431_EQ0527	88	■1.000	`\begin{aligned} F_{4} & =\left\{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}(\mathfrak{J}) \mid \operatorname{det}(\alpha X)=\operatorname{det} X,(\alpha X, \alpha Y)=(X, Y)\right\} \\ & =\left\{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}(\mathfrak{J}) \mid \alpha(X \times Y)=\alpha X \times \alpha Y\right\} . \end{aligned}`	$\begin{aligned} F_{4} & =\left\{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}(\mathfrak{J}) \mid \operatorname{det}(\alpha X)=\operatorname{det} X,(\alpha X, \alpha Y)=(X, Y)\right\} \\ & =\left\{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}(\mathfrak{J}) \mid \alpha(X \times Y)=\alpha X \times \alpha Y\right\} . \end{aligned}$	$\begin{aligned} F_{4} & =\left\{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}(\mathfrak{J}) \mid \operatorname{det}(\alpha X)=\operatorname{det} X,(\alpha X, \alpha Y)=(X, Y)\right\} \\ & =\left\{\alpha \in \operatorname{Iso}_{\boldsymbol{R}}(\mathfrak{J}) \mid \alpha(X \times Y)=\alpha X \times \alpha Y\right\} . \end{aligned}$
0902.0431_EQ0528	88	■1.000	`\alpha_{12}(t)\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right)=\left(\begin{array}{ccc} e^{i t} \xi_{1} & x_{3} & e^{i t / 2} \bar{x}_{2} \\ \bar{x}_{3} & e^{-i t} \xi_{2} & e^{-i t / 2} x_{1} \\ e^{i t / 2} x_{2} & e^{-i t / 2} \bar{x}_{1} & \xi_{3} \end{array}\right),`	$\alpha_{12}(t)\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right)=\left(\begin{array}{ccc} e^{i t} \xi_{1} & x_{3} & e^{i t / 2} \bar{x}_{2} \\ \bar{x}_{3} & e^{-i t} \xi_{2} & e^{-i t / 2} x_{1} \\ e^{i t / 2} x_{2} & e^{-i t / 2} \bar{x}_{1} & \xi_{3} \end{array}\right),$	$\alpha_{12}(t)\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right)=\left(\begin{array}{ccc} e^{i t} \xi_{1} & x_{3} & e^{i t / 2} \bar{x}_{2} \\ \bar{x}_{3} & e^{-i t} \xi_{2} & e^{-i t / 2} x_{1} \\ e^{i t / 2} x_{2} & e^{-i t / 2} \bar{x}_{1} & \xi_{3} \end{array}\right),$
0902.0431_EQ0533	90	■1.000	`E I V=\left\{X \in \mathfrak{J}^{C} \mid \operatorname{det} X=1,\langle X, X\rangle=3\right\} .`	$E I V=\left\{X \in \mathfrak{J}^{C} \mid \operatorname{det} X=1,\langle X, X\rangle=3\right\} .$	$E I V=\left\{X \in \mathfrak{J}^{C} \mid \operatorname{det} X=1,\langle X, X\rangle=3\right\} .$
0902.0431_EQ0534	90	■1.000	`\alpha X=\left(\begin{array}{ccc} \xi_{1} & 0 & 0 \\ 0 & \xi_{2} & 0 \\ 0 & 0 & \xi_{3} \end{array}\right), \quad \xi_{1} \in C, \xi_{2} \geq 0, \xi_{3} \geq 0`	$\alpha X=\left(\begin{array}{ccc} \xi_{1} & 0 & 0 \\ 0 & \xi_{2} & 0 \\ 0 & 0 & \xi_{3} \end{array}\right), \quad \xi_{1} \in C, \xi_{2} \geq 0, \xi_{3} \geq 0$	$\alpha X=\left(\begin{array}{ccc} \xi_{1} & 0 & 0 \\ 0 & \xi_{2} & 0 \\ 0 & 0 & \xi_{3} \end{array}\right), \quad \xi_{1} \in C, \xi_{2} \geq 0, \xi_{3} \geq 0$
0902.0431_EQ0536	90	■1.000	`z\left(E_{6}\right)=\left\{1, \omega 1, \omega^{2} 1 \right\}, \quad \omega=-\frac{1}{2}+\frac{\sqrt{3}}{2} i \in C .`	$z\left(E_{6}\right)=\left\{1, \omega 1, \omega^{2} 1\right\}, \quad \omega=-\frac{1}{2}+\frac{\sqrt{3}}{2} i \in C .$	$z\left(E_{6}\right)=\left\{1, \omega 1, \omega^{2} 1\right\}, \quad \omega=-\frac{1}{2}+\frac{\sqrt{3}}{2} i \in C .$
0902.0431_EQ0537	90	■1.000	`\beta Y=Y, \quad \text { for all } \beta \in F_{4} .`	$\beta Y=Y, \quad \text { for all } \beta \in F_{4} .$	$\beta Y=Y, \quad \text { for all } \beta \in F_{4} .$
0902.0431_EQ0538	90	■1.000	`\beta X=T X T^{-1}, \quad X \in \mathfrak{J}^{C},`	$\beta X=T X T^{-1}, \quad X \in \mathfrak{J}^{C},$	$\beta X=T X T^{-1}, \quad X \in \mathfrak{J}^{C},$
0902.0431_EQ0539	91	■1.000	`\alpha E=Y=\omega E, \quad \omega \in C,`	$\alpha E=Y=\omega E, \quad \omega \in C,$	$\alpha E=Y=\omega E, \quad \omega \in C,$
0902.0431_EQ0540	91	■1.000	`\left(E_{6}\right)^{\sigma}=\left\{\alpha \in E_{6} \mid \sigma \alpha=\alpha \sigma\right\} .`	$\left(E_{6}\right)^{\sigma}=\left\{\alpha \in E_{6} \mid \sigma \alpha=\alpha \sigma\right\} .$	$\left(E_{6}\right)^{\sigma}=\left\{\alpha \in E_{6} \mid \sigma \alpha=\alpha \sigma\right\} .$
0902.0431_EQ0542	91	■1.000	`\alpha E_{1}=\xi E_{1}, \quad(\tau \xi) \xi=1 .`	$\alpha E_{1}=\xi E_{1}, \quad(\tau \xi) \xi=1 .$	$\alpha E_{1}=\xi E_{1}, \quad(\tau \xi) \xi=1 .$
0902.0431_EQ0543	91	■1.000	`\alpha E_{2}, \alpha E_{3} \in \mathfrak{J}\left(2, \mathfrak{C}^{C}\right) .`	$\alpha E_{2}, \alpha E_{3} \in \mathfrak{J}\left(2, \mathfrak{C}^{C}\right) .$	$\alpha E_{2}, \alpha E_{3} \in \mathfrak{J}\left(2, \mathfrak{C}^{C}\right) .$
0902.0431_EQ0545	92	■1.000	`\alpha E_{1} \notin \mathfrak{J}\left(2, \mathfrak{C}^{C} \right) .`	$\alpha E_{1} \notin \mathfrak{J}\left(2, \mathfrak{C}^{C}\right) .$	$\alpha E_{1} \notin \mathfrak{J}\left(2, \mathfrak{C}^{C}\right) .$
0902.0431_EQ0547	92	■1.000	`\alpha E_{1}=\xi E_{1}+\xi_{2} E_{2}+\xi_{3} E_{3}+F_{1} \left(x_{1}\right), \quad \xi \neq 0 .`	$\alpha E_{1}=\xi E_{1}+\xi_{2} E_{2}+\xi_{3} E_{3}+F_{1}\left(x_{1}\right), \quad \xi \neq 0 .$	$\alpha E_{1}=\xi E_{1}+\xi_{2} E_{2}+\xi_{3} E_{3}+F_{1}\left(x_{1}\right), \quad \xi \neq 0 .$

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0902.0431_EQ0549	92	■1.000	`\alpha E_{1}=\xi E_{1}, \quad \xi \neq 0 .`	$\alpha E_1 = \xi E_1, \quad \xi \neq 0.$	$\alpha E_1 = \xi E_1, \quad \xi \neq 0.$
0902.0431_EQ0550	92	■1.000	`1=\left\langle E_{1}, E_{1}\right\rangle=\left\langle \alpha E_{1}, \alpha E_{1}\right\rangle=\left\langle\xi E_{1}, \xi E_{1}\right\rangle=(\tau \xi) \xi\left\langle E_{1}, E_{1}\right\rangle=(\tau \xi) \xi,`	$1 = \langle E_1, E_1\rangle = \langle \alpha E_1, \alpha E_1\rangle = \langle \xi E_1, \xi E_1\rangle = (\tau\xi)\xi \langle E_1, E_1\rangle = (\tau\xi)\xi,$	$1 = \langle E_1, E_1\rangle = \langle \alpha E_1, \alpha E_1\rangle = \langle \xi E_1, \xi E_1\rangle = (\tau\xi)\xi\langle E_1, E_1\rangle = (\tau\xi)\xi,$
0902.0431_EQ0551	92	■1.000	`\left(E_{6}\right)_{E_{1}}=\left\{\alpha \in E_{6} \mid \alpha E_{1}=E_{1}\right\} .`	$(E_6)_{E_1} = \{\alpha \in E_6 \mid \alpha E_1 = E_1\}.$	$(E_6)_{E_1} = \{\alpha \in E_6 \mid \alpha E_1 = E_1\}.$
0902.0431_EQ0552	93	■1.000	`V^{10}=\left\{X \in \mathfrak{J}^{C} \mid 2 E_{1} \times X=-\tau X\right\}=\left\{\left.\left(\begin{array}{ccc} 0 & 0 & 0 \\ 0 & \xi & x \\ 0 & \bar{x} & -\tau \xi \end{array}\right) \right\rvert\, \xi \in C, x \in \mathfrak{C}\right\} .`	$V^{10} = \{X \in \mathfrak{J}^C \mid 2E_1 \times X = -\tau X\} = \left\{ \left.\begin{pmatrix} 0 & 0 & 0 \\ 0 & \xi & x \\ 0 & \bar{x} & -\tau\xi \end{pmatrix} \right\rvert\, \xi \in C, x \in \mathfrak{C}\right\}.$	$V^{10} = \{X \in \mathfrak{J}^C \mid 2E_1 \times X = -\tau X\} = \left\{ \left.\begin{pmatrix} 0 & 0 & 0 \\ 0 & \xi & x \\ 0 & \bar{x} & -\tau\xi \end{pmatrix} \right\rvert\, \xi \in C, x \in \mathfrak{C}\right\}.$
0902.0431_EQ0553	93	■1.000	`\begin{gathered} 2 E_{1} \times \alpha X=2 \alpha E_{1} \times \alpha X=2 \tau \alpha \tau\left(E_{1} \times X \right)=\tau \alpha \tau(-\tau X)=-\tau(\alpha X), \\ \langle\alpha X, \alpha X\rangle=\langle X, X\rangle=2 . \end{gathered}`	$2E_1 \times \alpha X = 2\alpha E_1 \times \alpha X = 2\tau\alpha\tau\left(E_1 \times X\right) = \tau\alpha\tau(-\tau X) = -\tau(\alpha X),$ $\langle \alpha X, \alpha X\rangle = \langle X, X\rangle = 2.$	$2E_1 \times \alpha X = 2\alpha E_1 \times \alpha X = 2\tau\alpha\tau(E_1 \times X) = \tau\alpha\tau(-\tau X) = -\tau(\alpha X),$ $\langle \alpha X, \alpha X\rangle = \langle X, X\rangle = 2.$
0902.0431_EQ0554	93	■1.000	`\alpha_{23}\left(t_{0}\right) X \in S^{8}=\left\{X \in V^{9} \mid\langle X, X\rangle=2\right\}`	$\alpha_{23}\left(t_0\right) X \in S^8 = \left\{X \in V^9 \mid \langle X, X\rangle = 2\right\}$	$\alpha_{23}(t_0)X \in S^8 = \{X \in V^9 \mid \langle X, X\rangle = 2\}$
0902.0431_EQ0556	93	■1.000	`\alpha_{23}(\pi / 2) \beta \alpha_{23}\left(t_{0}\right) X=i\left(E_{2}+E_{3}\right) .`	$\alpha_{23}(\pi/2)\beta\alpha_{23}\left(t_0\right) X = i\left(E_2 + E_3\right).$	$\alpha_{23}(\pi/2)\beta\alpha_{23}(t_0)X = i(E_2 + E_3).$
0902.0431_EQ0557	93	■1.000	`p:\left(E_{6}\right)_{E_{1}} \rightarrow S O(10)=S O \left(V^{10}\right)`	$p : (E_6)_{E_1} \rightarrow SO(10) = SO\left(V^{10}\right)$	$p : (E_6)_{E_1} \rightarrow SO(10) = SO(V^{10})$
0902.0431_EQ0559	94	■1.000	`\left(E_{6}\right)_{E_{1}} /\{1, \sigma\} \cong S O(10) .`	$(E_6)_{E_1} /\{1, \sigma\} \cong SO(10).$	$(E_6)_{E_1}/\{1, \sigma\} \cong SO(10).$
0902.0431_EQ0561	94	■1.000	`\begin{aligned} U(1) & =\left\{\alpha_{12}(t) \alpha_{13}(t)=\exp i t\left(2 E_{1}-E_{2}-E_{3}\right)^{ \sim} \mid t \in \boldsymbol{R}\right\} \\ & =\{\phi( \theta) \mid \theta \in C,(\tau \theta) \theta=1\} \end{aligned}`	$U(1) = \{\alpha_{12}(t)\alpha_{13}(t) = \exp it\,(2E_1 - E_2 - E_3)^\sim \mid t \in \boldsymbol{R}\}$ $= \{\phi(\theta) \mid \theta \in C, (\tau\theta)\theta = 1\}$	$U(1) = \{\alpha_{12}(t)\alpha_{13}(t) = \exp it(2E_1 - E_2 - E_3)^\sim \mid t \in \boldsymbol{R}\}$ $= \{\phi(\theta) \mid \theta \in C, (\tau\theta)\theta = 1\}$
0902.0431_EQ0563	94	■1.000	`\phi(\theta)\left|\mathfrak{E}_{1}^{C}=\theta^{4} 1, \quad \phi(\theta)\right| \mathfrak{J}(2, \mathfrak{C})^{C}=\theta^{-2} 1, \quad \phi(\theta) \mid\left(\mathfrak{J}^{C}\right)_{-\sigma}=\theta 1 .`	$\phi(\theta)\left\|\mathfrak{E}_1^C = \theta^4 1, \quad \phi(\theta)\right\| \mathfrak{J}(2, \mathfrak{C})^C = \theta^{-2} 1, \quad \phi(\theta) \mid \left(\mathfrak{J}^C\right)_{-\sigma} = \theta 1.$	$\phi(\theta)\|\mathfrak{E}_1{}^C = \theta^4 1, \quad \phi(\theta)\|\mathfrak{J}(2, \mathfrak{C})^C = \theta^{-2} 1, \quad \phi(\theta)\|(\mathfrak{J}^C)_{-\sigma} = \theta 1.$
0902.0431_EQ0564	95	■1.000	`\varphi(\theta, \beta)=\phi(\theta) \beta .`	$\varphi(\theta, \beta) = \phi(\theta)\beta.$	$\varphi(\theta, \beta) = \phi(\theta)\beta.$
0902.0431_EQ0565	95	■1.000	`\alpha E_{1}=\theta^{4} E_{1}=\phi(\theta) E_{1}`	$\alpha E_1 = \theta^4 E_1 = \phi(\theta) E_1$	$\alpha E_1 = \theta^4 E_1 = \phi(\theta) E_1$
0902.0431_EQ0566	95	■1.000	`\operatorname{Ker} \varphi=\left\{\left(\theta, \phi( \theta)^{-1}\right) \mid \theta \in C, \theta^{4}=1 \right\}=\left\{\left(\theta, \phi\left(\theta^{-1} \right)\right) \mid \theta= \pm 1, \pm i\right\}= \boldsymbol{Z}_{4} .`	$\operatorname{Ker}\varphi = \left\{\left(\theta, \phi(\theta)^{-1}\right) \mid \theta \in C, \theta^4 = 1\right\} = \left\{\left(\theta, \phi\left(\theta^{-1}\right)\right) \mid \theta = \pm 1, \pm i\right\} = \boldsymbol{Z}_4.$	$\operatorname{Ker}\varphi = \left\{\left(\theta, \phi(\theta)^{-1}\right) \mid \theta \in C, \theta^4 = 1\right\} = \left\{\left(\theta, \phi(\theta^{-1})\right) \mid \theta = \pm 1, \pm i\right\} = \boldsymbol{Z}_4.$
0902.0431_EQ0567	95	■1.000	`\left(E_{6}\right)^{\gamma}=\left\{\alpha \in E_{6} \mid \gamma \alpha=\alpha \gamma\right\} .`	$(E_6)^\gamma = \{\alpha \in E_6 \mid \gamma\alpha = \alpha\gamma\}.$	$(E_6)^\gamma = \{\alpha \in E_6 \mid \gamma\alpha = \alpha\gamma\}.$
0902.0431_EQ0568	95	■1.000	`\mathfrak{J}^{C}=\mathfrak{J}(3, \boldsymbol{H})^{C} \oplus\left(\boldsymbol{H}^{3}\right)^{C},`	$\mathfrak{J}^C = \mathfrak{J}(3, \boldsymbol{H})^C \oplus \left(\boldsymbol{H}^3\right)^C,$	$\mathfrak{J}^C = \mathfrak{J}(3, \boldsymbol{H})^C \oplus (\boldsymbol{H}^3)^C,$
0902.0431_EQ0570	95	■1.000	`k: M(3, \boldsymbol{H}) \rightarrow M(6, C) \quad \text { and } \quad k: \boldsymbol{H}^{3} \rightarrow M(2,6, C) .`	$k : M(3, \boldsymbol{H}) \rightarrow M(6, C) \quad \text{and} \quad k : \boldsymbol{H}^3 \rightarrow M(2, 6, C).$	$k : M(3, \boldsymbol{H}) \rightarrow M(6, C) \quad \text{and} \quad k : \boldsymbol{H}^3 \rightarrow M(2, 6, C).$
0902.0431_EQ0574	96	■1.000	`k_{J}(M)=k(M) J .`	$k_J(M) = k(M)J.$	$k_J(M) = k(M)J.$

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0902.0431_EQ0576	96	1.000	`\langle S, T\rangle=\operatorname{tr}\left(\left( \tau^{t} S\right) T\right), \quad\langle P, Q\rangle= \operatorname{tr}\left(\left(\tau^{t} P\right) Q\right) .`	$\langle S, T\rangle=\operatorname{tr}\left(\left(\tau^{t} S\right) T\right), \quad\langle P, Q\rangle= \operatorname{tr}\left(\left(\tau^{t} P\right) Q\right) .$	$\langle S, T\rangle=\operatorname{tr}\left(\left(\tau^{t} S\right) T\right), \quad\langle P, Q\rangle= \operatorname{tr}\left(\left(\tau^{t} P\right) Q\right) .$
0902.0431_EQ0577	96	1.000	`\[\begin{array}{ll} \left\langle k_{J}(M), k_{J}(N) \right\rangle=2\langle M, N\rangle, & M, N \in \mathfrak{J}(3, \boldsymbol{H})^{C}, \\ \langle k(\boldsymbol{a}), k(\boldsymbol{b})\rangle=2\langle \boldsymbol{a}, \boldsymbol{b}\rangle, & \boldsymbol{a}, \boldsymbol{b} \in\left(\boldsymbol{H}^{3}\right)^{C} . \\ \operatorname{det}\left(k_{J}(M)\right)=(\operatorname{det} M)^{2}, & M \in \mathfrak{J}(3, \boldsymbol{H})^{C} . \end{array} \] \end{itemize}`	$\begin{array}{ll} \left\langle k_{J}(M), k_{J}(N) \right\rangle=2\langle M, N\rangle, & M, N \in \mathfrak{J}(3, \boldsymbol{H})^{C}, \\ \langle k(\boldsymbol{a}), k(\boldsymbol{b})\rangle=2\langle \boldsymbol{a}, \boldsymbol{b}\rangle, & \boldsymbol{a}, \boldsymbol{b} \in\left(\boldsymbol{H}^{3}\right)^{C} . \\ \operatorname{det}\left(k_{J}(M)\right)=(\operatorname{det} M)^{2}, & M \in \mathfrak{J}(3, \boldsymbol{H})^{C} . \end{array}$	$\begin{array}{ll} \left\langle k_{J}(M), k_{J}(N) \right\rangle=2\langle M, N\rangle, & M, N \in \mathfrak{J}(3, \boldsymbol{H})^{C}, \\ \langle k(\boldsymbol{a}), k(\boldsymbol{b})\rangle=2\langle \boldsymbol{a}, \boldsymbol{b}\rangle, & \boldsymbol{a}, \boldsymbol{b} \in\left(\boldsymbol{H}^{3}\right)^{C} . \\ \operatorname{det}\left(k_{J}(M)\right)=(\operatorname{det} M)^{2}, & M \in \mathfrak{J}(3, \boldsymbol{H})^{C} . \end{array}$
0902.0431_EQ0579	96	1.000	`\left(\begin{array}{cc} a^{\prime} & b^{\prime} \\ -\tau b^{\prime} & \tau a^{\prime} \end{array}\right)+i\left( \begin{array}{cc} c^{\prime} & d^{\prime} \\ -\tau d^{ \prime} & \tau c^{\prime} \end{array}\right)=0 .`	$\left(\begin{array}{cc} a^{\prime} & b^{\prime} \\ -\tau b^{\prime} & \tau a^{\prime} \end{array}\right)+i\left(\begin{array}{cc} c^{\prime} & d^{\prime} \\ -\tau d^{ \prime} & \tau c^{\prime} \end{array}\right)=0 .$	$\left(\begin{array}{cc} a^{\prime} & b^{\prime} \\ -\tau b^{\prime} & \tau a^{\prime} \end{array}\right)+i\left(\begin{array}{cc} c^{\prime} & d^{\prime} \\ -\tau d^{ \prime} & \tau c^{\prime} \end{array}\right)=0 .$
0902.0431_EQ0580	97	1.000	`\left\langle k\left(m_{1}+i n_{1}\right), k\left(m_{2}+i n_{2}\right)\right\rangle=2\left\langle m_{1}+i n_{1}, m_{2}+i n_{2}\right\rangle .`	$\left\langle k\left(m_{1}+i n_{1}\right), k\left(m_{2}+i n_{2}\right)\right\rangle=2\left\langle m_{1}+i n_{1}, m_{2}+i n_{2}\right\rangle .$	$\left\langle k\left(m_{1}+i n_{1}\right), k\left(m_{2}+i n_{2}\right)\right\rangle=2\left\langle m_{1}+i n_{1}, m_{2}+i n_{2}\right\rangle .$
0902.0431_EQ0583	97	1.000	`\begin{aligned} & \operatorname{det}\left(\begin{array}{ccc} \xi_{1} & m_{3}+n_{3} e_{2} & \tau \left(m_{2}+n_{2} e_{2}\right) \\ \tau\left(m_{3}+n_{3} e_{2}\right) & \xi_{2} & m_{1}+n_{1} e_{2} \\ m_{2}+n_{2} e_{2} & \tau\left(m_{1}+n_{1} e_{2}\right) & \xi_{3} \end{array}\right) \\ & =\xi_{1} \xi_{2} \xi_{3}+ \left(m_{1}+n_{1} e_{2}\right)\left(m_{2}+n_{2} e_{2} \right)\left(m_{3}+n_{3} e_{2}\right) \\ & \quad+\tau \left(\left(m_{1}+n_{1} e_{2}\right)\left(m_{2}+n_{2} e_{2}\right)\left(m_{3}+n_{3} e_{2}\right)\right)- \sum_{i=1}^{3} \xi_{i}\left(m_{i}+n_{i} e_{2}\right) \tau\left(m_{i}+n_{i} e_{2}\right) \\ & =\text { the contents of in the parenthesis above. } \end{aligned}`	$\begin{aligned} & \operatorname{det}\left(\begin{array}{ccc} \xi_{1} & m_{3}+n_{3} e_{2} & \tau \left(m_{2}+n_{2} e_{2}\right) \\ \tau\left(m_{3}+n_{3} e_{2}\right) & \xi_{2} & m_{1}+n_{1} e_{2} \\ m_{2}+n_{2} e_{2} & \tau\left(m_{1}+n_{1} e_{2}\right) & \xi_{3} \end{array}\right) \\ & =\xi_{1} \xi_{2} \xi_{3}+ \left(m_{1}+n_{1} e_{2}\right)\left(m_{2}+n_{2} e_{2}\right)\left(m_{3}+n_{3} e_{2}\right) \\ & \quad+\tau \left(\left(m_{1}+n_{1} e_{2}\right)\left(m_{2}+n_{2} e_{2}\right)\left(m_{3}+n_{3} e_{2}\right)\right)- \sum_{i=1}^{3} \xi_{i}\left(m_{i}+n_{i} e_{2}\right) \tau\left(m_{i}+n_{i} e_{2}\right) \\ & =\text { the contents of in the parenthesis above. } \end{aligned}$	$\begin{aligned} & \operatorname{det}\left(\begin{array}{ccc} \xi_{1} & m_{3}+n_{3} e_{2} & \tau \left(m_{2}+n_{2} e_{2}\right) \\ \tau\left(m_{3}+n_{3} e_{2}\right) & \xi_{2} & m_{1}+n_{1} e_{2} \\ m_{2}+n_{2} e_{2} & \tau\left(m_{1}+n_{1} e_{2}\right) & \xi_{3} \end{array}\right) \\ & =\xi_{1} \xi_{2} \xi_{3}+ \left(m_{1}+n_{1} e_{2}\right)\left(m_{2}+n_{2} e_{2}\right)\left(m_{3}+n_{3} e_{2}\right) \\ & \quad+\tau \left(\left(m_{1}+n_{1} e_{2}\right)\left(m_{2}+n_{2} e_{2}\right)\left(m_{3}+n_{3} e_{2}\right)\right)- \sum_{i=1}^{3} \xi_{i}\left(m_{i}+n_{i} e_{2}\right) \tau\left(m_{i}+n_{i} e_{2}\right) \\ & =\text { the contents of in the parenthesis above. } \end{aligned}$
0902.0431_EQ0584	98	1.000	`E_{6, \boldsymbol{H}}=\left\{\alpha \in \operatorname{Iso}_{C}\left(\left(\mathfrak{J}_{ \boldsymbol{H}}\right)^{C}\right) \mid \operatorname{det}(\alpha M)=\operatorname{det} M,\langle \alpha M, \alpha N\rangle=\langle M, N\rangle\right\} .`	$E_{6, \boldsymbol{H}}=\left\{\alpha \in \operatorname{Iso}_{C}\left(\left(\mathfrak{J}_{ \boldsymbol{H}}\right)^{C}\right) \mid \operatorname{det}(\alpha M)=\operatorname{det} M,\langle \alpha M, \alpha N\rangle=\langle M, N\rangle\right\} .$	$E_{6, \boldsymbol{H}}=\left\{\alpha \in \operatorname{Iso}_{C}\left(\left(\mathfrak{J}_{ \boldsymbol{H}}\right)^{C}\right) \mid \operatorname{det}(\alpha M)=\operatorname{det} M,\langle \alpha M, \alpha N\rangle=\langle M, N\rangle\right\} .$
0902.0431_EQ0585	98	1.000	`F_{4, \boldsymbol{H}}=\left\{\alpha \in E_{6, \boldsymbol{H}} \mid \alpha E=E\right\},`	$F_{4, \boldsymbol{H}}=\left\{\alpha \in E_{6, \boldsymbol{H}} \mid \alpha E=E\right\},$	$F_{4, \boldsymbol{H}}=\left\{\alpha \in E_{6, \boldsymbol{H}} \mid \alpha E=E\right\},$
0902.0431_EQ0589	98	1.000	`\varphi_{*}(C) M=C M+M C^{*}=[C, M], \quad M \in \mathfrak{J}_{\boldsymbol{H}}`	$\varphi_{*}(C) M=C M+M C^{*}=[C, M], \quad M \in \mathfrak{J}_{\boldsymbol{H}}$	$\varphi_{*}(C) M=C M+M C^{*}=[C, M], \quad M \in \mathfrak{J}_{\boldsymbol{H}}$
0902.0431_EQ0590	98	1.000	`E_{6, \boldsymbol{H}} / F_{4, \boldsymbol{H}} \simeq E I V_{\boldsymbol{H}}=\left\{X \in\left(\mathfrak{J}_{ \boldsymbol{H}}\right)^{C} \mid \operatorname{det} M=1,\langle M, M\rangle=3\right\}`	$E_{6, \boldsymbol{H}} / F_{4, \boldsymbol{H}} \simeq E I V_{\boldsymbol{H}}=\left\{X \in\left(\mathfrak{J}_{ \boldsymbol{H}}\right)^{C} \mid \operatorname{det} M=1,\langle M, M\rangle=3\right\}$	$E_{6, \boldsymbol{H}} / F_{4, \boldsymbol{H}} \simeq E I V_{\boldsymbol{H}}=\left\{X \in\left(\mathfrak{J}_{ \boldsymbol{H}}\right)^{C} \mid \operatorname{det} M=1,\langle M, M\rangle=3\right\}$

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0902.0431_EQ0592	98	■1.000	`\operatorname{det}(\varphi(A) M)=\operatorname{det} M .`	$\operatorname{det}(\varphi(A)M) = \det M.$	$\det(\varphi(A)M) = \det M.$
0902.0431_EQ0596	99	■1.000	`\alpha X \times \alpha Y={ }^{t} \alpha^{-1}(X \times Y), \quad X, Y \in \mathfrak{J}^{C} .`	$\alpha X \times \alpha Y = {}^t\alpha^{-1}(X \times Y), \quad X, Y \in \mathfrak{J}^C.$	$\alpha X \times \alpha Y = {}^t\alpha^{-1}(X \times Y), \quad X, Y \in \mathfrak{J}^C.$
0902.0431_EQ0598	99	■1.000	`k_{J}^{-1}(M)=-k^{-1}(M J)=-k^{-1}(J(\tau M)), \quad \tau k^{-1}(M)=-k^{-1}(J M J),`	$k_J^{-1}(M) = -k^{-1}(MJ) = -k^{-1}(J(\tau M)), \quad \tau k^{-1}(M) = -k^{-1}(JMJ),$	$k_J{}^{-1}(M) = -k^{-1}(MJ) = -k^{-1}(J(\tau M)), \quad \tau k^{-1}(M) = -k^{-1}(JMJ),$
0902.0431_EQ0600	100	■1.000	`\alpha=\varphi(1, A) \beta=\varphi(1, A) \varphi(p, E)= \varphi(p, A) .`	$\alpha = \varphi(1, A)\beta = \varphi(1, A)\varphi(p, E) = \varphi(p, A).$	$\alpha = \varphi(1, A)\beta = \varphi(1, A)\varphi(p, E) = \varphi(p, A).$
0902.0431_EQ0601	100	■1.000	`\begin{aligned} \left(E_{6}\right)^{\tau \gamma} & = \left\{\alpha \in E_{6} \mid \tau \gamma \alpha=\alpha \tau \gamma\right\} \\ & =\left\{\alpha \in E_{6} \mid \gamma \lambda(\alpha) \gamma=\alpha\right\}=\left(E_{6} \right)^{\lambda \gamma} . \end{aligned}`	$\begin{aligned} (E_6)^{\tau\gamma} & = \{\alpha \in E_6 \mid \tau\gamma\alpha = \alpha\tau\gamma\} \\ & = \{\alpha \in E_6 \mid \gamma\lambda(\alpha)\gamma = \alpha\} = (E_6)^{\lambda\gamma} . \end{aligned}$	$\begin{aligned} (E_6)^{\tau\gamma} & = \{\alpha \in E_6 \mid \tau\gamma\alpha = \alpha\tau\gamma\} \\ & = \{\alpha \in E_6 \mid \gamma\lambda(\alpha)\gamma = \alpha\} = (E_6)^{\lambda\gamma}. \end{aligned}$
0902.0431_EQ0605	101	■1.000	`\mathfrak{J}(4, \boldsymbol{H})=\left\{P \in M(4, \boldsymbol{H}) \mid P^{*}=P\right\},`	$\mathfrak{J}(4, \boldsymbol{H}) = \{P \in M(4, \boldsymbol{H}) \mid P^* = P\},$	$\mathfrak{J}(4, \boldsymbol{H}) = \{P \in M(4, \boldsymbol{H}) \mid P^* = P\},$
0902.0431_EQ0606	101	■1.000	`P \circ Q=\frac{1}{2}(P Q+Q P), \quad(P, Q)= \operatorname{tr}(P \circ Q) .`	$P \circ Q = \frac{1}{2}(PQ + QP), \quad (P, Q) = \operatorname{tr}(P \circ Q).$	$P \circ Q = \frac{1}{2}(PQ + QP), \quad (P, Q) = \operatorname{tr}(P \circ Q).$
0902.0431_EQ0609	101	■1.000	`\langle P, Q\rangle=(\tau P, Q) .`	$\langle P, Q\rangle = (\tau P, Q).$	$\langle P, Q\rangle = (\tau P, Q).$
0902.0431_EQ0610	101	■1.000	`A\left(X_{1}+i X_{2}\right) A^{*}=A X_{1} A^{*}+i A X_{2} A^{*}, \quad A \in \operatorname{Sp}(4), X_{1}, X_{2} \in \mathfrak{J}(4, \boldsymbol{H}) .`	$A\left(X_1 + iX_2\right) A^* = AX_1A^* + iAX_2A^*, \quad A \in \operatorname{Sp}(4), X_1, X_2 \in \mathfrak{J}(4, \boldsymbol{H}).$	$A(X_1 + iX_2)A^* = AX_1A^* + iAX_2A^*, \quad A \in Sp(4), X_1, X_2 \in \mathfrak{J}(4, \boldsymbol{H}).$
0902.0431_EQ0611	101	■1.000	`\left\langle A P A^{*}, A Q A^{*}\right\rangle= \langle P, Q\rangle, \quad P, Q \in \mathfrak{J}(4, \boldsymbol{H})^{C} .`	$\left\langle APA^*, AQA^*\right\rangle = \langle P, Q\rangle, \quad P, Q \in \mathfrak{J}(4, \boldsymbol{H})^C.$	$\left\langle APA^*, AQA^*\right\rangle = \langle P, Q\rangle, \quad P, Q \in \mathfrak{J}(4, \boldsymbol{H})^C.$
0902.0431_EQ0612	102	■1.000	`g(M+\boldsymbol{a})=\left(\begin{array}{cc} \frac{1}{2} \operatorname{tr}(M) & i \boldsymbol{a} \\ i \boldsymbol{a}^{*} & M-\frac{1}{2} \operatorname{tr}(M) E \end{array}\right), \quad M+\boldsymbol{a} \in\left(\mathfrak{J}_{\boldsymbol{H}}\right)^{C} \oplus\left(\boldsymbol{H}^{3}\right)^{C}=\mathfrak{J}^{C} .`	$g(M + \boldsymbol{a}) = \begin{pmatrix} \frac{1}{2}\operatorname{tr}(M) & i\boldsymbol{a} \\ i\boldsymbol{a}^* & M - \frac{1}{2}\operatorname{tr}(M)E \end{pmatrix}, \quad M + \boldsymbol{a} \in (\mathfrak{J}_{\boldsymbol{H}})^C \oplus (\boldsymbol{H}^3)^C = \mathfrak{J}^C.$	$g(M + \boldsymbol{a}) = \begin{pmatrix} \frac{1}{2}\operatorname{tr}(M) & i\boldsymbol{a} \\ i\boldsymbol{a}^* & M - \frac{1}{2}\operatorname{tr}(M)E \end{pmatrix}, \quad M + \boldsymbol{a} \in (\mathfrak{J}_{\boldsymbol{H}})^C \oplus (\boldsymbol{H}^3)^C = \mathfrak{J}^C.$
0902.0431_EQ0613	102	■1.000	`g(M+i \boldsymbol{a})=\left(\begin{array}{cc} \operatorname{tr}(M) & -\boldsymbol{a} \\ -\boldsymbol{a}^{*} & M \end{array}\right)-\frac{1}{2} \operatorname{tr}(M) E, \quad M+i \boldsymbol{a} \in \mathfrak{J}_{\boldsymbol{H}} \oplus i \boldsymbol{H}^{3}=\left(\mathfrak{J}^{C}\right)_{\tau \gamma} .`	$g(M + i\boldsymbol{a}) = \begin{pmatrix} \operatorname{tr}(M) & -\boldsymbol{a} \\ -\boldsymbol{a}^* & M \end{pmatrix} - \frac{1}{2}\operatorname{tr}(M)E, \quad M + i\boldsymbol{a} \in \mathfrak{J}_{\boldsymbol{H}} \oplus i\boldsymbol{H}^3 = (\mathfrak{J}^C)_{\tau\gamma}.$	$g(M + i\boldsymbol{a}) = \begin{pmatrix} \operatorname{tr}(M) & -\boldsymbol{a} \\ -\boldsymbol{a}^* & M \end{pmatrix} - \frac{1}{2}\operatorname{tr}(M)E, \quad M + i\boldsymbol{a} \in \mathfrak{J}_{\boldsymbol{H}} \oplus i\boldsymbol{H}^3 = (\mathfrak{J}^C)_{\tau\gamma}.$
0902.0431_EQ0618	103	■1.000	`\left\langle g\left(X_{1}+i X_{2}\right), g\left(Y_{1}+i Y_{2}\right)\right\rangle=\left\langle X_{1}+i X_{2}, Y_{1}+i Y_{2}\right\rangle, \quad X_{i}, Y_{i} \in\left( \mathfrak{J}^{C}\right)_{\tau \gamma}`	$\left\langle g\left(X_1 + iX_2\right), g\left(Y_1 + iY_2\right)\right\rangle = \left\langle X_1 + iX_2, Y_1 + iY_2\right\rangle, \quad X_i, Y_i \in \left(\mathfrak{J}^C\right)_{\tau\gamma}$	$\left\langle g(X_1 + iX_2), g(Y_1 + iY_2)\right\rangle = \left\langle X_1 + iX_2, Y_1 + iY_2\right\rangle, \quad X_i, Y_i \in \left(\mathfrak{J}^C\right)_{\tau\gamma}$
0902.0431_EQ0619	103	■1.000	`\varphi(A) X=g^{-1}\left(A(g X) A^{*}\right), \quad X \in \mathfrak{J}^{C} .`	$\varphi(A)X = g^{-1}\left(A(gX)A^*\right), \quad X \in \mathfrak{J}^C.$	$\varphi(A)X = g^{-1}(A(gX)A^*), \quad X \in \mathfrak{J}^C.$
0902.0431_EQ0622	103	■1.000	`\tau \gamma \varphi(A) \tau \gamma X=\varphi(A) X, \quad X \in\left(\mathfrak{J}^{C}\right)_{\tau \gamma},`	$\tau\gamma\varphi(A)\tau\gamma X = \varphi(A)X, \quad X \in \left(\mathfrak{J}^C\right)_{\tau\gamma},$	$\tau\gamma\varphi(A)\tau\gamma X = \varphi(A)X, \quad X \in (\mathfrak{J}^C)_{\tau\gamma},$
0902.0431_EQ0623	103	■1.000	`(g(\alpha E))^{2}=g(\alpha E)+\frac{3}{4} E .`	$(g(\alpha E))^2 = g(\alpha E) + \frac{3}{4}E.$	$(g(\alpha E))^2 = g(\alpha E) + \frac{3}{4}E.$

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0902.0431_EQ0625	104	1.000	P=\frac{1}{4}(2 g(\alpha E)+E),	$P=\frac{1}{4}(2g(\alpha E)+E),$	$P=\frac{1}{4}(2g(\alpha E)+E),$
0902.0431_EQ0626	104	1.000	\begin{aligned} P^{2} & =\frac{1}{16}\left(4(g(\alpha E))^{2}+4 g(\alpha E)+E\right)=\frac{1}{4}(2 g(\alpha E)+E)=P, \\ \operatorname{tr}(P) & =\frac{1}{4}\operatorname{tr}(2 g(\alpha E))+\frac{1}{4}\operatorname{tr}(E)=0+1=1 . \end{aligned}	$\begin{aligned} P^{2} & =\frac{1}{16}\left(4(g(\alpha E))^{2}+4 g(\alpha E)+E\right)=\frac{1}{4}(2 g(\alpha E)+E)=P, \\ \operatorname{tr}(P) & =\frac{1}{4}\operatorname{tr}(2 g(\alpha E))+\frac{1}{4}\operatorname{tr}(E)=0+1=1 . \end{aligned}$	$\begin{aligned} P^{2} & =\frac{1}{16}(4(g(\alpha E))^{2}+4 g(\alpha E)+E)=\frac{1}{4}(2 g(\alpha E)+E)=P, \\ \operatorname{tr}(P) & =\frac{1}{4}\operatorname{tr}(2 g(\alpha E))+\frac{1}{4}\operatorname{tr}(E)=0+1=1 . \end{aligned}$
0902.0431_EQ0627	104	1.000	P=A E_{1} A^{*} .	$P=AE_{1}A^{*}.$	$P=AE_{1}A^{*}.$
0902.0431_EQ0629	104	1.000	\beta(M+\boldsymbol{a})=D M D^{*}+p \boldsymbol{a} D^{*}, \quad M+\boldsymbol{a} \in \mathfrak{J}_{\boldsymbol{H}} \oplus \boldsymbol{H}^{3}=\mathfrak{J} .	$\beta(M+\boldsymbol{a})=DMD^{*}+p\boldsymbol{a}D^{*}, \quad M+\boldsymbol{a} \in \mathfrak{J}_{\boldsymbol{H}} \oplus \boldsymbol{H}^{3}=\mathfrak{J}.$	$\beta(M+\boldsymbol{a})=DMD^{*}+p\boldsymbol{a}D^{*}, \quad M+\boldsymbol{a} \in \mathfrak{J}_{\boldsymbol{H}} \oplus \boldsymbol{H}^{3}=\mathfrak{J}.$
0902.0431_EQ0630	104	1.000	\beta=\varphi(B) .	$\beta=\varphi(B).$	$\beta=\varphi(B).$
0902.0431_EQ0633	105	1.000	\left(E_{6}\right)^{w}=\left\{\alpha \in E_{6} \mid w \alpha=\alpha w\right\} .	$\left(E_{6}\right)^{w}=\left\{\alpha \in E_{6} \mid w \alpha=\alpha w\right\}.$	$\left(E_{6}\right)^{w}=\left\{\alpha \in E_{6} \mid w \alpha=\alpha w\right\}.$
0902.0431_EQ0634	105	1.000	\mathfrak{J}(3, \boldsymbol{C})^{C} \oplus M(3, \boldsymbol{C})^{C}=\mathfrak{J}^{C} .	$\mathfrak{J}(3, \boldsymbol{C})^{C} \oplus M(3, \boldsymbol{C})^{C}=\mathfrak{J}^{C}.$	$\mathfrak{J}(3, \boldsymbol{C})^{C} \oplus M(3, \boldsymbol{C})^{C}=\mathfrak{J}^{C}.$
0902.0431_EQ0636	105	1.000	F_{4, \boldsymbol{C}}=\left\{\alpha \in E_{6, \boldsymbol{C}} \mid \alpha E=E\right\},	$F_{4, \boldsymbol{C}}=\left\{\alpha \in E_{6, \boldsymbol{C}} \mid \alpha E=E\right\},$	$F_{4, \boldsymbol{C}}=\left\{\alpha \in E_{6, \boldsymbol{C}} \mid \alpha E=E\right\},$
0902.0431_EQ0639	105	1.000	E I V_{\boldsymbol{C}}=\left\{X \in\left(\mathfrak{J}_{ \boldsymbol{C}}\right)^{C} \mid \operatorname{det} X=1, \langle X, X\rangle=3\right\}	$EIV_{\boldsymbol{C}}=\left\{X \in\left(\mathfrak{J}_{\boldsymbol{C}}\right)^{C} \mid \operatorname{det} X=1,\langle X, X\rangle=3\right\}$	$EIV_{\boldsymbol{C}}=\left\{X \in\left(\mathfrak{J}_{\boldsymbol{C}}\right)^{C} \mid \operatorname{det} X=1,\langle X, X\rangle=3\right\}$
0902.0431_EQ0644	106	1.000	\phi_{\boldsymbol{C}}(C, D) X=h(C, D) X+X h(C, D)^{*}, \quad X \in\left(\mathfrak{J}_{\boldsymbol{C}}\right)^{C}	$\phi_{\boldsymbol{C}}(C, D) X=h(C, D) X+X h(C, D)^{*}, \quad X \in\left(\mathfrak{J}_{\boldsymbol{C}}\right)^{C}$	$\phi_{\boldsymbol{C}}(C, D) X=h(C, D) X+X h(C, D)^{*}, \quad X \in\left(\mathfrak{J}_{\boldsymbol{C}}\right)^{C}$
0902.0431_EQ0650	107	1.000	h(A, B) X h(A, B)^{*}=\bar{X}, \quad X \in\left(\mathfrak{J}_{\boldsymbol{C}}\right)^{C}	$h(A, B) X h(A, B)^{*}=\bar{X}, \quad X \in\left(\mathfrak{J}_{\boldsymbol{C}}\right)^{C}$	$h(A, B) X h(A, B)^{*}=\bar{X}, \quad X \in\left(\mathfrak{J}_{\boldsymbol{C}}\right)^{C}$
0902.0431_EQ0653	108	1.000	\begin{aligned} \tau \alpha \tau((X+M) \times(Y+N)) & = \alpha(X+M) \times \alpha(Y+N), \\ \langle\alpha(X+M), \alpha(Y+N)\rangle & =\langle X+M, Y+M\rangle . \end{aligned}	$\begin{aligned} \tau \alpha \tau((X+M) \times(Y+N)) & =\alpha(X+M) \times \alpha(Y+N), \\ \langle\alpha(X+M), \alpha(Y+N)\rangle & =\langle X+M, Y+M\rangle . \end{aligned}$	$\begin{aligned} \tau \alpha \tau((X+M) \times(Y+N)) & =\alpha(X+M) \times \alpha(Y+N), \\ \langle\alpha(X+M), \alpha(Y+N)\rangle & =\langle X+M, Y+M\rangle . \end{aligned}$
0902.0431_EQ0654	108	1.000	\tau \alpha \tau(X \times Y)=\alpha X \times \alpha Y, \quad\langle\alpha X, \alpha Y\rangle=\langle X, Y\rangle	$\tau \alpha \tau(X \times Y)=\alpha X \times \alpha Y, \quad\langle\alpha X, \alpha Y\rangle=\langle X, Y\rangle$	$\tau \alpha \tau(X \times Y)=\alpha X \times \alpha Y, \quad\langle\alpha X, \alpha Y\rangle=\langle X, Y\rangle$
0902.0431_EQ0657	108	1.000	\alpha X=h(A, B) X h(A, B)^{*} \quad \text { or } \quad \alpha X=h(A, B) \bar{X} h(A, B)^{*}, \quad X \in\left(\mathfrak{J}_{\boldsymbol{C}}\right)^{C}	$\alpha X=h(A, B) X h(A, B)^{*} \quad \text { or } \quad \alpha X=h(A, B) \bar{X} h(A, B)^{*}, \quad X \in\left(\mathfrak{J}_{\boldsymbol{C}}\right)^{C}$	$\alpha X=h(A, B) X h(A, B)^{*} \quad \text { or } \quad \alpha X=h(A, B) \overline{X} h(A, B)^{*}, \quad X \in\left(\mathfrak{J}_{\boldsymbol{C}}\right)^{C}$
0902.0431_EQ0659	109	1.000	\alpha=\varphi(E, A, B) \beta=\varphi(E, A, B) \varphi(P, E, E)=\varphi(P, A, B) .	$\alpha=\varphi(E, A, B) \beta=\varphi(E, A, B) \varphi(P, E, E)=\varphi(P, A, B).$	$\alpha=\varphi(E, A, B) \beta=\varphi(E, A, B) \varphi(P, E, E)=\varphi(P, A, B).$

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0902.0431_EQ0660	109	■1.000	\begin{aligned} & G_{01}, \quad G_{23}, \quad G_{45}, \quad G_{67}, \quad G_{26}+G_{37}, \quad-G_{27}+G_{36}, \\ & G_{24}+G_{35}, \quad-G_{25}+G_{34}, \quad G_{46}+G_{57}, \quad-G_{47}+G_{56}, \\ & \widetilde{A}_{1}(1), \quad \widetilde{A}_{2}(1), \quad \widetilde{A}_{3}(1), \quad \widetilde{A}_{1}(e_{1}), \quad \widetilde{A}_{2}(e_{1}), \quad \widetilde{A}_{3}(e_{1}), \\ & \left(E_{1}-E_{2}\right)^{\sim}, \quad \widetilde{F}_{1}(1), \quad \widetilde{F}_{2}(1), \quad \widetilde{F}_{3}(1), \\ & \left(E_{2}-E_{3}\right)^{\sim}, \quad \widetilde{F}_{1}(e_{1}), \quad \widetilde{F}_{2}(e_{1}), \quad \widetilde{F}_{3}(e_{1}) \end{aligned}	$\begin{aligned} & G_{01}, \quad G_{23}, \quad G_{45}, \quad G_{67}, \quad G_{26}+G_{37}, \quad-G_{27}+G_{36}, \\ & G_{24}+G_{35}, \quad-G_{25}+G_{34}, \quad G_{46}+G_{57}, \quad-G_{47}+G_{56}, \\ & \widetilde{A}_{1}(1), \quad \widetilde{A}_{2}(1), \quad \widetilde{A}_{3}(1), \quad \widetilde{A}_{1}(e_{1}), \quad \widetilde{A}_{2}(e_{1}), \quad \widetilde{A}_{3}(e_{1}), \\ & \left(E_{1}-E_{2}\right)^{\sim}, \quad \widetilde{F}_{1}(1), \quad \widetilde{F}_{2}(1), \quad \widetilde{F}_{3}(1), \\ & \left(E_{2}-E_{3}\right)^{\sim}, \quad \widetilde{F}_{1}(e_{1}), \quad \widetilde{F}_{2}(e_{1}), \quad \widetilde{F}_{3}(e_{1}) \end{aligned}$
0902.0431_EQ0661	109	■1.000	E_{6}{ }^{C} \simeq E_{6} \times \boldsymbol{R}^{78} .	$E_{6}{}^{C} \simeq E_{6} \times \boldsymbol{R}^{78}$.	$E_{6}{}^{C} \simeq E_{6} \times \boldsymbol{R}^{78}$.
0902.0431_EQ0662	109	■1.000	E_{6}{ }^{C} \simeq\left(E_{6}{ }^{C} \cap U \left(\mathfrak{J}^{C}\right)\right) \times \boldsymbol{R}^{d}=E_{6} \times \boldsymbol{R}^{d}, \quad d=78 .	$E_{6}{}^{C} \simeq \left(E_{6}{}^{C} \cap U \left(\mathfrak{J}^{C}\right)\right) \times \boldsymbol{R}^{d}=E_{6} \times \boldsymbol{R}^{d}, \quad d=78.$	$E_{6}{}^{C} \simeq \left(E_{6}{}^{C} \cap U \left(\mathfrak{J}^{C}\right)\right) \times \boldsymbol{R}^{d}=E_{6} \times \boldsymbol{R}^{d}, \quad d=78.$
0902.0431_EQ0663	110	■1.000	\langle X, Y\rangle_{\gamma}=\langle\gamma X, Y\rangle, \quad\langle X, Y\rangle_{\sigma}=\langle\sigma X, Y \rangle .	$\langle X, Y\rangle_{\gamma}=\langle\gamma X, Y\rangle, \quad\langle X, Y\rangle_{\sigma}=\langle\sigma X, Y\rangle.$	$\langle X, Y\rangle_{\gamma}=\langle\gamma X, Y\rangle, \quad\langle X, Y\rangle_{\sigma}=\langle\sigma X, Y\rangle.$
0902.0431_EQ0667	110	■1.000	z\left(E_{6(6)}\right)=\{1\}, \quad z\left(E_{6(2)} \right)=\boldsymbol{Z}_{3}, \quad z\left(E_{6(-14)} \right)=\boldsymbol{Z}_{3}, \quad z\left(E_{6(-26)} \right)=\{1\} .	$z\left(E_{6(6)}\right)=\{1\}, \quad z\left(E_{6(2)}\right)=\boldsymbol{Z}_{3}, \quad z\left(E_{6(-14)}\right)=\boldsymbol{Z}_{3}, \quad z\left(E_{6(-26)}\right)=\{1\}.$	$z\left(E_{6(6)}\right)=\{1\}, \quad z\left(E_{6(2)}\right)=\boldsymbol{Z}_{3}, \quad z\left(E_{6(-14)}\right)=\boldsymbol{Z}_{3}, \quad z\left(E_{6(-26)}\right)=\{1\}.$
0902.0431_EQ0670	111	■1.000	\begin{aligned} \Phi(\phi, A, B, \nu)\left(\begin{array}{l} X \\ Y \\ \xi \\ \eta \end{array}\right) & =\left(\begin{array}{cccc} \phi-\frac{1}{3} \nu & 2 B & 0 & A \\ 2 A & -{ }^{t} \phi+\frac{1}{3} \nu & B & 0 \\ 0 & A & \nu & 0 \\ B & 0 & 0 & -\nu \end{array}\right) \left(\begin{array}{l} X \\ Y \\ \xi \\ \eta \end{array} \right) \\ & =\left(\begin{array}{c} \phi X-\frac{1}{3} \nu X+2 B \times Y+\eta A \\ 2 A \times X-{ }^{t} \phi Y+\frac{1}{3} \nu Y+\xi B \\ (A, Y)+\nu \xi \\ (B, X)-\nu \eta \end{array}\right) . \end{aligned}	$\begin{aligned} \Phi(\phi, A, B, \nu)\left(\begin{array}{l} X \\ Y \\ \xi \\ \eta \end{array}\right) & =\left(\begin{array}{cccc} \phi-\frac{1}{3} \nu & 2 B & 0 & A \\ 2 A & -{ }^{t} \phi+\frac{1}{3} \nu & B & 0 \\ 0 & A & \nu & 0 \\ B & 0 & 0 & -\nu \end{array}\right) \left(\begin{array}{l} X \\ Y \\ \xi \\ \eta \end{array} \right) \\ & =\left(\begin{array}{c} \phi X-\frac{1}{3} \nu X+2 B \times Y+\eta A \\ 2 A \times X-{ }^{t} \phi Y+\frac{1}{3} \nu Y+\xi B \\ (A, Y)+\nu \xi \\ (B, X)-\nu \eta \end{array}\right) . \end{aligned}$	$\begin{aligned} \Phi(\phi, A, B, \nu)\left(\begin{array}{l} X \\ Y \\ \xi \\ \eta \end{array}\right) & =\left(\begin{array}{cccc} \phi-\frac{1}{3} \nu & 2 B & 0 & A \\ 2 A & -{ }^{t} \phi+\frac{1}{3} \nu & B & 0 \\ 0 & A & \nu & 0 \\ B & 0 & 0 & -\nu \end{array}\right) \left(\begin{array}{l} X \\ Y \\ \xi \\ \eta \end{array} \right) \\ & =\left(\begin{array}{c} \phi X-\frac{1}{3} \nu X+2 B \times Y+\eta A \\ 2 A \times X-{ }^{t} \phi Y+\frac{1}{3} \nu Y+\xi B \\ (A, Y)+\nu \xi \\ (B, X)-\nu \eta \end{array}\right) . \end{aligned}$
0902.0431_EQ0676	112	■1.000	(P \times R) Q-(Q \times R) P+\frac{1}{8}\{Q, R\} P-\frac{1}{8}\{P, R\} Q-\frac{1}{4}\{P, Q\} R=0 .	$(P \times R) Q-(Q \times R) P+\frac{1}{8}\{Q, R\} P-\frac{1}{8}\{P, R\} Q-\frac{1}{4}\{P, Q\} R=0.$	$(P \times R) Q-(Q \times R) P+\frac{1}{8}\{Q, R\} P-\frac{1}{8}\{P, R\} Q-\frac{1}{4}\{P, Q\} R=0.$

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0902.0431_EQ0680	113	■1.000	U(56)=U\left(\mathfrak{P}^{C}\right)=\left\{\alpha \in \operatorname{Iso}_{C}\left(\mathfrak{P}^{C}\right) \mid\langle\alpha P, \alpha Q\rangle=\langle P, Q\rangle \right\} .	$U(56)=U\left(\mathfrak{P}^{C}\right)=\left\{\alpha \in \operatorname{Iso}_{C}\left(\mathfrak{P}^{C}\right) \mid\langle\alpha P, \alpha Q\rangle=\langle P, Q\rangle \right\} .$	$U(56)=U(\mathfrak{P}^{C})=\{\alpha \in \operatorname{Iso}_{C}(\mathfrak{P}^{C}) \mid \langle\alpha P, \alpha Q\rangle=\langle P, Q\rangle\}.$
0902.0431_EQ0681 (1)	113	■1.000	\alpha \mathfrak{M}^{C}=\mathfrak{M}^{C} .	$\alpha \mathfrak{M}^{C}=\mathfrak{M}^{C} .$	$\alpha \mathfrak{M}^{C}=\mathfrak{M}^{C}.$
0902.0431_EQ0697	115	■1.000	l(Y)=2 B \times Y, \quad Y \in \mathfrak{J}^{C}	$l(Y)=2 B \times Y, \quad Y \in \mathfrak{J}^{C}$	$l(Y)=2 B \times Y, \quad Y \in \mathfrak{J}^{C}.$
0902.0431_EQ0698	115	■1.000	2(B \times(X \times X), X \times X)+(\operatorname{det} X)(X, B)=3(\operatorname{det} X) b(X),	$2(B \times(X \times X), X \times X)+(\operatorname{det} X)(X, B)=3(\operatorname{det} X) b(X),$	$2(B \times(X \times X), X \times X)+(\operatorname{det} X)(X, B)=3(\operatorname{det} X) b(X),$
0902.0431_EQ0699	115	■1.000	b(X)=(B, X), \quad X \in \mathfrak{J}^{C} .	$b(X)=(B, X), \quad X \in \mathfrak{J}^{C} .$	$b(X)=(B, X), \quad X \in \mathfrak{J}^{C}.$
0902.0431_EQ0700 (i)	116	■1.000	k(X)=2 A \times X, \quad a(Y)=(A, Y), \quad X, Y \in \mathfrak{J}^{C} .	$k(X)=2 A \times X, \quad a(Y)=(A, Y), \quad X, Y \in \mathfrak{J}^{C} .$	$k(X)=2 A \times X, \quad a(Y)=(A, Y), \quad X, Y \in \mathfrak{J}^{C}.$
0902.0431_EQ0701 (ii)	116	■1.000	\begin{gathered} 2 g(X) \times X=\mu X \times X+h(X \times X), \\ 2 h(X \times X) \times(X \times X)=(\operatorname{det} X)(\nu X+g(X)), \\ (g(X), X \times X)+(h(X \times X), X)=3(\nu+\mu) \operatorname{det} X . \end{gathered}	$\begin{gathered} 2 g(X) \times X=\mu X \times X+h(X \times X), \\ 2 h(X \times X) \times(X \times X)=(\operatorname{det} X)(\nu X+g(X)), \\ (g(X), X \times X)+(h(X \times X), X)=3(\nu+\mu) \operatorname{det} X . \end{gathered}$	$\begin{gathered} 2 g(X) \times X=\mu X \times X+h(X \times X), \\ 2 h(X \times X) \times(X \times X)=(\operatorname{det} X)(\nu X+g(X)), \\ (g(X), X \times X)+(h(X \times X), X)=3(\nu+\mu) \operatorname{det} X . \end{gathered}$
0902.0431_EQ0703	116	■1.000	\phi \in \mathfrak{e}_{6}{ }^{C} .	$\phi \in \mathfrak{e}_{6}{ }^{C} .$	$\phi \in \mathfrak{e}_{6}{ }^{C} .$
0902.0431_EQ0705	116	■1.000	\psi^{\prime}=\phi .	$\psi^{\prime}=\phi .$	$\psi^{\prime}=\phi .$
0902.0431_EQ0707	117	■1.000	[\Phi, P \times Q]=\Phi P \times Q+P \times \Phi Q .	$[\Phi, P \times Q]=\Phi P \times Q+P \times \Phi Q .$	$[\Phi, P \times Q]=\Phi P \times Q+P \times \Phi Q .$
0902.0431_EQ0710	117	■1.000	\lambda(X, Y, \xi, \eta)=(Y,-X, \eta,-\xi) .	$\lambda(X, Y, \xi, \eta)=(Y,-X, \eta,-\xi) .$	$\lambda(X, Y, \xi, \eta)=(Y,-X, \eta,-\xi) .$
0902.0431_EQ0711	117	■1.000	(P, Q)=\{\lambda P, Q\}=-\{P, \lambda Q\}, \quad\langle P, Q\rangle=\{\tau \lambda P, Q\} .	$(P, Q)=\{\lambda P, Q\}=-\{P, \lambda Q\}, \quad\langle P, Q\rangle=\{\tau \lambda P, Q\} .$	$(P, Q)=\{\lambda P, Q\}=-\{P, \lambda Q\}, \quad\langle P, Q\rangle=\{\tau \lambda P, Q\} .$
0902.0431_EQ0716	118	■1.000	\Phi(\phi, A,-\tau A, \nu)=\left(\begin{array}{cccc} \phi-\frac{1}{3} \nu & -2 \tau A & 0 & A \\ 2 A & \tau \phi \tau+\frac{1}{3} \nu & -\tau A & 0 \\ 0 & A & \nu & 0 \\ -\tau A & 0 & 0 & -\nu \end{array}\right) .	$\Phi(\phi, A,-\tau A, \nu)=\left(\begin{array}{cccc} \phi-\frac{1}{3} \nu & -2 \tau A & 0 & A \\ 2 A & \tau \phi \tau+\frac{1}{3} \nu & -\tau A & 0 \\ 0 & A & \nu & 0 \\ -\tau A & 0 & 0 & -\nu \end{array}\right) .$	$\Phi(\phi, A,-\tau A, \nu)=\left(\begin{array}{cccc} \phi-\frac{1}{3} \nu & -2 \tau A & 0 & A \\ 2 A & \tau \phi \tau+\frac{1}{3} \nu & -\tau A & 0 \\ 0 & A & \nu & 0 \\ -\tau A & 0 & 0 & -\nu \end{array}\right) .$
0902.0431_EQ0719	118	■1.000	\operatorname{dim}\left(\mathfrak{e}_{7} \right)=78+54+1=133 .	$\operatorname{dim}\left(\mathfrak{e}_{7} \right)=78+54+1=133 .$	$\operatorname{dim}\left(\mathfrak{e}_{7} \right)=78+54+1=133 .$
0902.0431_EQ0721	119	■1.000	\Phi=\frac{\Phi-\Phi^{*}}{2}+i \frac{\Phi+\Phi^{*}}{2 i}, \quad \frac{\Phi-\Phi^{*}}{2}, \frac{\Phi+\Phi^{*}}{2 i} \in \mathfrak{e}_{7} .	$\Phi=\frac{\Phi-\Phi^{*}}{2}+i \frac{\Phi+\Phi^{*}}{2 i}, \quad \frac{\Phi-\Phi^{*}}{2}, \frac{\Phi+\Phi^{*}}{2 i} \in \mathfrak{e}_{7} .$	$\Phi=\frac{\Phi-\Phi^{*}}{2}+i \frac{\Phi+\Phi^{*}}{2 i}, \quad \frac{\Phi-\Phi^{*}}{2}, \frac{\Phi+\Phi^{*}}{2 i} \in \mathfrak{e}_{7} .$
0902.0431_EQ0723	119	■1.000	\mathfrak{a} \ni\left[\Phi\left(\phi_{1}, 0,0,0\right), \Phi(\phi, A, B, \nu)\right]=\Phi\left(\left[\phi_{1}, \phi\right], \phi_{1} A, \phi_{1}{ }^{\prime} B, 0\right)	$\mathfrak{a} \ni\left[\Phi\left(\phi_{1}, 0,0,0\right), \Phi(\phi, A, B, \nu)\right]=\Phi\left(\left[\phi_{1}, \phi\right], \phi_{1} A, \phi_{1}{ }^{\prime} B, 0\right)$	$\mathfrak{a} \ni\left[\Phi\left(\phi_{1}, 0,0,0\right), \Phi(\phi, A, B, \nu)\right]=\Phi\left(\left[\phi_{1}, \phi\right], \phi_{1} A, \phi_{1}{ }^{\prime} B, 0\right)$
0902.0431_EQ0725	119	■1.000	\mathfrak{a} \ni\left[\Phi\left(0, E_{1}, 0,0\right), \Phi\left(0,0, E_{1}, 0\right)\right]=\Phi\left(2 E_{1} \vee E_{1}, 0,0,1\right),	$\mathfrak{a} \ni\left[\Phi\left(0, E_{1}, 0,0\right), \Phi\left(0,0, E_{1}, 0\right)\right]=\Phi\left(2 E_{1} \vee E_{1}, 0,0,1\right),$	$\mathfrak{a} \ni\left[\Phi\left(0, E_{1}, 0,0\right), \Phi\left(0,0, E_{1}, 0\right)\right]=\Phi\left(2 E_{1} \vee E_{1}, 0,0,1\right),$
0902.0431_EQ0727	120	■1.000	\[\mathfrak{a} \ni[\Phi(0,0,0, \nu), \Phi(0, A, 0,0)]=\Phi\left(0, \frac{2}{3} \nu A, 0,0\right) . \] \end{itemize}	$\mathfrak{a} \ni[\Phi(0,0,0, \nu), \Phi(0, A, 0,0)]=\Phi\left(0, \frac{2}{3} \nu A, 0,0\right) .$	$\mathfrak{a} \ni[\Phi(0,0,0, \nu), \Phi(0, A, 0,0)]=\Phi\left(0, \frac{2}{3} \nu A, 0,0\right) .$

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0902.0431_EQ0729 (c)	120	■1.000	\begin{gathered} W \ni \Phi(0,0,0,3)(X, Y, \xi, \eta)=(-X, Y, 3 \xi,-3 \eta), \\ W \ni \Phi(0,0,0,3)(-X, Y, 3 \xi,-3 \eta)=(X, Y, 9 \xi, 9 \eta) . \end{gathered}	$W \ni \Phi(0,0,0,3)(X,Y,\xi,\eta)=(-X,Y,3\xi,-3\eta),$ $W \ni \Phi(0,0,0,3)(-X,Y,3\xi,-3\eta)=(X,Y,9\xi,9\eta).$	$W \ni \Phi(0,0,0,3)(X,Y,\xi,\eta)=(-X,Y,3\xi,-3\eta),$ $W \ni \Phi(0,0,0,3)(-X,Y,3\xi,-3\eta)=(X,Y,9\xi,9\eta).$
0902.0431_EQ0731	121	■1.000	\[W \ni \Phi(0,0, B, 0)(0, Y, \xi, \eta)=(2 B \times Y, \xi B, 0,0) . \] \end{itemize}	$W \ni \Phi(0,0,B,0)(0,Y,\xi,\eta)=(2B\times Y,\xi B,0,0).$	$W \ni \Phi(0,0,B,0)(0,Y,\xi,\eta)=(2B\times Y,\xi B,0,0).$
0902.0431_EQ0732	121	■1.000	\[W \ni \Phi(0,0, B, 0)(0,0, \xi, \eta)=(0, \xi B, 0,0) . \] \end{itemize}	$W \ni \Phi(0,0,B,0)(0,0,\xi,\eta)=(0,\xi B,0,0).$	$W \ni \Phi(0,0,B,0)(0,0,\xi,\eta)=(0,\xi B,0,0).$
0902.0431_EQ0733	121	■1.000	\left(\Phi_{1}, \Phi_{2}\right)_{7}=-2\left(\phi_{1}, \phi_{2}\right)_{6}-4\left(A_{1}, B_{2}\right)-4 \left(A_{2}, B_{1}\right)-\frac{8}{3} \nu_{1} \nu_{2}	$(\Phi_1,\Phi_2)_7=-2\left(\phi_1,\phi_2\right)_6-4\left(A_1,B_2\right)-4\left(A_2,B_1\right)-\frac{8}{3}\nu_1\nu_2$	$(\Phi_1,\Phi_2)_7=-2(\phi_1,\phi_2)_6-4(A_1,B_2)-4(A_2,B_1)-\frac{8}{3}\nu_1\nu_2,$
0902.0431_EQ0735	121	■1.000	\[(\Phi, P \times Q)_{7}=\{\Phi P, Q\} . \] \end{itemize}	$(\Phi,P\times Q)_7=\{\Phi P,Q\}.$	$(\Phi,P\times Q)_7=\{\Phi P,Q\}.$
0902.0431_EQ0736	121	■1.000	=\left(\Phi\left(\begin{array}{c} {\left[\phi, \phi_{1} \right]+2 A \vee B_{1}-2 A_{1} \vee B} \\ \left(\phi+ \frac{2}{3} \nu\right) A_{1}-\left(\phi_{1}+\frac{2}{3} \nu_{1}\right) A \\ -\left({ }^{t} \phi+\frac{2}{3} \nu \right) B_{1}+\left({ }^{t} \phi_{1}+\frac{2}{3} \nu_{1} \right) B \\ \left(A, B_{1}\right)-\left(B, A_{1}\right) \end{array}\right), \Phi\left(\begin{array}{c} \phi_{2} \ \ A_{2} \\ B_{2} \\ \nu_{2} \end{array}\right)\right)_{7}	$=\left(\Phi\left(\begin{array}{c} [\phi,\phi_1]+2A\vee B_1-2A_1\vee B \\ \left(\phi+\frac{2}{3}\nu\right)A_1-\left(\phi_1+\frac{2}{3}\nu_1\right)A \\ -\left({}^t\phi+\frac{2}{3}\nu\right)B_1+\left({}^t\phi_1+\frac{2}{3}\nu_1\right)B \\ (A,B_1)-(B,A_1) \end{array}\right),\Phi\left(\begin{array}{c} \phi_2 \\ A_2 \\ B_2 \\ \nu_2 \end{array}\right)\right)_7$	$=\left(\Phi\left(\begin{array}{c} [\phi,\phi_1]+2A\vee B_1-2A_1\vee B \\ \left(\phi+\frac{2}{3}\nu\right)A_1-\left(\phi_1+\frac{2}{3}\nu_1\right)A \\ -\left({}^t\phi+\frac{2}{3}\nu\right)B_1+\left({}^t\phi_1+\frac{2}{3}\nu_1\right)B \\ (A,B_1)-(B,A_1) \end{array}\right),\Phi\left(\begin{array}{c} \phi_2 \\ A_2 \\ B_2 \\ \nu_2 \end{array}\right)\right)_7$
0902.0431_EQ0739	122	■1.000	\begin{aligned} B_{7}\left(\Phi_{1}, \Phi_{2}\right) & =-9\left(\Phi_{1}, \Phi_{2}\right)_{7} \\ & =18\left(\phi_{1}, \phi_{2}\right)_{6}+36\left(A_{1}, B_{2} \right)+36\left(A_{2}, B_{1}\right)+24 \nu_{1} \nu_{2} \ \ & =\frac{3}{2} B_{6}\left(\phi_{1}, \phi_{2}\right)+36 \left(A_{1}, B_{2}\right)+36\left(A_{2}, B_{1}\right)+24 \nu_{1} \nu_{2} \\ & =3 \operatorname{tr}\left(\Phi_{1} \Phi_{2}\right) \end{aligned}	$\begin{aligned} B_7\left(\Phi_1,\Phi_2\right) &= -9\left(\Phi_1,\Phi_2\right)_7 \\ &= 18\left(\phi_1,\phi_2\right)_6+36\left(A_1,B_2\right)+36\left(A_2,B_1\right)+24\nu_1\nu_2 \\ &= \frac{3}{2}B_6\left(\phi_1,\phi_2\right)+36\left(A_1,B_2\right)+36\left(A_2,B_1\right)+24\nu_1\nu_2 \\ &= 3\operatorname{tr}\left(\Phi_1\Phi_2\right) \end{aligned}$	$\begin{aligned} B_7(\Phi_1,\Phi_2) &= -9(\Phi_1,\Phi_2)_7 \\ &= 18(\phi_1,\phi_2)_6+36(A_1,B_2)+36(A_2,B_1)+24\nu_1\nu_2 \\ &= \frac{3}{2}B_6(\phi_1,\phi_2)+36(A_1,B_2)+36(A_2,B_1)+24\nu_1\nu_2 \\ &= 3\mathrm{tr}(\Phi_1\Phi_2), \end{aligned}$
0902.0431_EQ0742	122	■1.000	\left[\Phi_{0},\left[\Phi_{0}, \Phi(\phi, A, B, \nu) \right]\right]=\left[\Phi_{0}, \Phi\left(0, \frac{2}{3} A,-\frac{2}{3} B, 0\right)\right]=\Phi\left(0, \frac{4}{9} A, \frac{4}{9} B, 0\right) .	$\left[\Phi_0,\left[\Phi_0,\Phi(\phi,A,B,\nu)\right]\right]=\left[\Phi_0,\Phi\left(0,\frac{2}{3}A,-\frac{2}{3}B,0\right)\right]=\Phi\left(0,\frac{4}{9}A,\frac{4}{9}B,0\right).$	$\left[\Phi_0,\left[\Phi_0,\Phi(\phi,A,B,\nu)\right]\right]=\left[\Phi_0,\Phi\left(0,\frac{2}{3}A,-\frac{2}{3}B,0\right)\right]=\Phi\left(0,\frac{4}{9}A,\frac{4}{9}B,0\right).$
0902.0431_EQ0752	124	■1.000	\begin{aligned} & {\left[\Phi\left(h_{\delta}+ \widetilde{H}, 0,0, \nu\right), \Phi\left(0, F_{1}(a), 0,0\right)\right] \quad a=e_{k} \pm i e_{4+k}} \\ & \quad=\Phi\left(0,\left(h_{\delta}+\widetilde{H}+ \frac{2}{3} \nu\right) F_{1}(a), 0,0\right) \\ & \quad= \Phi\left(0, F_{1}\left(h_{\delta} a\right)+\frac{1}{2} \left(\mu_{2}+\mu_{3}\right) F_{1}(a)+\frac{2}{3} \nu F_{1}(a), 0,0\right) \end{aligned}	$\begin{aligned} & \left[\Phi\left(h_\delta+\widetilde{H},0,0,\nu\right),\Phi\left(0,F_1(a),0,0\right)\right] \quad a=e_k\pm ie_{4+k} \\ & \quad=\Phi\left(0,\left(h_\delta+\widetilde{H}+\frac{2}{3}\nu\right)F_1(a),0,0\right) \\ & \quad=\Phi\left(0,F_1\left(h_\delta a\right)+\frac{1}{2}\left(\mu_2+\mu_3\right)F_1(a)+\frac{2}{3}\nu F_1(a),0,0\right) \end{aligned}$	$\begin{aligned} & [\Phi(h_\delta+\widetilde{H},0,0,\nu),\Phi(0,F_1(a),0,0)] \qquad a=e_k\pm ie_{4+k} \\ & \quad=\Phi\Big(0,\Big(h_\delta+\widetilde{H}+\frac{2}{3}\nu\Big)F_1(a),0,0\Big) \\ & \quad=\Phi\Big(0,F_1(h_\delta a)+\frac{1}{2}(\mu_2+\mu_3)F_1(a)+\frac{2}{3}\nu F_1(a),0,0\Big) \end{aligned}$

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0902.0431_EQ0753	125	1.000	=\left(\pm \lambda_{k}-\frac{1}{2} \mu_{1}+\frac{2}{3} \nu\right) \Phi\left(0, F_{1}(a), 0,0\right) .	$=\left(\pm \lambda_{k}-\frac{1}{2} \mu_{1}+\frac{2}{3} \nu\right) \Phi\left(0, F_{1}(a), 0,0\right) .$	$=\left(\pm \lambda_{k}-\frac{1}{2} \mu_{1}+\frac{2}{3} \nu\right) \Phi\left(0, F_{1}(a), 0,0\right) .$
0902.0431_EQ0754	125	1.000	\begin{aligned} & \alpha_{1}=\lambda_{0}-\lambda_{1}, \quad \alpha_{2}=\lambda_{1}-\lambda_{2}, \quad \alpha_{3}=\lambda_{2}-\lambda_{3}, \\ & \alpha_{4}= \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}-\lambda_{2}+ \lambda_{3}\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1} \right), \\ & \alpha_{5}=\frac{1}{2}\left(\lambda_{0}+ \lambda_{1}+\lambda_{2}+\lambda_{3}\right)+\frac{1}{2} \left(\mu_{1}-\mu_{2}\right), \\ & \alpha_{6}=\mu_{2}+ \frac{3}{2} \nu, \quad \alpha_{7}=-\mu_{3}-\frac{3}{2} \nu \end{aligned}	$\begin{aligned} & \alpha_{1}=\lambda_{0}-\lambda_{1}, \quad \alpha_{2}=\lambda_{1}-\lambda_{2}, \quad \alpha_{3}=\lambda_{2}-\lambda_{3}, \\ & \alpha_{4}= \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}-\lambda_{2}+ \lambda_{3}\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1} \right), \\ & \alpha_{5}=\frac{1}{2}\left(\lambda_{0}+ \lambda_{1}+\lambda_{2}+\lambda_{3}\right)+\frac{1}{2} \left(\mu_{1}-\mu_{2}\right), \\ & \alpha_{6}=\mu_{2}+ \frac{3}{2} \nu, \quad \alpha_{7}=-\mu_{3}-\frac{3}{2} \nu \end{aligned}$	$\begin{aligned} & \alpha_{1}=\lambda_{0}-\lambda_{1}, \quad \alpha_{2}=\lambda_{1}-\lambda_{2}, \quad \alpha_{3}=\lambda_{2}-\lambda_{3}, \\ & \alpha_{4}= \frac{1}{2}\left(-\lambda_{0}-\lambda_{1}-\lambda_{2}+ \lambda_{3}\right)+\frac{1}{2}\left(\mu_{3}-\mu_{1} \right), \\ & \alpha_{5}=\frac{1}{2}\left(\lambda_{0}+ \lambda_{1}+\lambda_{2}+\lambda_{3}\right)+\frac{1}{2} \left(\mu_{1}-\mu_{2}\right), \\ & \alpha_{6}=\mu_{2}+ \frac{3}{2} \nu, \quad \alpha_{7}=-\mu_{3}-\frac{3}{2} \nu \end{aligned}$
0902.0431_EQ0755	125	1.000	\mu=\alpha_{1}+2 \alpha_{2}+3 \alpha_{3}+4 \alpha_{4}+3 \alpha_{5}+2 \alpha_{6}+2 \alpha_{7}	$\mu=\alpha_{1}+2 \alpha_{2}+3 \alpha_{3}+4 \alpha_{4}+3 \alpha_{5}+2 \alpha_{6}+2 \alpha_{7}$	$\mu=\alpha_{1}+2 \alpha_{2}+3 \alpha_{3}+4 \alpha_{4}+3 \alpha_{5}+2 \alpha_{6}+2 \alpha_{7}$
0902.0431_EQ0763	128	1.000	B_{7}\left(h, h^{\prime}\right)=6\left(6 \sum_{k=0}^{3} \lambda_{k} \lambda_{k}^{\prime}+3 \sum_{j=1}^{3} \mu_{j} \mu_{j}^{\prime}+4 \nu \nu^{\prime}\right)	$B_{7}\left(h, h^{\prime}\right)=6\left(6 \sum_{k=0}^{3} \lambda_{k} \lambda_{k}^{\prime}+3 \sum_{j=1}^{3} \mu_{j} \mu_{j}^{\prime}+4 \nu \nu^{\prime}\right)$	$B_{7}\left(h, h^{\prime}\right)=6\left(6 \sum_{k=0}^{3} \lambda_{k} \lambda_{k}^{\prime}+3 \sum_{j=1}^{3} \mu_{j} \mu_{j}^{\prime}+4 \nu \nu^{\prime}\right)$
0902.0431_EQ0766	128	1.000	\left(\alpha_{1}, \alpha_{1}\right)=B_{7}\left(H_{ \alpha_{1}}, H_{\alpha_{1}}\right)=36 \frac{1}{36} \frac{1}{36} 2=\frac{1}{18}	$\left(\alpha_{1}, \alpha_{1}\right)=B_{7}\left(H_{\alpha_{1}}, H_{\alpha_{1}}\right)=36 \frac{1}{36} \frac{1}{36} 2=\frac{1}{18}$	$\left(\alpha_{1}, \alpha_{1}\right)=B_{7}\left(H_{\alpha_{1}}, H_{\alpha_{1}}\right)=36 \frac{1}{36} \frac{1}{36} 2=\frac{1}{18}$
0902.0431_EQ0768	129	1.000	\left(E_{7}\right)_{(0,0,1,0)}=\left\{\alpha \in E_{7} \mid \alpha(0,0,1,0)=(0,0,1,0)\right\} .	$\left(E_{7}\right)_{(0,0,1,0)}=\left\{\alpha \in E_{7} \mid \alpha(0,0,1,0)=(0,0,1,0)\right\} .$	$\left(E_{7}\right)_{(0,0,1,0)}=\left\{\alpha \in E_{7} \mid \alpha(0,0,1,0)=(0,0,1,0)\right\}.$
0902.0431_EQ0769	129	1.000	\alpha(0,0,0,1)=\alpha(-\tau \lambda(0,0,1,0))=-\tau \lambda \alpha(0,0,1,0)=-\tau \lambda(0,0,1,0)=(0,0,0,1) .	$\alpha(0,0,0,1)=\alpha(-\tau \lambda(0,0,1,0))=-\tau \lambda \alpha(0,0,1,0)=-\tau \lambda(0,0,1,0)=(0,0,0,1) .$	$\alpha(0,0,0,1)=\alpha(-\tau \lambda(0,0,1,0))=-\tau \lambda \alpha(0,0,1,0)=-\tau \lambda(0,0,1,0)=(0,0,0,1).$
0902.0431_EQ0770	129	1.000	\left(E_{7}\right)_{(0,0,1,0)} \cong E_{6} .	$\left(E_{7}\right)_{(0,0,1,0)} \cong E_{6} .$	$\left(E_{7}\right)_{(0,0,1,0)} \cong E_{6}.$
0902.0431_EQ0771	130	1.000	\widetilde{\alpha}=\left(\begin{array}{cccc} \alpha & 0 & 0 & 0 \\ 0 & \tau \alpha \tau & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right) \in\left(E_{7} \right)_{(0,0,1,0)} \subset E_{7} .	$\widetilde{\alpha}=\left(\begin{array}{cccc} \alpha & 0 & 0 & 0 \\ 0 & \tau \alpha \tau & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right) \in\left(E_{7} \right)_{(0,0,1,0)} \subset E_{7} .$	$\widetilde{\alpha}=\left(\begin{array}{cccc} \alpha & 0 & 0 & 0 \\ 0 & \tau \alpha \tau & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right) \in\left(E_{7} \right)_{(0,0,1,0)} \subset E_{7} .$
0902.0431_EQ0775	130	1.000	\mathfrak{M}^{C} \ni \alpha\left(\begin{array}{c} X \\ \frac{1}{\eta} X \times X \\ \frac{1}{\eta^{2}} \operatorname{det} X \\ \eta \end{array}\right)=\left(\begin{array}{c} \beta X+\frac{1}{\eta} \epsilon(X \times X) \\ \delta X+\frac{1}{\eta} \beta_{1}(X \times X) \\ \frac{1}{\eta^{2}} \operatorname{det} X \\ \eta \end{array}\right),	$\mathfrak{M}^{C} \ni \alpha\left(\begin{array}{c} X \\ \frac{1}{\eta} X \times X \\ \frac{1}{\eta^{2}} \operatorname{det} X \\ \eta \end{array}\right)=\left(\begin{array}{c} \beta X+\frac{1}{\eta} \epsilon(X \times X) \\ \delta X+\frac{1}{\eta} \beta_{1}(X \times X) \\ \frac{1}{\eta^{2}} \operatorname{det} X \\ \eta \end{array}\right),$	$\mathfrak{M}^{C} \ni \alpha\left(\begin{array}{c} X \\ \frac{1}{\eta} X \times X \\ \frac{1}{\eta^{2}} \operatorname{det} X \\ \eta \end{array}\right)=\left(\begin{array}{c} \beta X+\frac{1}{\eta} \epsilon(X \times X) \\ \delta X+\frac{1}{\eta} \beta_{1}(X \times X) \\ \frac{1}{\eta^{2}} \operatorname{det} X \\ \eta \end{array}\right),$

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0902.0431_EQ0776	130	■1.000	`\left(\beta X+\frac{1}{\eta} \epsilon(X \times X)\right) \times\left(\beta X+\frac{1}{\eta} \epsilon(X \times X) \right)=\eta\left(\delta X+\frac{1}{\eta} \beta_{1}(X \times X)\right)`	$\left(\beta X+\frac{1}{\eta} \epsilon(X \times X)\right) \times\left(\beta X+\frac{1}{\eta} \epsilon(X \times X)\right)=\eta\left(\delta X+\frac{1}{\eta} \beta_{1}(X \times X)\right)$	$\left(\beta X+\frac{1}{\eta} \epsilon(X \times X)\right) \times\left(\beta X+\frac{1}{\eta} \epsilon(X \times X)\right)=\eta\left(\delta X+\frac{1}{\eta} \beta_{1}(X \times X)\right)$
0902.0431_EQ0778	130	■1.000	`\beta X \times \beta X=\beta_{1}(X \times X), \quad\left(\beta X, \beta_{1}(X \times X)\right)=3 \operatorname{det} X .`	$\beta X \times \beta X=\beta_{1}(X \times X), \quad\left(\beta X, \beta_{1}(X \times X)\right)=3 \operatorname{det} X .$	$\beta X \times \beta X=\beta_{1}(X \times X), \quad\left(\beta X, \beta_{1}(X \times X)\right)=3 \operatorname{det} X .$
0902.0431_EQ0779	131	■1.000	`\operatorname{det}(\beta X)=\frac{1}{3}(\beta X, \beta X \times \beta X)=\frac{1}{3}\left(\beta X, \beta_{1}(X \times X)\right)=\operatorname{det} X,`	$\operatorname{det}(\beta X)=\frac{1}{3}(\beta X, \beta X \times \beta X)=\frac{1}{3}\left(\beta X, \beta_{1}(X \times X)\right)=\operatorname{det} X,$	$\operatorname{det}(\beta X)=\frac{1}{3}(\beta X, \beta X \times \beta X)=\frac{1}{3}\left(\beta X, \beta_{1}(X \times X)\right)=\operatorname{det} X,$
0902.0431_EQ0781	131	■1.000	`(\operatorname{det} X) \beta_{1} X=(\operatorname{det} X) \tau \beta \tau X .`	$(\operatorname{det} X) \beta_{1} X=(\operatorname{det} X) \tau \beta \tau X .$	$(\operatorname{det} X) \beta_{1} X=(\operatorname{det} X) \tau \beta \tau X .$
0902.0431_EQ0782	131	■1.000	`\varphi_{1}(\theta)(X, Y, \xi, \eta)=\left(\theta^{-1} X, \theta Y, \theta^{3} \xi, \theta^{-3} \eta\right) .`	$\varphi_{1}(\theta)(X, Y, \xi, \eta)=\left(\theta^{-1} X, \theta Y, \theta^{3} \xi, \theta^{-3} \eta\right) .$	$\varphi_{1}(\theta)(X, Y, \xi, \eta)=\left(\theta^{-1} X, \theta Y, \theta^{3} \xi, \theta^{-3} \eta\right) .$
0902.0431_EQ0783	131	■1.000	`U(1)=\left\{\varphi_{1}(\theta) \mid \theta \in C,(\tau \theta) \theta=1\right\}`	$U(1)=\left\{\varphi_{1}(\theta) \mid \theta \in C,(\tau \theta) \theta=1\right\}$	$U(1)=\left\{\varphi_{1}(\theta) \mid \theta \in C,(\tau \theta) \theta=1\right\}$
0902.0431_EQ0784	131	■1.000	`\alpha_{i}(a)=\left(\begin{array}{cccc} 1+(\cos |a|-1) p_{i} & 2 a \frac{\sin |a|}{|a|} E_{i} & 0 & -\tau a \frac{\sin |a|}{|a|} E_{i} \\ -2 \tau a \frac{\sin |a|}{|a|} E_{i} & 1+(\cos |a|-1) p_{i} & a \frac{\sin |a|}{|a|} E_{i} & 0 \\ 0 & -\tau a \frac{\sin |a|}{|a|} E_{i} & \cos |a| & 0 \\ a \frac{\sin |a|}{|a|} E_{i} & 0 & 0 & \cos |a| \end{array}\right)`	$\alpha_{i}(a)=\left(\begin{array}{cccc} 1+(\cos \lvert a\rvert-1) p_{i} & 2 a \frac{\sin \lvert a\rvert}{\lvert a\rvert} E_{i} & 0 & -\tau a \frac{\sin \lvert a\rvert}{\lvert a\rvert} E_{i} \\ -2 \tau a \frac{\sin \lvert a\rvert}{\lvert a\rvert} E_{i} & 1+(\cos \lvert a\rvert-1) p_{i} & a \frac{\sin \lvert a\rvert}{\lvert a\rvert} E_{i} & 0 \\ 0 & -\tau a \frac{\sin \lvert a\rvert}{\lvert a\rvert} E_{i} & \cos \lvert a\rvert & 0 \\ a \frac{\sin \lvert a\rvert}{\lvert a\rvert} E_{i} & 0 & 0 & \cos \lvert a\rvert \end{array}\right)$	$\alpha_{i}(a)=\left(\begin{array}{cccc} 1+(\cos \lvert a\rvert-1) p_{i} & 2 a \frac{\sin \lvert a\rvert}{\lvert a\rvert} E_{i} & 0 & -\tau a \frac{\sin \lvert a\rvert}{\lvert a\rvert} E_{i} \\ -2 \tau a \frac{\sin \lvert a\rvert}{\lvert a\rvert} E_{i} & 1+(\cos \lvert a\rvert-1) p_{i} & a \frac{\sin \lvert a\rvert}{\lvert a\rvert} E_{i} & 0 \\ 0 & -\tau a \frac{\sin \lvert a\rvert}{\lvert a\rvert} E_{i} & \cos \lvert a\rvert & 0 \\ a \frac{\sin \lvert a\rvert}{\lvert a\rvert} E_{i} & 0 & 0 & \cos \lvert a\rvert \end{array}\right)$
0902.0431_EQ0785	132	■1.000	`p_{i}\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right)=\left(\begin{array}{ccc} \xi_{1} & \delta_{i 3} x_{3} & \delta_{i 2} \bar{x}_{2} \\ \delta_{i 3} \bar{x}_{3} & \xi_{2} & \delta_{i 1} x_{1} \\ \delta_{i 2} x_{2} & \delta_{i 1} \bar{x}_{1} & \xi_{3} \end{array}\right),`	$p_{i}\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right)=\left(\begin{array}{ccc} \xi_{1} & \delta_{i 3} x_{3} & \delta_{i 2} \bar{x}_{2} \\ \delta_{i 3} \bar{x}_{3} & \xi_{2} & \delta_{i 1} x_{1} \\ \delta_{i 2} x_{2} & \delta_{i 1} \bar{x}_{1} & \xi_{3} \end{array}\right),$	$p_{i}\left(\begin{array}{ccc} \xi_{1} & x_{3} & \bar{x}_{2} \\ \bar{x}_{3} & \xi_{2} & x_{1} \\ x_{2} & \bar{x}_{1} & \xi_{3} \end{array}\right)=\left(\begin{array}{ccc} \xi_{1} & \delta_{i 3} x_{3} & \delta_{i 2} \bar{x}_{2} \\ \delta_{i 3} \bar{x}_{3} & \xi_{2} & \delta_{i 1} x_{1} \\ \delta_{i 2} x_{2} & \delta_{i 1} \bar{x}_{1} & \xi_{3} \end{array}\right),$
0902.0431_EQ0786	132	■1.000	`\Phi_{i}(a)=\Phi\left(0,-\tau a E_{i}, \tau a E_{i}, 0 \right)=\left(\begin{array}{cccc} 0 & 2 a E_{i} & 0 & -\tau a E_{i} \\ -2 \tau a E_{i} & 0 & a E_{i} & 0 \\ 0 & -\tau a E_{i} & 0 & 0 \\ a E_{i} & 0 & 0 & 0 \end{array} \right) \in \mathfrak{e}_{7}`	$\Phi_{i}(a)=\Phi\left(0,-\tau a E_{i}, \tau a E_{i}, 0\right)=\left(\begin{array}{cccc} 0 & 2 a E_{i} & 0 & -\tau a E_{i} \\ -2 \tau a E_{i} & 0 & a E_{i} & 0 \\ 0 & -\tau a E_{i} & 0 & 0 \\ a E_{i} & 0 & 0 & 0 \end{array}\right) \in \mathfrak{e}_{7}$	$\Phi_{i}(a)=\Phi\left(0,-\tau a E_{i}, \tau a E_{i}, 0\right)=\left(\begin{array}{cccc} 0 & 2 a E_{i} & 0 & -\tau a E_{i} \\ -2 \tau a E_{i} & 0 & a E_{i} & 0 \\ 0 & -\tau a E_{i} & 0 & 0 \\ a E_{i} & 0 & 0 & 0 \end{array}\right) \in \mathfrak{e}_{7}$
0902.0431_EQ0788	132	■1.000	`\beta X=\frac{1}{\xi} \beta(Y \times Y)=\frac{1}{\xi} \tau \beta \tau Y \times \tau \beta \tau Y`	$\beta X=\frac{1}{\xi} \beta(Y \times Y)=\frac{1}{\xi} \tau \beta \tau Y \times \tau \beta \tau Y$	$\beta X=\frac{1}{\xi} \beta(Y \times Y)=\frac{1}{\xi} \tau \beta \tau Y \times \tau \beta \tau Y$

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0902.0431_EQ0789	132	■1.000	`\tau \beta \tau Y=\left(\begin{array}{ccc} \eta_{1} & 0 & 0 \\ 0 & \eta_{2} & 0 \\ 0 & 0 & \eta_{3} \end{array} \right), \quad \eta_{i} \in C`	$\tau\beta\tau Y = \left(\begin{array}{ccc} \eta_{1} & 0 & 0 \\ 0 & \eta_{2} & 0 \\ 0 & 0 & \eta_{3} \end{array} \right), \quad \eta_{i} \in C$	$\tau\beta\tau Y = \left(\begin{array}{ccc} \eta_{1} & 0 & 0 \\ 0 & \eta_{2} & 0 \\ 0 & 0 & \eta_{3} \end{array} \right), \quad \eta_{i} \in C$
0902.0431_EQ0790	132	■1.000	`\alpha_{i}(-\pi / 2) \beta P=\left(\begin{array}{cccc} 1-p_{i} & -2 E_{i} & 0 & E_{i} \\ 2 E_{i} & 1-p_{i} & -E_{i} & 0 \\ 0 & E_{i} & 0 & 0 \\ -E_{i} & 0 & 0 & 0 \end{array}\right)\left(\begin{array}{c} \beta X \\ \tau \beta \tau Y \\ 0 \\ \eta \end{array}\right)=\left(\begin{array}{c} * \\ * \\ \eta_{i} \\ * \end{array} \right), \quad \eta_{i} \neq 0,`	$\alpha_{i}(-\pi/2)\beta P = \left(\begin{array}{cccc} 1-p_{i} & -2 E_{i} & 0 & E_{i} \\ 2 E_{i} & 1-p_{i} & -E_{i} & 0 \\ 0 & E_{i} & 0 & 0 \\ -E_{i} & 0 & 0 & 0 \end{array}\right)\left(\begin{array}{c} \beta X \\ \tau \beta \tau Y \\ 0 \\ \eta \end{array}\right)=\left(\begin{array}{c} * \\ * \\ \eta_{i} \\ * \end{array} \right), \quad \eta_{i} \neq 0,$	$\alpha_{i}(-\pi/2)\beta P = \left(\begin{array}{cccc} 1-p_{i} & -2 E_{i} & 0 & E_{i} \\ 2 E_{i} & 1-p_{i} & -E_{i} & 0 \\ 0 & E_{i} & 0 & 0 \\ -E_{i} & 0 & 0 & 0 \end{array}\right)\left(\begin{array}{c} \beta X \\ \tau \beta \tau Y \\ 0 \\ \eta \end{array}\right)=\left(\begin{array}{c} * \\ * \\ \eta_{i} \\ * \end{array} \right), \quad \eta_{i} \neq 0,$
0902.0431_EQ0791	132	■1.000	`\alpha_{i+1}(-\pi / 2) \beta P=\left(*, \xi_{i} E_{i+2}+ \xi_{i+2} E_{i}, 0, *\right), \quad \xi_{i} \neq 0,`	$\alpha_{i+1}(-\pi/2)\beta P = \left(*, \xi_{i} E_{i+2}+ \xi_{i+2} E_{i}, 0, *\right), \quad \xi_{i} \neq 0,$	$\alpha_{i+1}(-\pi/2)\beta P = \left(*, \xi_{i} E_{i+2}+ \xi_{i+2} E_{i}, 0, *\right), \quad \xi_{i} \neq 0,$
0902.0431_EQ0792	133	■1.000	`\[ \alpha_{1}(-\pi / 2) P=\left(\eta E_{1}, 0,0,0\right), \quad \eta \neq 0, \] \end{itemize}`	$\alpha_{1}(-\pi/2)P = \left(\eta E_{1}, 0,0,0\right), \quad \eta \neq 0,$	$\alpha_{1}(-\pi/2)P = \left(\eta E_{1}, 0,0,0\right), \quad \eta \neq 0,$
0902.0431_EQ0793	133	■1.000	`\mathfrak{M}_{1}=\left\{P \in \mathfrak{P}^{C} \mid P \times P=0,\langle P, P\rangle=1\right\} .`	$\mathfrak{M}_{1}=\left\{P \in \mathfrak{P}^{C} \mid P \times P=0,\langle P, P\rangle=1\right\} .$	$\mathfrak{M}_{1}=\left\{P \in \mathfrak{P}^{C} \mid P \times P=0,\langle P, P\rangle=1\right\} .$
0902.0431_EQ0794	133	■1.000	`E_{7} / E_{6} \simeq \mathfrak{M}_{1} .`	$E_{7} / E_{6} \simeq \mathfrak{M}_{1} .$	$E_{7} / E_{6} \simeq \mathfrak{M}_{1} .$
0902.0431_EQ0795	133	■1.000	`\alpha P=\left(\frac{1}{\xi}\left(\begin{array}{ccc} \eta_{2} \eta_{3} & 0 & 0 \\ 0 & \eta_{3} \eta_{1} & 0 \\ 0 & 0 & \eta_{1} \eta_{2} \end{array}\right),\left(\begin{array}{ccc} \eta_{1} & 0 & 0 \\ 0 & \eta_{2} & 0 \\ 0 & 0 & \eta_{3} \end{array}\right), \xi, \frac{1}{ \xi^{2}} \eta_{1} \eta_{2} \eta_{3}\right), \quad \xi>0`	$\alpha P=\left(\frac{1}{\xi}\left(\begin{array}{ccc} \eta_{2} \eta_{3} & 0 & 0 \\ 0 & \eta_{3} \eta_{1} & 0 \\ 0 & 0 & \eta_{1} \eta_{2} \end{array}\right),\left(\begin{array}{ccc} \eta_{1} & 0 & 0 \\ 0 & \eta_{2} & 0 \\ 0 & 0 & \eta_{3} \end{array}\right), \xi, \frac{1}{ \xi^{2}} \eta_{1} \eta_{2} \eta_{3}\right), \quad \xi>0$	$\alpha P=\left(\frac{1}{\xi}\left(\begin{array}{ccc} \eta_{2} \eta_{3} & 0 & 0 \\ 0 & \eta_{3} \eta_{1} & 0 \\ 0 & 0 & \eta_{1} \eta_{2} \end{array}\right),\left(\begin{array}{ccc} \eta_{1} & 0 & 0 \\ 0 & \eta_{2} & 0 \\ 0 & 0 & \eta_{3} \end{array}\right), \xi, \frac{1}{ \xi^{2}} \eta_{1} \eta_{2} \eta_{3}\right), \quad \xi>0$
0902.0431_EQ0796	133	■1.000	`\frac{1}{\xi^{2}}\left(\left|\eta_{2} \eta_{3} \right|^{2}+\left|\eta_{3} \eta_{1}\right|^{2}+\left| \eta_{1} \eta_{2}\right|^{2}\right)+\left(\left|\eta_{1} \right|^{2}+\left|\eta_{2}\right|^{2}+\left|\eta_{3} \right|^{2}\right)+\xi^{2}+\frac{1}{\xi^{4}}\left| \eta_{1} \eta_{2} \eta_{3}\right|^{2}=1,`	$\frac{1}{\xi^{2}}\left(\left\|\eta_{2} \eta_{3} \right\|^{2}+\left\|\eta_{3} \eta_{1}\right\|^{2}+\left\| \eta_{1} \eta_{2}\right\|^{2}\right)+\left(\left\|\eta_{1} \right\|^{2}+\left\|\eta_{2}\right\|^{2}+\left\|\eta_{3} \right\|^{2}\right)+\xi^{2}+\frac{1}{\xi^{4}}\left\| \eta_{1} \eta_{2} \eta_{3}\right\|^{2}=1,$	$\frac{1}{\xi^{2}}\left(\left\|\eta_{2} \eta_{3} \right\|^{2}+\left\|\eta_{3} \eta_{1}\right\|^{2}+\left\| \eta_{1} \eta_{2}\right\|^{2}\right)+\left(\left\|\eta_{1} \right\|^{2}+\left\|\eta_{2}\right\|^{2}+\left\|\eta_{3} \right\|^{2}\right)+\xi^{2}+\frac{1}{\xi^{4}}\left\| \eta_{1} \eta_{2} \eta_{3}\right\|^{2}=1,$
0902.0431_EQ0797 (i)	133	■1.000	`\left(1+\frac{\left|\eta_{1}\right|^{2}}{\xi^{2}}\right) \left(1+\frac{\left|\eta_{2}\right|^{2}}{\xi^{2}}\right) \left(1+\frac{\left|\eta_{3}\right|^{2}}{\xi^{2}}\right)= \frac{1}{\xi^{2}} .`	$\left(1+\frac{\left\|\eta_{1}\right\|^{2}}{\xi^{2}}\right) \left(1+\frac{\left\|\eta_{2}\right\|^{2}}{\xi^{2}}\right) \left(1+\frac{\left\|\eta_{3}\right\|^{2}}{\xi^{2}}\right)= \frac{1}{\xi^{2}} .$	$\left(1+\frac{\left\|\eta_{1}\right\|^{2}}{\xi^{2}}\right) \left(1+\frac{\left\|\eta_{2}\right\|^{2}}{\xi^{2}}\right) \left(1+\frac{\left\|\eta_{3}\right\|^{2}}{\xi^{2}}\right)= \frac{1}{\xi^{2}} .$
0902.0431_EQ0798	133	■1.000	`\tan r_{i}=\frac{\left|\eta_{i}\right|}{\xi}, \quad i=1,2,3,`	$\tan r_{i}=\frac{\left\|\eta_{i}\right\|}{\xi}, \quad i=1,2,3,$	$\tan r_{i}=\frac{\left\|\eta_{i}\right\|}{\xi}, \quad i=1,2,3,$
0902.0431_EQ0800	134	■1.000	`a_{i}=\frac{\eta_{i}}{\left|\eta_{i}\right|} r_{i}, \quad i=1,2,3`	$a_{i}=\frac{\eta_{i}}{\left\|\eta_{i}\right\|} r_{i}, \quad i=1,2,3$	$a_{i}=\frac{\eta_{i}}{\left\|\eta_{i}\right\|} r_{i}, \quad i=1,2,3$
0902.0431_EQ0801	134	■1.000	`r_{i}=\left|a_{i}\right|, \quad \eta_{i}=\frac{1}{ \left|a_{i}\right|} \frac{\eta_{i}}{\left|\eta_{i} \right|} r_{i} \frac{\left|\eta_{i}\right|}{\xi} \xi= \frac{a_{i}}{\left|a_{i}\right|} \tan r_{i} \cos r_{1} \cos r_{2} \cos r_{3} .`	$r_{i}=\left\|a_{i}\right\|, \quad \eta_{i}=\frac{1}{ \left\|a_{i}\right\|} \frac{\eta_{i}}{\left\|\eta_{i} \right\|} r_{i} \frac{\left\|\eta_{i}\right\|}{\xi} \xi= \frac{a_{i}}{\left\|a_{i}\right\|} \tan r_{i} \cos r_{1} \cos r_{2} \cos r_{3} .$	$r_{i}=\left\|a_{i}\right\|, \quad \eta_{i}=\frac{1}{ \left\|a_{i}\right\|} \frac{\eta_{i}}{\left\|\eta_{i} \right\|} r_{i} \frac{\left\|\eta_{i}\right\|}{\xi} \xi= \frac{a_{i}}{\left\|a_{i}\right\|} \tan r_{i} \cos r_{1} \cos r_{2} \cos r_{3} .$

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0902.0431_EQ0803	134	■1.000	`\alpha_{1}\left(a_{1}\right)^{-1} \alpha_{2}\left(a_{2}\right)^{-1} \alpha_{3}\left(a_{3}\right)^{-1} \alpha P=(0,0,1,0) .`	$\alpha_1 \left(a_1\right)^{-1} \alpha_2 \left(a_2\right)^{-1} \alpha_3 \left(a_3\right)^{-1} \alpha P=(0,0,1,0).$	$\alpha_1(a_1)^{-1}\alpha_2(a_2)^{-1}\alpha_3(a_3)^{-1}\alpha P=(0,0,1,0).$
0902.0431_EQ0804	134	■1.000	`z\left(E_{7}\right)=\{1,-1\} .`	$z\left(E_7\right)=\{1,-1\}.$	$z(E_7)=\{1,-1\}.$
0902.0431_EQ0805	134	■1.000	`\beta X=X, \quad \tau \beta \tau Y=Y \quad \text { for all } \quad \beta \in E_{6} .`	$\beta X=X, \quad \tau \beta \tau Y=Y \quad \text{ for all } \quad \beta \in E_6.$	$\beta X=X, \quad \tau \beta \tau Y=Y \quad \text{ for all } \quad \beta \in E_6.$
0902.0431_EQ0806	135	■1.000	`\alpha(0,0,1,0)=(0,0, \xi, \eta) .`	$\alpha(0,0,1,0)=(0,0,\xi,\eta).$	$\alpha(0,0,1,0)=(0,0,\xi,\eta).$
0902.0431_EQ0808	135	■1.000	`\alpha(0,0,1,0)=(0,0, \xi, 0), \quad \alpha(0,0,0,1)= \left(0,0,0, \xi^{-1}\right) .`	$\alpha(0,0,1,0)=(0,0,\xi,0), \quad \alpha(0,0,0,1)=\left(0,0,0,\xi^{-1}\right).$	$\alpha(0,0,1,0)=(0,0,\xi,0), \quad \alpha(0,0,0,1)=(0,0,0,\xi^{-1}).$
0902.0431_EQ0814	136	■1.000	`\begin{aligned} \left(E_{7}\right)^{\iota} & =\left\{ \alpha \in E_{7} \mid \iota \alpha=\alpha \iota\right\} \\ & \cong\left\{\alpha \in E_{7} \mid \lambda \alpha= \alpha \lambda\right\}=\left(E_{7}\right)^{\lambda} . \end{aligned}`	$\begin{aligned} \left(E_7\right)^{\iota} & =\left\{\alpha \in E_7 \mid \iota \alpha=\alpha \iota\right\} \\ & \cong\left\{\alpha \in E_7 \mid \lambda \alpha=\alpha \lambda\right\}=\left(E_7\right)^{\lambda} . \end{aligned}$	$\begin{aligned} (E_7)^{\iota} & =\{\alpha \in E_7 \mid \iota \alpha=\alpha \iota\} \\ & \cong\{\alpha \in E_7 \mid \lambda \alpha=\alpha \lambda\}=(E_7)^{\lambda}. \end{aligned}$
0902.0431_EQ0815	136	■1.000	`\varphi(\theta, \beta)=\varphi_{1}(\theta) \beta, \quad \varphi_{1}(\theta)=\left(\begin{array}{cccc} \theta^{-1} 1 & 0 & 0 & 0 \\ 0 & \theta 1 & 0 & 0 \\ 0 & 0 & \theta^{3} & 0 \\ 0 & 0 & 0 & \theta^{-3} \end{array} \right), \beta=\left(\begin{array}{cccc} \beta & 0 & 0 & 0 \\ 0 & \tau \beta \tau & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right) .`	$\varphi(\theta, \beta)=\varphi_1(\theta) \beta, \quad \varphi_1(\theta)=\left(\begin{array}{cccc} \theta^{-1} 1 & 0 & 0 & 0 \\ 0 & \theta 1 & 0 & 0 \\ 0 & 0 & \theta^{3} & 0 \\ 0 & 0 & 0 & \theta^{-3} \end{array} \right), \beta=\left(\begin{array}{cccc} \beta & 0 & 0 & 0 \\ 0 & \tau \beta \tau & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right) .$	$\varphi(\theta, \beta)=\varphi_1(\theta) \beta, \quad \varphi_1(\theta)=\left(\begin{array}{cccc} \theta^{-1} 1 & 0 & 0 & 0 \\ 0 & \theta 1 & 0 & 0 \\ 0 & 0 & \theta^{3} & 0 \\ 0 & 0 & 0 & \theta^{-3} \end{array} \right), \beta=\left(\begin{array}{cccc} \beta & 0 & 0 & 0 \\ 0 & \tau \beta \tau & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{array}\right) .$
0902.0431_EQ0817	136	■1.000	`\mu M=0, \quad \nu N=0 .`	$\mu M=0, \quad \nu N=0.$	$\mu M=0, \quad \nu N=0.$
0902.0431_EQ0818 (i)	136	■1.000	`(M, N)=1 .`	$(M, N)=1.$	$(M, N)=1.$
0902.0431_EQ0819	137	■1.000	`\mathfrak{M}^{C} \ni \alpha\left(\begin{array}{c} X \\ \frac{1}{\eta} X \times X \\ \frac{1}{\eta^{2}} \operatorname{det} X \\ \eta \end{array}\right)= \left(\begin{array}{c} \beta X+\frac{1}{\eta^{2}}(\operatorname{det} X) M \\ \frac{1}{\eta} \delta(X \times X)+\eta N \\ a(X) \\ \frac{1}{\eta} b(X \times X) \end{array}\right),`	$\mathfrak{M}^{C} \ni \alpha\left(\begin{array}{c} X \\ \frac{1}{\eta} X \times X \\ \frac{1}{\eta^{2}} \operatorname{det} X \\ \eta \end{array}\right)=\left(\begin{array}{c} \beta X+\frac{1}{\eta^{2}}(\operatorname{det} X) M \\ \frac{1}{\eta} \delta(X \times X)+\eta N \\ a(X) \\ \frac{1}{\eta} b(X \times X) \end{array}\right),$	$\mathfrak{M}^{C} \ni \alpha\left(\begin{array}{c} X \\ \frac{1}{\eta} X \times X \\ \frac{1}{\eta^{2}} \operatorname{det} X \\ \eta \end{array}\right)=\left(\begin{array}{c} \beta X+\frac{1}{\eta^{2}}(\operatorname{det} X) M \\ \frac{1}{\eta} \delta(X \times X)+\eta N \\ a(X) \\ \frac{1}{\eta} b(X \times X) \end{array}\right),$
0902.0431_EQ0823 (v)	137	■1.000	`\operatorname{det} X=a(X) b(X \times X) .`	$\operatorname{det} X=a(X) b(X \times X).$	$\operatorname{det} X=a(X) b(X \times X).$
0902.0431_EQ0824	137	■1.000	`\alpha(0,0,1,0)=(0,0, \mu, 0), \quad \alpha(0,0,0,1)= \left(0,0,0, \mu^{-1}\right), \quad \mu \in C,(\tau \mu) \mu=1 .`	$\alpha(0,0,1,0)=(0,0,\mu,0), \quad \alpha(0,0,0,1)=\left(0,0,0,\mu^{-1}\right), \quad \mu \in C,(\tau \mu) \mu=1.$	$\alpha(0,0,1,0)=(0,0,\mu,0), \quad \alpha(0,0,0,1)=(0,0,0,\mu^{-1}), \quad \mu \in C,(\tau \mu) \mu=1.$
0902.0431_EQ0825	137	■1.000	`\alpha=\varphi_{1}(\theta) \beta, \quad \theta \in U(1), \beta \in E_{6} .`	$\alpha=\varphi_1(\theta) \beta, \quad \theta \in U(1), \beta \in E_6.$	$\alpha=\varphi_1(\theta) \beta, \quad \theta \in U(1), \beta \in E_6.$
0902.0431_EQ0826	138	■1.000	`\sigma(X, Y, \xi, \eta)=(\sigma X, \sigma Y, \xi, \eta) .`	$\sigma(X, Y, \xi, \eta)=(\sigma X, \sigma Y, \xi, \eta).$	$\sigma(X, Y, \xi, \eta)=(\sigma X, \sigma Y, \xi, \eta).$
0902.0431_EQ0827	138	■1.000	`\left(E_{7}\right)^{\sigma}=\left\{\alpha \in E_{7} \mid \sigma \alpha=\alpha \sigma\right\} .`	$\left(E_7\right)^{\sigma}=\left\{\alpha \in E_7 \mid \sigma \alpha=\alpha \sigma\right\}.$	$\left(E_7\right)^{\sigma}=\left\{\alpha \in E_7 \mid \sigma \alpha=\alpha \sigma\right\}.$
0902.0431_EQ0828	138	■1.000	`\kappa=\Phi\left(-2 E_{1} \vee E_{1}, 0,0,-1\right), \quad \mu=\Phi\left(0, E_{1}, E_{1}, 0\right) .`	$\kappa=\Phi\left(-2 E_1 \vee E_1, 0,0,-1\right), \quad \mu=\Phi\left(0, E_1, E_1, 0\right).$	$\kappa=\Phi\left(-2 E_1 \vee E_1, 0,0,-1\right), \quad \mu=\Phi\left(0, E_1, E_1, 0\right).$

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0902.0431_EQ0837	139	■1.000	\[-4 \tau A \times\left(E_{1} \times X\right)+ \left(E_{1}, X\right) A=4 E_{1} \times(A \times X)- \langle A, X\rangle E_{1}, \quad X \in \mathfrak{J}^{C} . \] \end{itemize}	$-4\tau A \times (E_1 \times X) + (E_1, X)\, A = 4E_1 \times (A \times X) - \langle A, X\rangle E_1, \quad X \in \mathfrak{J}^{C}.$	$-4\tau A \times (E_1 \times X) + (E_1, X)A = 4E_1 \times (A \times X) - \langle A, X\rangle E_1, \quad X \in \mathfrak{J}^{C}.$
0902.0431_EQ0838	140	■1.000	\nu=-\left(A, E_{1}\right)=-\tau\left(A, E_{1}\right),	$\nu = -\left(A, E_1\right) = -\tau\left(A, E_1\right),$	$\nu = -(A, E_1) = -\tau(A, E_1),$
0902.0431_EQ0839	140	■1.000	\phi(\nu)=2 \nu E_{1} \vee E_{1},	$\phi(\nu) = 2\nu E_1 \vee E_1,$	$\phi(\nu) = 2\nu E_1 \vee E_1,$
0902.0431_EQ0842	140	■1.000	\varphi_{*}\left(\Phi\left(\phi(\nu), a E_{1},-\tau a E_{1}, \nu\right)\right)=\left(\begin{array}{cc} \nu & a \\ -\tau a & -\nu \end{array}\right)	$\varphi_*\left(\Phi\left(\phi(\nu), aE_1, -\tau a E_1, \nu\right)\right) = \left(\begin{array}{cc} \nu & a \\ -\tau a & -\nu \end{array}\right)$	$\varphi_*(\Phi(\phi(\nu), aE_1, -\tau aE_1, \nu)) = \begin{pmatrix} \nu & a \\ -\tau a & -\nu \end{pmatrix}$
0902.0431_EQ0843	140	■1.000	\left[\left(\begin{array}{cc} \nu & a \\ -\tau a & -\nu \end{array}\right),\left(\begin{array}{cc} \rho & b \\ -\tau b & -\rho \end{array}\right)\right]=\left(\begin{array}{cc} b(\tau a)-a(\tau b) & 2(b \nu-a \rho) \\ -2 \tau(b \nu-a \rho) & a(\tau b)-b(\tau a) \end{array} \right),	$\left[\left(\begin{array}{cc} \nu & a \\ -\tau a & -\nu \end{array}\right),\left(\begin{array}{cc} \rho & b \\ -\tau b & -\rho \end{array}\right)\right]=\left(\begin{array}{cc} b(\tau a)-a(\tau b) & 2(b \nu-a \rho) \\ -2 \tau(b \nu-a \rho) & a(\tau b)-b(\tau a) \end{array}\right),$	$\left[\begin{pmatrix} \nu & a \\ -\tau a & -\nu \end{pmatrix}, \begin{pmatrix} \rho & b \\ -\tau b & -\rho \end{pmatrix}\right] = \begin{pmatrix} b(\tau a) - a(\tau b) & 2(b\nu - a\rho) \\ -2\tau(b\nu - a\rho) & a(\tau b) - b(\tau a) \end{pmatrix},$
0902.0431_EQ0844	140	■1.000	\begin{aligned} & {\left[\Phi\left(\phi(\nu), a E_{1},-\tau a E_{1}, \nu\right), \Phi\left(\phi(\rho), b E_{1},-\tau b E_{1}, \rho\right)\right]} \\ & \left.=\Phi(\phi(b \tau a)-a(\tau b)), 2(b \nu-a \rho) E_{1},-2 \tau(b \nu-a \rho) E_{1},(\tau a) b-a(\tau b)\right) . \end{aligned}	$\begin{aligned} & [\Phi\left(\phi(\nu), aE_1, -\tau aE_1, \nu\right), \Phi\left(\phi(\rho), bE_1, -\tau bE_1, \rho\right)] \\ & = \Phi(\phi(b\tau a) - a(\tau b)), 2(b\nu - a\rho)E_1, -2\tau(b\nu - a\rho)E_1, (\tau a)b - a(\tau b)). \end{aligned}$	$\begin{aligned} & \left[\Phi(\phi(\nu), aE_1, -\tau aE_1, \nu), \Phi(\phi(\rho), bE_1, -\tau bE_1, \rho)\right] \\ & = \Phi(\phi(b\tau a) - a(\tau b)), 2(b\nu - a\rho)E_1, -2\tau(b\nu - a\rho)E_1, (\tau a)b - a(\tau b)). \end{aligned}$
0902.0431_EQ0845	140	■1.000	\left(\mathfrak{e}_{7}\right)^{\sigma} \ni \Phi\left(\begin{array}{c} \phi \\ A \\ -\tau A \\ \nu \end{array} \right)=\Phi\left(\begin{array}{c} \phi\left(\nu^{\prime} \right) \\ a E_{1} \\ -\tau a E_{1} \\ \nu^{\prime} \end{array}\right)+\Phi\left(\begin{array}{c} \phi-\phi\left(\nu^{\prime}\right) \\ A-a E_{1} \\ -\tau A+ \tau a E_{1} \\ \nu-\nu^{\prime} \end{array}\right) \in \mathfrak{a}_{1} \oplus\left(\mathfrak{e}_{7}\right)^{ \kappa, \mu},	$\left(\mathfrak{e}_7\right)^{\sigma} \ni \Phi \begin{pmatrix} \phi \\ A \\ -\tau A \\ \nu \end{pmatrix} = \Phi \begin{pmatrix} \phi(\nu') \\ aE_1 \\ -\tau aE_1 \\ \nu' \end{pmatrix} + \Phi \begin{pmatrix} \phi - \phi(\nu') \\ A - aE_1 \\ -\tau A + \tau aE_1 \\ \nu - \nu' \end{pmatrix} \in \mathfrak{a}_1 \oplus \left(\mathfrak{e}_7\right)^{\kappa,\mu},$	$\left(\mathfrak{e}_7\right)^{\sigma} \ni \Phi \begin{pmatrix} \phi \\ A \\ -\tau A \\ \nu \end{pmatrix} = \Phi \begin{pmatrix} \phi(\nu') \\ aE_1 \\ -\tau aE_1 \\ \nu' \end{pmatrix} + \Phi \begin{pmatrix} \phi - \phi(\nu') \\ A - aE_1 \\ -\tau A + \tau aE_1 \\ \nu - \nu' \end{pmatrix} \in \mathfrak{a}_1 \oplus (\mathfrak{e}_7)^{\kappa,\mu},$
0902.0431_EQ0846	141	■1.000	\alpha_{23}(a)=\alpha_{2}(a) \alpha_{3}(\tau a) \in\left(\left(E_{7}\right)^{\kappa, \mu}\right)_{\left(0, E_{1}, 0,1\right)},	$\alpha_{23}(a) = \alpha_2(a)\alpha_3(\tau a) \in \left(\left(E_7\right)^{\kappa,\mu}\right)_{(0,E_1,0,1)},$	$\alpha_{23}(a) = \alpha_2(a)\alpha_3(\tau a) \in ((E_7)^{\kappa,\mu})_{(0,E_1,0,1)},$
0902.0431_EQ0847	141	■1.000	\begin{aligned} \alpha_{23}(a) & =\alpha_{2}(a) \alpha_{3}(\tau a) \\ & =\exp \Phi\left(0,-\tau a E_{2}-a E_{3}, a E_{2}+\tau a E_{3}, 0\right) . \end{aligned}	$\begin{aligned} \alpha_{23}(a) & = \alpha_2(a)\alpha_3(\tau a) \\ & = \exp \Phi\left(0, -\tau aE_2 - aE_3, aE_2 + \tau aE_3, 0\right). \end{aligned}$	$\begin{aligned} \alpha_{23}(a) & = \alpha_2(a)\alpha_3(\tau a) \\ & = \exp \Phi(0, -\tau aE_2 - aE_3, aE_2 + \tau aE_3, 0). \end{aligned}$
0902.0431_EQ0848	141	■1.000	\begin{aligned} \operatorname{Spin}(10) & =\left\{\alpha \in E_{6} \mid \alpha E_{1}=E_{1}\right\} \\ & =\left\{ \alpha \in E_{6} \mid \sigma \alpha=\alpha \sigma, \alpha E_{1}=E_{1}\right\} \subset E_{7} \end{aligned}	$\begin{aligned} \operatorname{Spin}(10) & = \{\alpha \in E_6 \mid \alpha E_1 = E_1\} \\ & = \{\alpha \in E_6 \mid \sigma\alpha = \alpha\sigma, \alpha E_1 = E_1\} \subset E_7 \end{aligned}$	$\begin{aligned} Spin(10) & = \{\alpha \in E_6 \mid \alpha E_1 = E_1\} \\ & = \{\alpha \in E_6 \mid \sigma\alpha = \alpha\sigma, \alpha E_1 = E_1\} \subset E_7 \end{aligned}$
0902.0431_EQ0849	141	■1.000	S^{9}=\left\{\left.\left(\left(\begin{array}{ccc} 0 & 0 & 0 \\ 0 & \xi & x \\ 0 & \bar{x} & -\tau \xi \end{array} \right), 0,0,0\right) \right\rvert\, \xi \in C, x \in \mathfrak{C}, \bar{x} x+(\tau \xi) \xi=1\right\} .	$S^9 = \left\{ \left(\begin{pmatrix} 0 & 0 & 0 \\ 0 & \xi & x \\ 0 & \bar{x} & -\tau\xi \end{pmatrix}, 0,0,0 \right) \middle\vert \xi \in C, x \in \mathfrak{C}, \bar{x}x + (\tau\xi)\xi = 1 \right\}.$	$S^9 = \left\{ \left(\begin{pmatrix} 0 & 0 & 0 \\ 0 & \xi & x \\ 0 & \overline{x} & -\tau\xi \end{pmatrix}, 0,0,0 \right) \middle\vert \xi \in C, x \in \mathfrak{C}, \overline{x}x + (\tau\xi)\xi = 1 \right\}.$

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0902.0431_EQ0850	141	1.000	`\alpha\left(0,-E_{1}, 0,1\right)=\left(0,-E_{1}, 0,1\right) \quad \text { if and only if } \quad \alpha(0,0,1,0)=(0,0,1,0) .`	$\alpha\left(0,-E_{1}, 0,1\right)=\left(0,-E_{1}, 0,1\right) \quad \text { if and only if } \quad \alpha(0,0,1,0)=(0,0,1,0) .$	$\alpha\left(0,-E_{1}, 0,1\right)=\left(0,-E_{1}, 0,1\right) \quad \text { if and only if } \quad \alpha(0,0,1,0)=(0,0,1,0) .$
0902.0431_EQ0851	141	1.000	`\left\{\alpha \in\left(\left(E_{7}\right)^{\kappa, \mu}\right)_{\left(0, E_{1}, 0,1\right)} \mid \alpha \left(0,-E_{1}, 0,1\right)=\left(0,-E_{1}, 0,1\right) \right\} \cong \operatorname{Spin}(10) .`	$\left\{\alpha \in\left(\left(E_{7}\right)^{\kappa, \mu}\right)_{\left(0, E_{1}, 0,1\right)} \mid \alpha \left(0,-E_{1}, 0,1\right)=\left(0,-E_{1}, 0,1\right) \right\} \cong \operatorname{Spin}(10) .$	$\left\{\alpha \in\left(\left(E_{7}\right)^{\kappa, \mu}\right)_{\left(0, E_{1}, 0,1\right)} \mid \alpha \left(0,-E_{1}, 0,1\right)=\left(0,-E_{1}, 0,1\right) \right\} \cong \operatorname{Spin}(10) .$
0902.0431_EQ0854	142	1.000	`P=\left(\left(\begin{array}{ccc} 0 & 0 & 0 \\ 0 & \xi & x \\ 0 & \bar{x} & -\tau \xi \end{array}\right),\left( \begin{array}{ccc} \eta & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{array}\right), 0, \tau \eta\right) \in S^{10},`	$P=\left(\left(\begin{array}{ccc} 0 & 0 & 0 \\ 0 & \xi & x \\ 0 & \bar{x} & -\tau \xi \end{array}\right),\left(\begin{array}{ccc} \eta & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{array}\right), 0, \tau \eta\right) \in S^{10},$	$P=\left(\left(\begin{array}{ccc} 0 & 0 & 0 \\ 0 & \xi & x \\ 0 & \bar{x} & -\tau \xi \end{array}\right),\left(\begin{array}{ccc} \eta & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{array}\right), 0, \tau \eta\right) \in S^{10},$
0902.0431_EQ0858	142	1.000	`\beta \alpha_{23}(a) P=\left(i\left(E_{2}+E_{3}\right), 0,0,0\right) .`	$\beta \alpha_{23}(a) P=\left(i\left(E_{2}+E_{3}\right), 0,0,0\right) .$	$\beta \alpha_{23}(a) P=\left(i\left(E_{2}+E_{3}\right), 0,0,0\right) .$
0902.0431_EQ0859	142	1.000	`\alpha_{23}(-\pi / 4) \beta \alpha_{23}(a) P=\left(0,-i E_{1}, 0, i\right) .`	$\alpha_{23}(-\pi / 4) \beta \alpha_{23}(a) P=\left(0,-i E_{1}, 0, i\right) .$	$\alpha_{23}(-\pi / 4) \beta \alpha_{23}(a) P=\left(0,-i E_{1}, 0, i\right) .$
0902.0431_EQ0865	144	1.000	`P=\left(\left(\begin{array}{ccc} 0 & 0 & 0 \\ 0 & \xi & x \\ 0 & \bar{x} & -\tau \xi \end{array}\right),\left( \begin{array}{ccc} \eta & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{array}\right), 0, \tau \eta\right) \in S^{11},`	$P=\left(\left(\begin{array}{ccc} 0 & 0 & 0 \\ 0 & \xi & x \\ 0 & \bar{x} & -\tau \xi \end{array}\right),\left(\begin{array}{ccc} \eta & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{array}\right), 0, \tau \eta\right) \in S^{11},$	$P=\left(\left(\begin{array}{ccc} 0 & 0 & 0 \\ 0 & \xi & x \\ 0 & \bar{x} & -\tau \xi \end{array}\right),\left(\begin{array}{ccc} \eta & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{array}\right), 0, \tau \eta\right) \in S^{11},$
0902.0431_EQ0866	144	1.000	`\alpha(t) P \in S^{10} .`	$\alpha(t) P \in S^{10} .$	$\alpha(t) P \in S^{10} .$
0902.0431_EQ0867	144	1.000	`\beta \alpha(t) P=\left(0,-i E_{1}, 0, i\right) .`	$\beta \alpha(t) P=\left(0,-i E_{1}, 0, i\right) .$	$\beta \alpha(t) P=\left(0,-i E_{1}, 0, i\right) .$
0902.0431_EQ0868	144	1.000	`\alpha(-\pi / 4) \beta \alpha(t) P=\left(0, E_{1}, 0,1 \right) .`	$\alpha(-\pi / 4) \beta \alpha(t) P=\left(0, E_{1}, 0,1\right) .$	$\alpha(-\pi / 4) \beta \alpha(t) P=\left(0, E_{1}, 0,1\right) .$
0902.0431_EQ0869	144	1.000	`p:\left(E_{7}\right)^{\kappa, \mu} \rightarrow S O(12)=S O\left(V^{12}\right)`	$p:\left(E_{7}\right)^{\kappa, \mu} \rightarrow S O(12)=S O\left(V^{12}\right)$	$p:\left(E_{7}\right)^{\kappa, \mu} \rightarrow S O(12)=S O\left(V^{12}\right)$
0902.0431_EQ0871	144	1.000	`\left(E_{7}\right)^{\kappa, \mu} /\{1, \sigma\} \cong S O(12) .`	$\left(E_{7}\right)^{\kappa, \mu} /\{1, \sigma\} \cong S O(12) .$	$\left(E_{7}\right)^{\kappa, \mu} /\{1, \sigma\} \cong S O(12) .$
0902.0431_EQ0874	145	1.000	`\varphi_{2}(S U(2))=\left\{\varphi_{2}(A) \in E_{7} \mid A \in S U(2)\right\}`	$\varphi_{2}(S U(2))=\left\{\varphi_{2}(A) \in E_{7} \mid A \in S U(2)\right\}$	$\varphi_{2}(S U(2))=\left\{\varphi_{2}(A) \in E_{7} \mid A \in S U(2)\right\}$
0902.0431_EQ0877	145	1.000	`\Phi\left(\phi(\nu), a E_{1},-\tau a E_{1}, \nu\right)(X, Y, \xi, \eta)=\left(X^{\prime}, Y^{\prime}, \xi^{\prime}, \eta^{\prime}\right)`	$\Phi\left(\phi(\nu), a E_{1},-\tau a E_{1}, \nu\right)(X, Y, \xi, \eta)=\left(X^{\prime}, Y^{\prime}, \xi^{\prime}, \eta^{\prime}\right)$	$\Phi\left(\phi(\nu), a E_{1},-\tau a E_{1}, \nu\right)(X, Y, \xi, \eta)=\left(X^{\prime}, Y^{\prime}, \xi^{\prime}, \eta^{\prime}\right)$
0902.0431_EQ0879	145	1.000	`\exp \left(\Phi\left(\phi(\nu), a E_{1},-\tau a E_{1}, \nu\right)\right)=\varphi_{2}(A) \in \varphi_{2}(S U(2)) \subset\left(E_{7}\right)^{\sigma} .`	$\exp \left(\Phi\left(\phi(\nu), a E_{1},-\tau a E_{1}, \nu\right)\right)=\varphi_{2}(A) \in \varphi_{2}(S U(2)) \subset\left(E_{7}\right)^{\sigma} .$	$\exp \left(\Phi\left(\phi(\nu), a E_{1},-\tau a E_{1}, \nu\right)\right)=\varphi_{2}(A) \in \varphi_{2}(S U(2)) \subset\left(E_{7}\right)^{\sigma} .$
0902.0431_EQ0880	146	1.000	`\varphi(A, \beta)=\varphi_{2}(A) \beta .`	$\varphi(A, \beta)=\varphi_{2}(A) \beta .$	$\varphi(A, \beta)=\varphi_{2}(A) \beta .$
0902.0431_EQ0884	147	1.000	`\begin{aligned} \left(E_{7}\right)^{\tau \gamma} & =\left\{\alpha \in E_{7} \mid \tau \gamma \alpha=\alpha \tau \gamma\right\} \\ & =\left\{\alpha \in E_{7} \mid \lambda \gamma \alpha=\alpha \lambda \gamma\right\}=\left(E_{7}\right)^{\lambda \gamma} . \end{aligned}`	$\begin{aligned} \left(E_{7}\right)^{\tau \gamma} & =\left\{\alpha \in E_{7} \mid \tau \gamma \alpha=\alpha \tau \gamma\right\} \\ & =\left\{\alpha \in E_{7} \mid \lambda \gamma \alpha=\alpha \lambda \gamma\right\}=\left(E_{7}\right)^{\lambda \gamma} . \end{aligned}$	$\begin{aligned} \left(E_{7}\right)^{\tau \gamma} & =\left\{\alpha \in E_{7} \mid \tau \gamma \alpha=\alpha \tau \gamma\right\} \\ & =\left\{\alpha \in E_{7} \mid \lambda \gamma \alpha=\alpha \lambda \gamma\right\}=\left(E_{7}\right)^{\lambda \gamma} . \end{aligned}$

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0902.0431_EQ0885	147	■1.000	`\begin{aligned} \left(\mathfrak{P}^{C}\right)_{\tau \gamma} & =\left\{P \in \mathfrak{P}^{C} \mid \tau \gamma P=P\right\} \\ & =\left\{(X, Y, \xi, \eta) \in \mathfrak{P}^{C} \mid X, Y \in\left(\mathfrak{J}^{C} \right)_{\tau \gamma}, \xi, \eta \in \boldsymbol{R} \right\}, \\ \left(\mathfrak{P}^{C}\right)_{-\tau \gamma} & =\left\{P \in \mathfrak{P}^{C} \mid \tau \gamma P=-P\right\} \\ & =\left\{(X, Y, \xi, \eta) \in \mathfrak{P}^{C} \mid X, Y \in\left(\mathfrak{J}^{C} \right)_{-\tau \gamma}, \xi, \eta \in i \boldsymbol{R} \right\}, \\ & =i\left(\mathfrak{P}^{C}\right)_{\tau \gamma} . \end{aligned}`	$\begin{aligned} \left(\mathfrak{P}^{C}\right)_{\tau \gamma} & =\left\{P \in \mathfrak{P}^{C} \mid \tau \gamma P=P\right\} \\ & =\left\{(X, Y, \xi, \eta) \in \mathfrak{P}^{C} \mid X, Y \in\left(\mathfrak{J}^{C} \right)_{\tau \gamma}, \xi, \eta \in \boldsymbol{R} \right\}, \\ \left(\mathfrak{P}^{C}\right)_{-\tau \gamma} & =\left\{P \in \mathfrak{P}^{C} \mid \tau \gamma P=-P\right\} \\ & =\left\{(X, Y, \xi, \eta) \in \mathfrak{P}^{C} \mid X, Y \in\left(\mathfrak{J}^{C} \right)_{-\tau \gamma}, \xi, \eta \in i \boldsymbol{R} \right\}, \\ & =i\left(\mathfrak{P}^{C}\right)_{\tau \gamma} . \end{aligned}$	$\begin{aligned} \left(\mathfrak{P}^{C}\right)_{\tau \gamma} & =\left\{P \in \mathfrak{P}^{C} \mid \tau \gamma P=P\right\} \\ & =\left\{(X, Y, \xi, \eta) \in \mathfrak{P}^{C} \mid X, Y \in\left(\mathfrak{J}^{C} \right)_{\tau \gamma}, \xi, \eta \in \boldsymbol{R} \right\}, \\ \left(\mathfrak{P}^{C}\right)_{-\tau \gamma} & =\left\{P \in \mathfrak{P}^{C} \mid \tau \gamma P=-P\right\} \\ & =\left\{(X, Y, \xi, \eta) \in \mathfrak{P}^{C} \mid X, Y \in\left(\mathfrak{J}^{C} \right)_{-\tau \gamma}, \xi, \eta \in i \boldsymbol{R} \right\}, \\ & =i\left(\mathfrak{P}^{C}\right)_{\tau \gamma} . \end{aligned}$
0902.0431_EQ0887	147	■1.000	`k\left(\left(a+b e_{2}\right)\right)=\left(\left( \begin{array}{cc} a & b \\ -\bar{b} & \bar{a} \end{array} \right)\right), \quad a, b \in \boldsymbol{C} .`	$k\left(\left(a+b e_{2}\right)\right)=\left(\left(\begin{array}{cc} a & b \\ -\bar{b} & \bar{a} \end{array} \right)\right), \quad a, b \in \boldsymbol{C} .$	$k\left(\left(a+b e_{2}\right)\right)=\left(\left(\begin{array}{cc} a & b \\ -\bar{b} & \bar{a} \end{array} \right)\right), \quad a, b \in \boldsymbol{C} .$
0902.0431_EQ0888	147	■1.000	`B=k(D)+e_{1} k(T), \quad D \in \mathfrak{s p}(4), T \in \mathfrak{J}(4, \boldsymbol{H})_{0} .`	$B=k(D)+e_{1} k(T), \quad D \in \mathfrak{s p}(4), T \in \mathfrak{J}(4, \boldsymbol{H})_{0} .$	$B=k(D)+e_{1} k(T), \quad D \in \mathfrak{s p}(4), T \in \mathfrak{J}(4, \boldsymbol{H})_{0} .$
0902.0431_EQ0890	147	■1.000	`D_{1}+e_{1} T_{1}=0, D_{1} \in k(\mathfrak{s p}(4)), T_{1} \in k\left(\mathfrak{J}(4, \boldsymbol{H})_{0}\right) \quad \text { implies } \quad C_{1}=T_{1}=0 .`	$D_{1}+e_{1} T_{1}=0, D_{1} \in k(\mathfrak{s p}(4)), T_{1} \in k\left(\mathfrak{J}(4, \boldsymbol{H})_{0}\right) \quad \text { implies } \quad C_{1}=T_{1}=0 .$	$D_{1}+e_{1} T_{1}=0, D_{1} \in k(\mathfrak{s p}(4)), T_{1} \in k\left(\mathfrak{J}(4, \boldsymbol{H})_{0}\right) \quad \text { implies } \quad C_{1}=T_{1}=0 .$
0902.0431_EQ0891	148	■1.000	`\begin{aligned} \left(\mathfrak{e}_{7}\right)^{\tau \gamma} & =\left\{\Phi \in \mathfrak{e}_{7} \mid \tau \gamma \Phi=\Phi \tau \gamma\right\} \\ & =\left\{\Phi(\phi, A,-\gamma A, 0) \in \mathfrak{e}_{7} \mid \phi \in \left(\mathfrak{e}_{6}\right)^{\tau \gamma}, A \in\left(\mathfrak{J}^{C}\right)_{\tau \gamma}\right\} \\ & =\left\{\Phi\left(\varphi_{*}(D), g^{-1}(T),-\gamma g^{-1}(T), 0\right) \in \mathfrak{e}_{7} \mid D \in \mathfrak{s p}(4), T \in \mathfrak{J}(4, \boldsymbol{H})_{0}\right\} . \end{aligned}`	$\begin{aligned} \left(\mathfrak{e}_{7}\right)^{\tau \gamma} & =\left\{\Phi \in \mathfrak{e}_{7} \mid \tau \gamma \Phi=\Phi \tau \gamma\right\} \\ & =\left\{\Phi(\phi, A,-\gamma A, 0) \in \mathfrak{e}_{7} \mid \phi \in \left(\mathfrak{e}_{6}\right)^{\tau \gamma}, A \in\left(\mathfrak{J}^{C}\right)_{\tau \gamma}\right\} \\ & =\left\{\Phi\left(\varphi_{*}(D), g^{-1}(T),-\gamma g^{-1}(T), 0\right) \in \mathfrak{e}_{7} \mid D \in \mathfrak{s p}(4), T \in \mathfrak{J}(4, \boldsymbol{H})_{0}\right\} . \end{aligned}$	$\begin{aligned} \left(\mathfrak{e}_{7}\right)^{\tau \gamma} & =\left\{\Phi \in \mathfrak{e}_{7} \mid \tau \gamma \Phi=\Phi \tau \gamma\right\} \\ & =\left\{\Phi(\phi, A,-\gamma A, 0) \in \mathfrak{e}_{7} \mid \phi \in \left(\mathfrak{e}_{6}\right)^{\tau \gamma}, A \in\left(\mathfrak{J}^{C}\right)_{\tau \gamma}\right\} \\ & =\left\{\Phi\left(\varphi_{*}(D), g^{-1}(T),-\gamma g^{-1}(T), 0\right) \in \mathfrak{e}_{7} \mid D \in \mathfrak{s p}(4), T \in \mathfrak{J}(4, \boldsymbol{H})_{0}\right\} . \end{aligned}$
0902.0431_EQ0895	148	■1.000	`k_{J}\left(M_{1}+i M_{2}\right)=k\left(M_{1}\right) J+i k\left(M_{2}\right) J, \quad M_{1}, M_{2} \in \mathfrak{J}(4, \boldsymbol{H}),`	$k_{J}\left(M_{1}+i M_{2}\right)=k\left(M_{1}\right) J+i k\left(M_{2}\right) J, \quad M_{1}, M_{2} \in \mathfrak{J}(4, \boldsymbol{H}),$	$k_{J}\left(M_{1}+i M_{2}\right)=k\left(M_{1}\right) J+i k\left(M_{2}\right) J, \quad M_{1}, M_{2} \in \mathfrak{J}(4, \boldsymbol{H}),$
0902.0431_EQ0896	148	■1.000	`\chi(X, Y, \xi, \eta)=k_{J}\left(g X-\frac{\xi}{2} E \right)+e_{1} k_{J}\left(g(\gamma Y)-\frac{\eta}{2} E \right) .`	$\chi(X, Y, \xi, \eta)=k_{J}\left(g X-\frac{\xi}{2} E \right)+e_{1} k_{J}\left(g(\gamma Y)-\frac{\eta}{2} E \right) .$	$\chi(X, Y, \xi, \eta)=k_{J}\left(g X-\frac{\xi}{2} E \right)+e_{1} k_{J}\left(g(\gamma Y)-\frac{\eta}{2} E \right) .$
0902.0431_EQ0897	148	■1.000	`\varphi_{*}(B) P=\chi^{-1}\left(B(\chi P)+(\chi P)^{t} B \right), \quad P \in \mathfrak{P}^{C} .`	$\varphi_{*}(B) P=\chi^{-1}\left(B(\chi P)+(\chi P)^{t} B \right), \quad P \in \mathfrak{P}^{C} .$	$\varphi_{*}(B) P=\chi^{-1}\left(B(\chi P)+(\chi P)^{t} B \right), \quad P \in \mathfrak{P}^{C} .$
0902.0431_EQ0901	150	■1.000	`\varphi(A) P=\chi^{-1}\left(A(\chi P)^{t} A\right), \quad P \in \mathfrak{P}^{C} .`	$\varphi(A) P=\chi^{-1}\left(A(\chi P)^{t} A\right), \quad P \in \mathfrak{P}^{C} .$	$\varphi(A) P=\chi^{-1}\left(A(\chi P)^{t} A\right), \quad P \in \mathfrak{P}^{C} .$
0902.0431_EQ0902	150	■1.000	`\varphi_{*}(D) P=\chi^{-1}\left(D(\chi P)+(\chi P)^{t} D \right), \quad P \in \mathfrak{P}^{C},`	$\varphi_{*}(D) P=\chi^{-1}\left(D(\chi P)+(\chi P)^{t} D \right), \quad P \in \mathfrak{P}^{C},$	$\varphi_{*}(D) P=\chi^{-1}\left(D(\chi P)+(\chi P)^{t} D \right), \quad P \in \mathfrak{P}^{C},$
0902.0431_EQ0904	150	■1.000	`\tau \gamma Y=Y, \quad X=\frac{1}{\xi}(Y \times Y), \quad \tau \xi=\xi, \quad \tau \eta=\eta .`	$\tau \gamma Y=Y, \quad X=\frac{1}{\xi}(Y \times Y), \quad \tau \xi=\xi, \quad \tau \eta=\eta .$	$\tau \gamma Y=Y, \quad X=\frac{1}{\xi}(Y \times Y), \quad \tau \xi=\xi, \quad \tau \eta=\eta .$

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0902.0431_EQ0910	151	1.000	`\left(E_{7}\right)^{w}=\left\{\alpha \in E_{7} \mid w \alpha=\alpha w\right\} .`	$\left(E_{7}\right)^{w}=\left\{\alpha \in E_{7} \mid w \alpha=\alpha w\right\} .$	$\left(E_{7}\right)^{w}=\left\{\alpha \in E_{7} \mid w \alpha=\alpha w\right\}.$
0902.0431_EQ0912	151	1.000	`E_{6, \boldsymbol{C}}=\left\{\alpha \in E_{7, \boldsymbol{C}} \mid \alpha(0,0,1,0)=(0,0,1,0)\right\},`	$E_{6, \boldsymbol{C}}=\left\{\alpha \in E_{7, \boldsymbol{C}} \mid \alpha(0,0,1,0)=(0,0,1,0)\right\},$	$E_{6, \boldsymbol{C}}=\left\{\alpha \in E_{7, \boldsymbol{C}} \mid \alpha(0,0,1,0)=(0,0,1,0)\right\},$
0902.0431_EQ0913	152	1.000	`\mathfrak{e}_{7, \boldsymbol{C}}=\left\{\Phi(\phi, A,-\tau A, \nu) \mid \phi \in \mathfrak{e}_{6, \boldsymbol{C}}, A \in\left(\mathfrak{J}_{\boldsymbol{C}}\right)^{C}, \nu \in i \boldsymbol{R}\right\}`	$\mathfrak{e}_{7, \boldsymbol{C}}=\left\{\Phi(\phi, A,-\tau A, \nu) \mid \phi \in \mathfrak{e}_{6, \boldsymbol{C}}, A \in\left(\mathfrak{J}_{\boldsymbol{C}}\right)^{C}, \nu \in i \boldsymbol{R}\right\}$	$\mathfrak{e}_{7, \boldsymbol{C}}=\left\{\Phi(\phi, A,-\tau A, \nu) \mid \phi \in \mathfrak{e}_{6, \boldsymbol{C}}, A \in\left(\mathfrak{J}_{\boldsymbol{C}}\right)^{C}, \nu \in i \boldsymbol{R}\right\}$
0902.0431_EQ0915	152	1.000	`\left(\mathfrak{M}_{\boldsymbol{C}}\right)_{1}=\left\{P \in\left(\mathfrak{M}_{\boldsymbol{C}}\right)^{C} \mid P \times P=0,\langle P, P\rangle=1\right\}`	$\left(\mathfrak{M}_{\boldsymbol{C}}\right)_{1}=\left\{P \in\left(\mathfrak{M}_{\boldsymbol{C}}\right)^{C} \mid P \times P=0,\langle P, P\rangle=1\right\}$	$\left(\mathfrak{M}_{\boldsymbol{C}}\right)_{1}=\left\{P \in\left(\mathfrak{M}_{\boldsymbol{C}}\right)^{C} \mid P \times P=0,\langle P, P\rangle=1\right\}$
0902.0431_EQ0917	152	1.000	`h^{\prime}(a+b i)=a+b e_{1}, \quad a, b \in \boldsymbol{R} .`	$h^{\prime}(a+b i)=a+b e_{1}, \quad a, b \in \boldsymbol{R} .$	$h^{\prime}(a+b i)=a+b e_{1}, \quad a, b \in \boldsymbol{R} .$
0902.0431_EQ0918	152	1.000	`f(a v)=h^{\prime}(a) f(v), \quad a \in C, v \in V .`	$f(a v)=h^{\prime}(a) f(v), \quad a \in C, v \in V .$	$f(a v)=h^{\prime}(a) f(v), \quad a \in C, v \in V .$
0902.0431_EQ0921	153	1.000	`\begin{array}{lll} x_{156}=h^{\prime}\left(\xi_{1}\right), & x_{164}=h^{\prime}\left(x_{3}\right), & x_{145}=h^{\prime}\left(\bar{x}_{2}\right), \\ x_{256}=h^{\prime}\left(\bar{x}_{3}\right), & x_{264}=h^{\prime}\left(\xi_{2}\right), & x_{245}=h^{\prime}\left(x_{1}\right), \\ x_{356}=h^{\prime}\left(x_{2}\right), & x_{364}=h^{\prime}\left(\bar{x}_{1}\right), & x_{345}=h^{\prime}\left(\xi_{3}\right), \\ x_{423}=h^{\prime}\left(\eta_{1}\right), & x_{431}=h^{\prime}\left(y_{3}\right), & x_{412}=h^{\prime}\left(\bar{y}_{2}\right), \\ x_{523}=h^{\prime}\left(\bar{y}_{3}\right), & x_{531}=h^{\prime}\left(\eta_{2}\right), & x_{512}=h^{\prime}\left(y_{1}\right), \\ x_{623}=h^{\prime}\left(y_{2}\right), & x_{631}=h^{\prime}\left(\bar{y}_{1}\right), & x_{612}=h^{\prime}\left(\eta_{3}\right), \\ & x_{123}=h^{\prime}(\xi), & \\ & x_{456}=h^{\prime}(\eta) . & \end{array}`	$\begin{array}{lll} x_{156}=h^{\prime}\left(\xi_{1}\right), & x_{164}=h^{\prime}\left(x_{3}\right), & x_{145}=h^{\prime}\left(\bar{x}_{2}\right), \\ x_{256}=h^{\prime}\left(\bar{x}_{3}\right), & x_{264}=h^{\prime}\left(\xi_{2}\right), & x_{245}=h^{\prime}\left(x_{1}\right), \\ x_{356}=h^{\prime}\left(x_{2}\right), & x_{364}=h^{\prime}\left(\bar{x}_{1}\right), & x_{345}=h^{\prime}\left(\xi_{3}\right), \\ x_{423}=h^{\prime}\left(\eta_{1}\right), & x_{431}=h^{\prime}\left(y_{3}\right), & x_{412}=h^{\prime}\left(\bar{y}_{2}\right), \\ x_{523}=h^{\prime}\left(\bar{y}_{3}\right), & x_{531}=h^{\prime}\left(\eta_{2}\right), & x_{512}=h^{\prime}\left(y_{1}\right), \\ x_{623}=h^{\prime}\left(y_{2}\right), & x_{631}=h^{\prime}\left(\bar{y}_{1}\right), & x_{612}=h^{\prime}\left(\eta_{3}\right), \\ & x_{123}=h^{\prime}(\xi), & \\ & x_{456}=h^{\prime}(\eta) . & \end{array}$	$\begin{array}{lll} x_{156}=h^{\prime}\left(\xi_{1}\right), & x_{164}=h^{\prime}\left(x_{3}\right), & x_{145}=h^{\prime}\left(\bar{x}_{2}\right), \\ x_{256}=h^{\prime}\left(\bar{x}_{3}\right), & x_{264}=h^{\prime}\left(\xi_{2}\right), & x_{245}=h^{\prime}\left(x_{1}\right), \\ x_{356}=h^{\prime}\left(x_{2}\right), & x_{364}=h^{\prime}\left(\bar{x}_{1}\right), & x_{345}=h^{\prime}\left(\xi_{3}\right), \\ x_{423}=h^{\prime}\left(\eta_{1}\right), & x_{431}=h^{\prime}\left(y_{3}\right), & x_{412}=h^{\prime}\left(\bar{y}_{2}\right), \\ x_{523}=h^{\prime}\left(\bar{y}_{3}\right), & x_{531}=h^{\prime}\left(\eta_{2}\right), & x_{512}=h^{\prime}\left(y_{1}\right), \\ x_{623}=h^{\prime}\left(y_{2}\right), & x_{631}=h^{\prime}\left(\bar{y}_{1}\right), & x_{612}=h^{\prime}\left(\eta_{3}\right), \\ & x_{123}=h^{\prime}(\xi), & \\ & x_{456}=h^{\prime}(\eta) . & \end{array}$
0902.0431_EQ0925	153	1.000	`A(\boldsymbol{a} \wedge \boldsymbol{b} \wedge \boldsymbol{c})=A \boldsymbol{a} \wedge A \boldsymbol{b} \wedge A \boldsymbol{c} .`	$A(\boldsymbol{a} \wedge \boldsymbol{b} \wedge \boldsymbol{c})=A \boldsymbol{a} \wedge A \boldsymbol{b} \wedge A \boldsymbol{c} .$	$A(\boldsymbol{a} \wedge \boldsymbol{b} \wedge \boldsymbol{c})=A \boldsymbol{a} \wedge A \boldsymbol{b} \wedge A \boldsymbol{c} .$
0902.0431_EQ0926	153	1.000	`D(\boldsymbol{a} \wedge \boldsymbol{b} \wedge \boldsymbol{c})=D \boldsymbol{a} \wedge \boldsymbol{b} \wedge \boldsymbol{c}+\boldsymbol{a} \wedge D \boldsymbol{b} \wedge \boldsymbol{c}+\boldsymbol{a} \wedge \boldsymbol{b} \wedge D \boldsymbol{c} .`	$D(\boldsymbol{a} \wedge \boldsymbol{b} \wedge \boldsymbol{c})=D \boldsymbol{a} \wedge \boldsymbol{b} \wedge \boldsymbol{c}+\boldsymbol{a} \wedge D \boldsymbol{b} \wedge \boldsymbol{c}+\boldsymbol{a} \wedge \boldsymbol{b} \wedge D \boldsymbol{c} .$	$D(\boldsymbol{a} \wedge \boldsymbol{b} \wedge \boldsymbol{c})=D \boldsymbol{a} \wedge \boldsymbol{b} \wedge \boldsymbol{c}+\boldsymbol{a} \wedge D \boldsymbol{b} \wedge \boldsymbol{c}+\boldsymbol{a} \wedge \boldsymbol{b} \wedge D \boldsymbol{c} .$
0902.0431_EQ0929	154	1.000	`\varphi_{\boldsymbol{C}}\left(\left(\begin{array}{cc} B & L \\ -L^{*} & C \end{array}\right)+\frac{\nu}{3}\left(\begin{array}{cc} E & 0 \\ 0 & -E \end{array}\right)\right)=\Phi\left(\phi_{\boldsymbol{C}}(B, C), h(L),-\tau h(L),-i \nu e_{1}\right)`	$\varphi_{\boldsymbol{C}}\left(\left(\begin{array}{cc} B & L \\ -L^{*} & C \end{array}\right)+\frac{\nu}{3}\left(\begin{array}{cc} E & 0 \\ 0 & -E \end{array}\right)\right)=\Phi\left(\phi_{\boldsymbol{C}}(B, C), h(L),-\tau h(L),-i \nu e_{1}\right)$	$\varphi_{\boldsymbol{C}}\left(\left(\begin{array}{cc} B & L \\ -L^{*} & C \end{array}\right)+\frac{\nu}{3}\left(\begin{array}{cc} E & 0 \\ 0 & -E \end{array}\right)\right)=\Phi\left(\phi_{\boldsymbol{C}}(B, C), h(L),-\tau h(L),-i \nu e_{1}\right)$

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0902.0431_EQ0930	154	1.000	\nu=\operatorname{tr}\left(B^{\prime}\right)=-\operatorname{tr}\left(C^{\prime}\right), \quad B=B^{\prime}-\frac{\nu}{3} E, \quad C=C^{\prime}+\frac{\nu}{3} E,	$\nu=\operatorname{tr}\left(B^{\prime}\right)=-\operatorname{tr}\left(C^{\prime}\right), \quad B=B^{\prime}-\frac{\nu}{3} E, \quad C=C^{\prime}+\frac{\nu}{3} E,$	$\nu=\operatorname{tr}\left(B^{\prime}\right)=-\operatorname{tr}\left(C^{\prime}\right), \quad B=B^{\prime}-\frac{\nu}{3} E, \quad C=C^{\prime}+\frac{\nu}{3} E,$
0902.0431_EQ0934	154	1.000	\psi_{*}(D) P=f^{-1}(D(f P)), \quad P \in\left(\mathfrak{P}_{C}\right)^{C}	$\psi_{*}(D) P=f^{-1}(D(f P)), \quad P \in\left(\mathfrak{P}_{C}\right)^{C}$	$\psi_{*}(D) P=f^{-1}(D(f P)), \quad P \in\left(\mathfrak{P}_{C}\right)^{C}$
0902.0431_EQ0935	154	1.000	D=\left(\begin{array}{cc} B & L \\ -L^{*} & C \end{array}\right)+\frac{\nu}{3}\left(\begin{array}{cc} E & 0 \\ 0 & -E \end{array}\right)	$D=\left(\begin{array}{cc} B & L \\ -L^{*} & C \end{array}\right)+\frac{\nu}{3}\left(\begin{array}{cc} E & 0 \\ 0 & -E \end{array}\right)$	$D=\left(\begin{array}{cc} B & L \\ -L^{*} & C \end{array}\right)+\frac{\nu}{3}\left(\begin{array}{cc} E & 0 \\ 0 & -E \end{array}\right)$
0902.0431_EQ0942	157	1.000	=\left(\begin{array}{c} \phi_{\boldsymbol{C}}(B, C) F_{1}(1)+\frac{i \nu e_{1}}{3} F_{1}(1) \\ 2 h(L) \times F_{1}(1) \\ 0 \\ -\left(h(L), F_{1}(1)\right) \end{array}\right)=\Phi\left(\phi_{\boldsymbol{C}}(B, C), h(L),-\tau h(L),-i \nu e_{1}\right)\left(\begin{array}{c} F_{1}(1) \\ 0 \\ 0 \\ 0 \end{array}\right) .	$=\left(\begin{array}{c} \phi_{\boldsymbol{C}}(B, C) F_{1}(1)+\frac{i \nu e_{1}}{3} F_{1}(1) \\ 2 h(L) \times F_{1}(1) \\ 0 \\ -\left(h(L), F_{1}(1)\right) \end{array}\right)=\Phi\left(\phi_{\boldsymbol{C}}(B, C), h(L),-\tau h(L),-i \nu e_{1}\right)\left(\begin{array}{c} F_{1}(1) \\ 0 \\ 0 \\ 0 \end{array}\right) .$	$=\left(\begin{array}{c} \phi_{\boldsymbol{C}}(B, C) F_{1}(1)+\frac{i \nu e_{1}}{3} F_{1}(1) \\ 2 h(L) \times F_{1}(1) \\ 0 \\ -\left(h(L), F_{1}(1)\right) \end{array}\right)=\Phi\left(\phi_{\boldsymbol{C}}(B, C), h(L),-\tau h(L),-i \nu e_{1}\right)\left(\begin{array}{c} F_{1}(1) \\ 0 \\ 0 \\ 0 \end{array}\right) .$
0902.0431_EQ0943	157	1.000	f^{-1}(D(f P))=\Phi\left(\phi_{\boldsymbol{C}}(B, C), h(L),-\tau h(L),-i \nu e_{1}\right) P .	$f^{-1}(D(f P))=\Phi\left(\phi_{\boldsymbol{C}}(B, C), h(L),-\tau h(L),-i \nu e_{1}\right) P .$	$f^{-1}(D(f P))=\Phi\left(\phi_{\boldsymbol{C}}(B, C), h(L),-\tau h(L),-i \nu e_{1}\right) P .$
0902.0431_EQ0950	158	1.000	\mu^{-1}\left(M_{1}+i M_{2}, N_{1}+i N_{2}\right)=\left(\begin{array}{cc} -N_{2}-N_{1} e_{1} & M_{2}+M_{1} e_{1} \\ M_{2}-M_{1} e_{1} & N_{2}-N_{1} e_{1} \end{array}\right), \quad M_{i}, N_{i} \in M(3, \boldsymbol{C}) .	$\mu^{-1}\left(M_{1}+i M_{2}, N_{1}+i N_{2}\right)=\left(\begin{array}{cc} -N_{2}-N_{1} e_{1} & M_{2}+M_{1} e_{1} \\ M_{2}-M_{1} e_{1} & N_{2}-N_{1} e_{1} \end{array}\right), \quad M_{i}, N_{i} \in M(3, \boldsymbol{C}) .$	$\mu^{-1}\left(M_{1}+i M_{2}, N_{1}+i N_{2}\right)=\left(\begin{array}{cc} -N_{2}-N_{1} e_{1} & M_{2}+M_{1} e_{1} \\ M_{2}-M_{1} e_{1} & N_{2}-N_{1} e_{1} \end{array}\right), \quad M_{i}, N_{i} \in M(3, \boldsymbol{C}) .$
0902.0431_EQ0951	158	1.000	\mu\left(\widetilde{M} D^{*}\right)=\psi_{*}(D)(\mu \widetilde{M}) .	$\mu\left(\widetilde{M} D^{*}\right)=\psi_{*}(D)(\mu \widetilde{M}) .$	$\mu\left(\widetilde{M} D^{*}\right)=\psi_{*}(D)(\mu \widetilde{M}) .$
0902.0431_EQ0954	159	1.000	=\left(\begin{array}{cc} -N_{2}-N_{1} e_{1} & M_{2}+M_{1} e_{1} \\ M_{2}+M_{1} e_{1} & N_{2}+N_{1} e_{1} \end{array}\right)\left(\left(\begin{array}{cc} -B & -L \\ L^{*} & -C \end{array}\right)-\frac{\nu}{3}\left(\begin{array}{cc} E & 0 \\ 0 & -E \end{array}\right)\right)=\widetilde{M} D^{*} .	$=\left(\begin{array}{cc} -N_{2}-N_{1} e_{1} & M_{2}+M_{1} e_{1} \\ M_{2}+M_{1} e_{1} & N_{2}+N_{1} e_{1} \end{array}\right)\left(\left(\begin{array}{cc} -B & -L \\ L^{*} & -C \end{array}\right)-\frac{\nu}{3}\left(\begin{array}{cc} E & 0 \\ 0 & -E \end{array}\right)\right)=\widetilde{M} D^{*} .$	$=\left(\begin{array}{cc} -N_{2}-N_{1} e_{1} & M_{2}+M_{1} e_{1} \\ M_{2}+M_{1} e_{1} & N_{2}+N_{1} e_{1} \end{array}\right)\left(\left(\begin{array}{cc} -B & -L \\ L^{*} & -C \end{array}\right)-\frac{\nu}{3}\left(\begin{array}{cc} E & 0 \\ 0 & -E \end{array}\right)\right)=\widetilde{M} D^{*} .$
0902.0431_EQ0956	159	1.000	(Q, A)\left(\sum(\boldsymbol{a} \wedge \boldsymbol{b} \wedge \boldsymbol{c})+\widetilde{M}\right)=\sum(A \boldsymbol{a} \wedge A \boldsymbol{b} \wedge A \boldsymbol{c})+Q \widetilde{M} A^{*},	$(Q, A)\left(\sum(\boldsymbol{a} \wedge \boldsymbol{b} \wedge \boldsymbol{c})+\widetilde{M}\right)=\sum(A \boldsymbol{a} \wedge A \boldsymbol{b} \wedge A \boldsymbol{c})+Q \widetilde{M} A^{*},$	$(Q, A)\left(\sum(\boldsymbol{a} \wedge \boldsymbol{b} \wedge \boldsymbol{c})+\widetilde{M}\right)=\sum(A \boldsymbol{a} \wedge A \boldsymbol{b} \wedge A \boldsymbol{c})+Q \widetilde{M} A^{*},$
0902.0431_EQ0958	159	1.000	\Phi\left(\phi_{\boldsymbol{C}}(B, C), h(L),-\tau h(L),-i \nu e_{1}\right) \in \mathfrak{e}_{7} .	$\Phi\left(\phi_{\boldsymbol{C}}(B, C), h(L),-\tau h(L),-i \nu e_{1}\right) \in \mathfrak{e}_{7} .$	$\Phi\left(\phi_{\boldsymbol{C}}(B, C), h(L),-\tau h(L),-i \nu e_{1}\right) \in \mathfrak{e}_{7} .$
0902.0431_EQ0961	160	1.000	\alpha=\psi(E, A) \beta=\psi(E, A) \psi(Q, E)=\psi(Q, A) .	$\alpha=\psi(E, A) \beta=\psi(E, A) \psi(Q, E)=\psi(Q, A) .$	$\alpha=\psi(E, A) \beta=\psi(E, A) \psi(Q, E)=\psi(Q, A) .$
0902.0431_EQ0966	161	1.000	\begin{aligned} \mathfrak{P} & =\mathfrak{J}(3, \mathfrak{C}) \oplus \mathfrak{J}(3, \mathfrak{C}) \oplus \boldsymbol{R} \oplus \boldsymbol{R}, \\ \mathfrak{P}^{\prime} & =\mathfrak{J}\left(3, \mathfrak{C}^{\prime}\right) \oplus \mathfrak{J}\left(3, \mathfrak{C}^{\prime}\right) \oplus \boldsymbol{R} \oplus \boldsymbol{R} . \end{aligned}	$\begin{aligned} \mathfrak{P} & =\mathfrak{J}(3, \mathfrak{C}) \oplus \mathfrak{J}(3, \mathfrak{C}) \oplus \boldsymbol{R} \oplus \boldsymbol{R}, \\ \mathfrak{P}^{\prime} & =\mathfrak{J}\left(3, \mathfrak{C}^{\prime}\right) \oplus \mathfrak{J}\left(3, \mathfrak{C}^{\prime}\right) \oplus \boldsymbol{R} \oplus \boldsymbol{R} . \end{aligned}$	$\begin{aligned} \mathfrak{P} & =\mathfrak{J}(3, \mathfrak{C}) \oplus \mathfrak{J}(3, \mathfrak{C}) \oplus \boldsymbol{R} \oplus \boldsymbol{R}, \\ \mathfrak{P}^{\prime} & =\mathfrak{J}\left(3, \mathfrak{C}^{\prime}\right) \oplus \mathfrak{J}\left(3, \mathfrak{C}^{\prime}\right) \oplus \boldsymbol{R} \oplus \boldsymbol{R} . \end{aligned}$
0902.0431_EQ0967	161	1.000	\langle P, Q\rangle_{\sigma}=\langle\sigma P, Q\rangle .	$\langle P, Q\rangle_{\sigma}=\langle\sigma P, Q\rangle .$	$\langle P, Q\rangle_{\sigma}=\langle\sigma P, Q\rangle .$

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0902.0431_EQ0970	161	■1.000	`\begin{aligned} E_{7(7)} & \simeq S U(8) / \boldsymbol{Z}_{2} \times \boldsymbol{R}^{70}, \\ E_{7(-5)} & \simeq(S U(2) \times \operatorname{Spin}(12)) / \boldsymbol{Z}_{2} \times \boldsymbol{R}^{64}, \\ E_{7(-25)} & \simeq\left(U(1) \times E_{6}\right) / \boldsymbol{Z}_{3} \times \boldsymbol{R}^{54} . \end{aligned}`	$E_{7(7)} \simeq SU(8)/\boldsymbol{Z}_2 \times \boldsymbol{R}^{70},$ $E_{7(-5)} \simeq (SU(2) \times \operatorname{Spin}(12))/\boldsymbol{Z}_2 \times \boldsymbol{R}^{64},$ $E_{7(-25)} \simeq (U(1) \times E_6)/\boldsymbol{Z}_3 \times \boldsymbol{R}^{54}.$	$E_{7(7)} \simeq SU(8)/\boldsymbol{Z}_2 \times \boldsymbol{R}^{70},$ $E_{7(-5)} \simeq (SU(2) \times Spin(12))/\boldsymbol{Z}_2 \times \boldsymbol{R}^{64},$ $E_{7(-25)} \simeq (U(1) \times E_6)/\boldsymbol{Z}_3 \times \boldsymbol{R}^{54}.$
0902.0431_EQ0971	161	■1.000	`z\left(E_{7(7)}\right)=\boldsymbol{Z}_{2}, \quad z \left(E_{7(-5)}\right)=\boldsymbol{Z}_{2}, \quad z \left(E_{7(-25)}\right)=\boldsymbol{Z}_{2} .`	$z\left(E_{7(7)}\right)=\boldsymbol{Z}_2, \quad z\left(E_{7(-5)}\right)=\boldsymbol{Z}_2, \quad z\left(E_{7(-25)}\right)=\boldsymbol{Z}_2.$	$z(E_{7(7)})=\boldsymbol{Z}_2, \quad z(E_{7(-5)})=\boldsymbol{Z}_2, \quad z(E_{7(-25)})=\boldsymbol{Z}_2.$
0902.0431_EQ0972	162	■1.000	`\mathfrak{e}_{8}{ }^{C}=\mathfrak{e}_{7}{ }^{C} \oplus \mathfrak{P}^{C} \oplus \mathfrak{P}^{C} \oplus C \oplus C \oplus C,`	$\mathfrak{e}_8{}^C=\mathfrak{e}_7{}^C \oplus \mathfrak{P}^C \oplus \mathfrak{P}^C \oplus C \oplus C \oplus C,$	$\mathfrak{e}_8{}^C=\mathfrak{e}_7{}^C \oplus \mathfrak{P}^C \oplus \mathfrak{P}^C \oplus C \oplus C \oplus C,$
0902.0431_EQ0975	162	■1.000	`\begin{aligned} & {\left[R_{1}, R_{2}+R_{3}\right]= \left[R_{1}, R_{2}\right]+\left[R_{1}, R_{3}\right],} \\ & {\left[k R_{1}, R_{2}\right]=k\left[R_{1}, R_{2} \right], \quad k \in C,} \\ & {\left[R_{1}, R_{2} \right]=-\left[R_{2}, R_{1}\right]} \end{aligned}`	$[R_1, R_2+R_3]=[R_1, R_2]+[R_1, R_3],$ $[kR_1, R_2]=k[R_1, R_2], \quad k \in C,$ $[R_1, R_2]=-[R_2, R_1]$	$[R_1, R_2+R_3]=[R_1, R_2]+[R_1, R_3],$ $[kR_1, R_2]=k[R_1, R_2], \quad k \in C,$ $[R_1, R_2]=-[R_2, R_1]$
0902.0431_EQ0978	163	■1.000	`\mathfrak{e}_{8}{ }^{C}=\mathfrak{e}_{7}{ }^{C} \oplus \mathfrak{K}^{C},`	$\mathfrak{e}_8{}^C=\mathfrak{e}_7{}^C \oplus \mathfrak{K}^C,$	$\mathfrak{e}_8{}^C=\mathfrak{e}_7{}^C \oplus \mathfrak{K}^C,$
0902.0431_EQ0980	163	■1.000	`\begin{aligned} & \mathfrak{a} \ni\left[\Phi(0,0,0,1),(0,0,1,0)^{-}\right]=(0,0,1,0)^{-}, \\ & \mathfrak{a} \ni\left[\Phi(0,0,0,1),(0,0,0,-1)_{-} \right]=(0,0,0,1)_{-}, \\ & \mathfrak{a} \ni \left[(0,0,1,0)^{-},(0,0,0,4)^{-}\right]=1^{-}, \\ & \mathfrak{a} \ni\left[(0,0,0,1)_{-},(0,0,4,0)_{-} \right]=1_{-}, \\ & \mathfrak{a} \ni\left[1^{-}, 1_{-} \right]=1, \\ & \mathfrak{a} \ni\left[1^{-}+1_{-}, Q^{-}+P_{-}\right]=P^{-}+Q_{-}, \end{aligned}`	$\mathfrak{a} \ni \left[\Phi(0,0,0,1),(0,0,1,0)^-\right]=(0,0,1,0)^-,$ $\mathfrak{a} \ni [\Phi(0,0,0,1),(0,0,0,-1)_-]=(0,0,0,1)_-,$ $\mathfrak{a} \ni \left[(0,0,1,0)^-,(0,0,0,4)^-\right]=1^-,$ $\mathfrak{a} \ni [(0,0,0,1)_-,(0,0,4,0)_-]=1_-,$ $\mathfrak{a} \ni \left[1^-,1_-\right]=1,$ $\mathfrak{a} \ni \left[1^-+1_-,Q^-+P_-\right]=P^-+Q_-,$	$\mathfrak{a} \ni [\Phi(0,0,0,1),(0,0,1,0)^-]=(0,0,1,0)^-,$ $\mathfrak{a} \ni [\Phi(0,0,0,1),(0,0,0,-1)_-]=(0,0,0,1)_-,$ $\mathfrak{a} \ni [(0,0,1,0)^-,(0,0,0,4)^-]=1^-,$ $\mathfrak{a} \ni [(0,0,0,1)_-,(0,0,4,0)_-]=1_-,$ $\mathfrak{a} \ni [1^-,1_-]=1,$ $\mathfrak{a} \ni [1^-+1_-,Q^-+P_-]=P^-+Q_-,$
0902.0431_EQ0984	164	■1.000	`\[ \mathfrak{a} \ni\left[1_{-}, R\right]=(0,0,0,-s, 0,0) . \] \end{itemize}`	$\mathfrak{a} \ni [1_-, R]=(0,0,0,-s,0,0).$	$\mathfrak{a} \ni [1_-, R]=(0,0,0,-s,0,0).$
0902.0431_EQ0990	165	■1.000	`\begin{aligned} & B_{8}\left(R_{1}, R_{2}\right) \\ & =-15\left(R_{1}, R_{2}\right)_{8} \\ & =-15\left(\Phi_{1}, \Phi_{2}\right)_{7}+15\left\{Q_{1}, P_{2} \right\}-15\left\{P_{1}, Q_{2}\right\}+120 r_{1} r_{2}+60 t_{1} s_{2}+60 s_{1} t_{2} \\ & =\frac{5}{3} B_{7}\left(\Phi_{1}, \Phi_{2}\right)+15\left\{Q_{1}, P_{2}\right \}-15\left\{P_{1}, Q_{2}\right\}+120 r_{1} r_{2}+60 t_{1} s_{2}+60 s_{1} t_{2} \end{aligned}`	$B_8\left(R_1, R_2\right)$ $=-15\left(R_1, R_2\right)_8$ $=-15\left(\Phi_1, \Phi_2\right)_7+15\left\{Q_1, P_2\right\}-15\left\{P_1, Q_2\right\}+120 r_1 r_2+60 t_1 s_2+60 s_1 t_2$ $=\frac{5}{3} B_7\left(\Phi_1, \Phi_2\right)+15\left\{Q_1, P_2\right\}-15\left\{P_1, Q_2\right\}+120 r_1 r_2+60 t_1 s_2+60 s_1 t_2$	$B_8(R_1, R_2)$ $=-15(R_1, R_2)_8$ $=-15(\Phi_1, \Phi_2)_7+15\{Q_1, P_2\}-15\{P_1, Q_2\}+120 r_1 r_2+60 t_1 s_2+60 s_1 t_2$ $=\frac{5}{3} B_7(\Phi_1, \Phi_2)+15\{Q_1, P_2\}-15\{P_1, Q_2\}+120 r_1 r_2+60 t_1 s_2+60 s_1 t_2,$

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0902.0431_EQ0991	165	■1.000	B_{8}\left(R_{1}, R_{2}\right)=k\left(R_{1}, R_{2}\right)_{8}, \quad R_{i} \in \mathfrak{e}_{8}^{C} .	$B_8\left(R_1, R_2\right)=k\left(R_1, R_2\right)_8, \quad R_i \in \mathfrak{e}_8{}^C .$	$B_8(R_1, R_2)=k(R_1, R_2)_8, \quad R_i \in \mathfrak{e}_8{}^C.$
0902.0431_EQ0992	165	■1.000	(1,1)_{8}=-8 .	$(1,1)_8=-8.$	$(1,1)_8=-8.$
0902.0431_EQ0993	165	■1.000	[1,[1,(\Phi, P, Q, r, s, t)]]=[1,(0, P,-Q, 0,2 s,-2 t)]=(0, P, Q, 0,4 s, 4 t),	$[1,[1,(\Phi, P, Q, r, s, t)]]=[1,(0, P,-Q, 0,2 s,-2 t)]=(0, P, Q, 0,4 s, 4 t),$	$[1,[1,(\Phi, P, Q, r, s, t)]]=[1,(0, P,-Q, 0,2 s,-2 t)]=(0, P, Q, 0,4 s, 4 t),$
0902.0431_EQ1002	167	■1.000	\tau(\Phi, P, Q, r, s, t)=(\tau \Phi \tau, \tau P, \tau Q, \tau r, \tau s, \tau t),	$\tau(\Phi, P, Q, r, s, t)=(\tau \Phi \tau, \tau P, \tau Q, \tau r, \tau s, \tau t),$	$\tau(\Phi, P, Q, r, s, t)=(\tau \Phi \tau, \tau P, \tau Q, \tau r, \tau s, \tau t),$
0902.0431_EQ1005	167	■1.000	\left(\tau \lambda \Phi_{1} \lambda^{-1} \tau, \Phi_{2}\right)_{7}=2\left(\tau^{t} \phi_{1} \tau, \phi_{2}\right)_{6}+4\left\langle A_{1}, A_{2}\right\rangle+4\left\langle B_{1}, B_{2}\right\rangle+\frac{8}{3}\left(\tau \nu_{1}\right) \nu_{2} .	$\left(\tau \lambda \Phi_1 \lambda^{-1} \tau, \Phi_2\right)_7=2\left(\tau^t \phi_1 \tau, \phi_2\right)_6+4\left\langle A_1, A_2\right\rangle+4\left\langle B_1, B_2\right\rangle+\frac{8}{3}\left(\tau \nu_1\right) \nu_2 .$	$(\tau \lambda \Phi_1 \lambda^{-1} \tau, \Phi_2)_7=2(\tau^t \phi_1 \tau, \phi_2)_6+4\langle A_1, A_2\rangle+4\langle B_1, B_2\rangle+\frac{8}{3}(\tau \nu_1) \nu_2.$
0902.0431_EQ1006	167	■1.000	\left(\tau^{t} \phi_{1} \tau, \phi_{2}\right)_{6}=-\left(\tau \delta_{1} \tau, \delta_{2}\right)_{4}+\left\langle T_{1}, T_{2}\right\rangle .	$\left(\tau^t \phi_1 \tau, \phi_2\right)_6=-\left(\tau \delta_1 \tau, \delta_2\right)_4+\left\langle T_1, T_2\right\rangle .$	$(\tau^t \phi_1 \tau, \phi_2)_6=-(\tau \delta_1 \tau, \delta_2)_4+\langle T_1, T_2\rangle.$
0902.0431_EQ1011	168	■1.000	\tau \widetilde{\lambda} R=\left(\tau \lambda \Phi \lambda^{-1} \tau, \tau \lambda Q,-\tau \lambda P,-\tau r,-\tau t,-\tau s\right) .	$\tau \widetilde{\lambda} R=\left(\tau \lambda \Phi \lambda^{-1} \tau, \tau \lambda Q,-\tau \lambda P,-\tau r,-\tau t,-\tau s\right) .$	$\tau \widetilde{\lambda} R=(\tau \lambda \Phi \lambda^{-1} \tau, \tau \lambda Q,-\tau \lambda P,-\tau r,-\tau t,-\tau s).$
0902.0431_EQ1012	168	■1.000	R=\frac{R-R^{*}}{2}+i \frac{R+R^{*}}{2 i}, \quad \frac{R-R^{*}}{2}, \frac{R+R^{*}}{2 i} \in \mathfrak{e}_{8} .	$R=\frac{R-R^{*}}{2}+i \frac{R+R^{*}}{2 i}, \quad \frac{R-R^{*}}{2}, \frac{R+R^{*}}{2 i} \in \mathfrak{e}_{8} .$	$R=\frac{R-R^{*}}{2}+i \frac{R+R^{*}}{2 i}, \quad \frac{R-R^{*}}{2}, \frac{R+R^{*}}{2 i} \in \mathfrak{e}_{8}.$
0902.0431_EQ1017	170	■1.000	\mathfrak{h}=\left\{(\Phi(h), 0,0, r, 0,0) \mid \Phi(h) \in \mathfrak{h}_{7}, r \in C\right\}	$\mathfrak{h}=\left\{(\Phi(h), 0,0, r, 0,0) \mid \Phi(h) \in \mathfrak{h}_{7}, r \in C\right\}$	$\mathfrak{h}=\{(\Phi(h), 0,0, r, 0,0) \mid \Phi(h) \in \mathfrak{h}_{7}, r \in C\}$
0902.0431_EQ1018	170	■1.000	[(\Phi(h), 0,0, r, 0,0),(\Phi, 0,0,0,0,0)]=([\Phi(h), \Phi], 0,0,0,0,0) .	$[(\Phi(h), 0,0, r, 0,0),(\Phi, 0,0,0,0,0)]=([\Phi(h), \Phi], 0,0,0,0,0) .$	$[(\Phi(h), 0,0, r, 0,0),(\Phi, 0,0,0,0,0)]=([\Phi(h), \Phi], 0,0,0,0,0).$
0902.0431_EQ1020	170	■1.000	\begin{aligned} & \left(\Phi\left(h_{\delta}+ \widetilde{H}, 0,0, \nu\right)+r 1\right)(X, Y, \xi, \eta) \\ & =\left(\left(h_{\delta}+\widetilde{H}- \frac{1}{3} \nu+r\right) X,\left(h_{\delta}- \widetilde{H}+\frac{1}{3} \nu+r\right) Y,(\nu+r) \xi,(- \nu+r) \eta\right) . \end{aligned}	$\begin{aligned} & \left(\Phi\left(h_\delta+\widetilde{H}, 0,0, \nu\right)+r 1\right)(X, Y, \xi, \eta) \\ & =\left(\left(h_\delta+\widetilde{H}-\frac{1}{3} \nu+r\right) X,\left(h_\delta-\widetilde{H}+\frac{1}{3} \nu+r\right) Y,(\nu+r) \xi,(-\nu+r) \eta\right) . \end{aligned}$	$\begin{aligned} & (\Phi(h_\delta+\widetilde{H}, 0,0, \nu)+r 1)(X, Y, \xi, \eta) \\ & =\left(\left(h_\delta+\widetilde{H}-\frac{1}{3} \nu+r\right) X,\left(h_\delta-\widetilde{H}+\frac{1}{3} \nu+r\right) Y,(\nu+r) \xi,(-\nu+r) \eta\right) . \end{aligned}$
0902.0431_EQ1024	171	■1.000	\begin{aligned} & \alpha_{1}=\frac{1}{2}\left(\lambda_{0}-\lambda_{1}-\lambda_{2}-\lambda_{3}\right)+ \frac{1}{2}\left(\mu_{3}-\mu_{1}\right), \\ & \alpha_{2}= \mu_{1}-\frac{1}{3} \nu-r, \quad \alpha_{3}=2 r, \\ & \alpha_{4}=\mu_{2}-\frac{1}{3} \nu-r, \quad \alpha_{5}= \lambda_{3}-\frac{1}{2}\left(\mu_{2}-\mu_{3}\right), \\ & \alpha_{6}=\lambda_{2}-\lambda_{3}, \quad \alpha_{7}= \lambda_{1}-\lambda_{2}, \quad \alpha_{8}=\nu-r \end{aligned}	$\begin{aligned} & \alpha_1=\frac{1}{2}\left(\lambda_0-\lambda_1-\lambda_2-\lambda_3\right)+\frac{1}{2}\left(\mu_3-\mu_1\right), \\ & \alpha_2=\mu_1-\frac{1}{3} \nu-r, \quad \alpha_3=2 r, \\ & \alpha_4=\mu_2-\frac{1}{3} \nu-r, \quad \alpha_5=\lambda_3-\frac{1}{2}\left(\mu_2-\mu_3\right), \\ & \alpha_6=\lambda_2-\lambda_3, \quad \alpha_7=\lambda_1-\lambda_2, \quad \alpha_8=\nu-r \end{aligned}$	$\begin{aligned} & \alpha_1=\frac{1}{2}(\lambda_0-\lambda_1-\lambda_2-\lambda_3)+\frac{1}{2}(\mu_3-\mu_1), \\ & \alpha_2=\mu_1-\frac{1}{3} \nu-r, \quad \alpha_3=2 r, \\ & \alpha_4=\mu_2-\frac{1}{3} \nu-r, \quad \alpha_5=\lambda_3-\frac{1}{2}(\mu_2-\mu_3), \\ & \alpha_6=\lambda_2-\lambda_3, \quad \alpha_7=\lambda_1-\lambda_2, \quad \alpha_8=\nu-r \end{aligned}$
0902.0431_EQ1025	171	■1.000	\mu=2 \alpha_{1}+4 \alpha_{2}+6 \alpha_{3}+5 \alpha_{4}+4 \alpha_{5}+3 \alpha_{6}+2 \alpha_{7}+3 \alpha_{8}	$\mu=2 \alpha_1+4 \alpha_2+6 \alpha_3+5 \alpha_4+4 \alpha_5+3 \alpha_6+2 \alpha_7+3 \alpha_8$	$\mu=2 \alpha_1+4 \alpha_2+6 \alpha_3+5 \alpha_4+4 \alpha_5+3 \alpha_6+2 \alpha_7+3 \alpha_8$
0902.0431_EQ1035	176	■1.000	\mathfrak{h}_{\boldsymbol{R}}=\left\{(\Phi(h), 0,0, r, 0) \mid \Phi(h) \in\left(\mathfrak{h}_{7}\right)_{ \boldsymbol{R}}, r \in \boldsymbol{R}\right\},	$\mathfrak{h}_{\boldsymbol{R}}=\left\{(\Phi(h), 0,0, r, 0) \mid \Phi(h) \in\left(\mathfrak{h}_{7}\right)_{\boldsymbol{R}}, r \in \boldsymbol{R}\right\},$	$\mathfrak{h}_{\boldsymbol{R}}=\{(\Phi(h), 0,0, r, 0) \mid \Phi(h) \in(\mathfrak{h}_{7})_{\boldsymbol{R}}, r \in \boldsymbol{R}\},$

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0902.0431_EQ1040	177	■1.000	`\left(\alpha_{1}, \alpha_{1}\right)=B_{7}\left(H_{ \alpha_{1}}, H_{\alpha_{1}}\right)=60 \frac{1}{120} \frac{1}{120} 4+30 \frac{1}{120} \frac{1}{120} 8= \frac{1}{30},`	$\left(\alpha_{1}, \alpha_{1}\right)=B_{7}\left(H_{ \alpha_{1}}, H_{\alpha_{1}}\right)=60 \frac{1}{120} \frac{1}{120} 4+30 \frac{1}{120} \frac{1}{120} 8= \frac{1}{30},$	$\left(\alpha_{1}, \alpha_{1}\right)=B_{7}\left(H_{ \alpha_{1}}, H_{\alpha_{1}}\right)=60 \frac{1}{120} \frac{1}{120} 4+30 \frac{1}{120} \frac{1}{120} 8= \frac{1}{30},$
0902.0431_EQ1043	178	■1.000	`\widetilde{\beta}=\left(\begin{array}{cccccc} \operatorname{Ad} \beta & 0 & 0 & 0 & 0 & 0 \\ 0 & \beta & 0 & 0 & 0 & 0 \\ 0 & 0 & \beta & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{array}\right),`	$\widetilde{\beta}=\left(\begin{array}{cccccc} \operatorname{Ad} \beta & 0 & 0 & 0 & 0 & 0 \\ 0 & \beta & 0 & 0 & 0 & 0 \\ 0 & 0 & \beta & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{array}\right),$	$\widetilde{\beta}=\left(\begin{array}{cccccc} \operatorname{Ad} \beta & 0 & 0 & 0 & 0 & 0 \\ 0 & \beta & 0 & 0 & 0 & 0 \\ 0 & 0 & \beta & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{array}\right),$
0902.0431_EQ1045	178	■1.000	`\begin{gathered} 0=\left[\left(\beta_{1} \Phi, \beta_{21} \Phi, \beta_{31} \Phi, a_{1} \Phi, a_{2} \Phi, a_{3} \Phi\right),(0,0,0,1,0,0)\right] \\ =\left(0,-\beta_{21} \Phi, \beta_{31} \Phi, 0,-2 a_{2} \Phi, 2 a_{3} \Phi \right) \end{gathered}`	$\begin{gathered} 0=\left[\left(\beta_{1} \Phi, \beta_{21} \Phi, \beta_{31} \Phi, a_{1} \Phi, a_{2} \Phi, a_{3} \Phi\right),(0,0,0,1,0,0)\right] \\ =\left(0,-\beta_{21} \Phi, \beta_{31} \Phi, 0,-2 a_{2} \Phi, 2 a_{3} \Phi \right) \end{gathered}$	$\begin{gathered} 0=\left[\left(\beta_{1} \Phi, \beta_{21} \Phi, \beta_{31} \Phi, a_{1} \Phi, a_{2} \Phi, a_{3} \Phi\right),(0,0,0,1,0,0)\right] \\ =\left(0,-\beta_{21} \Phi, \beta_{31} \Phi, 0,-2 a_{2} \Phi, 2 a_{3} \Phi \right) \end{gathered}$
0902.0431_EQ1048	179	■1.000	`\alpha=\left(\begin{array}{cccc} \beta_{1} & 0 & 0 & 0 \\ 0 & \beta_{2} & 0 & 0 \\ 0 & 0 & \beta_{3} & 0 \\ 0 & 0 & 0 & E \end{array}\right) .`	$\alpha=\left(\begin{array}{cccc} \beta_{1} & 0 & 0 & 0 \\ 0 & \beta_{2} & 0 & 0 \\ 0 & 0 & \beta_{3} & 0 \\ 0 & 0 & 0 & E \end{array}\right) .$	$\alpha=\left(\begin{array}{cccc} \beta_{1} & 0 & 0 & 0 \\ 0 & \beta_{2} & 0 & 0 \\ 0 & 0 & \beta_{3} & 0 \\ 0 & 0 & 0 & E \end{array}\right) .$
0902.0431_EQ1051 (iii)	179	■1.000	`\left(\beta_{1} \Phi\right)\left(\beta_{2} P\right)= \beta_{2}(\Phi P) .`	$\left(\beta_{1} \Phi\right)\left(\beta_{2} P\right)= \beta_{2}(\Phi P) .$	$\left(\beta_{1} \Phi\right)\left(\beta_{2} P\right)= \beta_{2}(\Phi P) .$
0902.0431_EQ1055	179	■1.000	`v(\Phi, P, Q, r, s, t)=(\Phi .-P,-Q, r, s, t) .`	$v(\Phi, P, Q, r, s, t)=(\Phi .-P,-Q, r, s, t) .$	$v(\Phi, P, Q, r, s, t)=(\Phi .-P,-Q, r, s, t) .$
0902.0431_EQ1056	179	■1.000	`\left(E_{8}\right)^{v}=\left\{\alpha \in E_{8} \mid v \alpha=\alpha v\right\} .`	$\left(E_{8}\right)^{v}=\left\{\alpha \in E_{8} \mid v \alpha=\alpha v\right\} .$	$\left(E_{8}\right)^{v}=\left\{\alpha \in E_{8} \mid v \alpha=\alpha v\right\} .$
0902.0431_EQ1058	180	■1.000	`\left(E_{8}\right)_{1_{-}}=\left\{\alpha \in E_{8} \mid \alpha 1_{-}=1_{-}\right\} .`	$\left(E_{8}\right)_{1_{-}}=\left\{\alpha \in E_{8} \mid \alpha 1_{-}=1_{-}\right\} .$	$\left(E_{8}\right)_{1_{-}}=\left\{\alpha \in E_{8} \mid \alpha 1_{-}=1_{-}\right\} .$
0902.0431_EQ1061	180	■1.000	`E_{8} / E_{7} \simeq \mathfrak{W}_{1} .`	$E_{8} / E_{7} \simeq \mathfrak{W}_{1} .$	$E_{8} / E_{7} \simeq \mathfrak{W}_{1} .$
0902.0431_EQ1062	180	■1.000	`\varphi_{3}(S U(2))=\left\{\varphi_{3}(A) \in E_{8} \mid A \in S U(2)\right\}`	$\varphi_{3}(S U(2))=\left\{\varphi_{3}(A) \in E_{8} \mid A \in S U(2)\right\}$	$\varphi_{3}(S U(2))=\left\{\varphi_{3}(A) \in E_{8} \mid A \in S U(2)\right\}$
0902.0431_EQ1063	180	■1.000	`\varphi_{3}(A)=\left(\begin{array}{cccccc} 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & a 1 & -\tau b 1 & 0 & 0 & 0 \\ 0 & b 1 & \tau a 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & (\tau a) a-(\tau b) b & -(\tau a) b & a(\tau b) \\ 0 & 0 & 0 & 2 a(\tau b) & a^{2} & -(\tau b)^{2} \\ 0 & 0 & 0 & 2(\tau a) b & -b^{2} & (\tau a)^{2} \end{array}\right) .`	$\varphi_{3}(A)=\left(\begin{array}{cccccc} 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & a 1 & -\tau b 1 & 0 & 0 & 0 \\ 0 & b 1 & \tau a 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & (\tau a) a-(\tau b) b & -(\tau a) b & a(\tau b) \\ 0 & 0 & 0 & 2 a(\tau b) & a^{2} & -(\tau b)^{2} \\ 0 & 0 & 0 & 2(\tau a) b & -b^{2} & (\tau a)^{2} \end{array}\right) .$	$\varphi_{3}(A)=\left(\begin{array}{cccccc} 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & a 1 & -\tau b 1 & 0 & 0 & 0 \\ 0 & b 1 & \tau a 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & (\tau a) a-(\tau b) b & -(\tau a) b & a(\tau b) \\ 0 & 0 & 0 & 2 a(\tau b) & a^{2} & -(\tau b)^{2} \\ 0 & 0 & 0 & 2(\tau a) b & -b^{2} & (\tau a)^{2} \end{array}\right) .$
0902.0431_EQ1064	181	■1.000	`\varphi(A, \beta)=\varphi_{3}(A) \beta .`	$\varphi(A, \beta)=\varphi_{3}(A) \beta .$	$\varphi(A, \beta)=\varphi_{3}(A) \beta .$

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0902.0431_EQ1065	181	■1.000	`\begin{aligned} \left(\mathfrak{e}_{8}\right)^{v} & = \left\{\Theta(R) \in \Theta\left(\mathfrak{e}_{8}\right) \mid v \Theta(R)=\Theta(R) v\right\} \cong\left\{R \in \mathfrak{e}_{8} \mid v R=R\right\} \\ & =\left\{(\Phi, 0,0, r, s,-\tau s) \mid \Phi \in \mathfrak{e}_{7}, r \in i \boldsymbol{R}, s \in C\right\} . \end{aligned}`	$\begin{aligned} \left(\mathfrak{e}_{8}\right)^{v} & = \left\{\Theta(R) \in \Theta\left(\mathfrak{e}_{8}\right) \mid v \Theta(R)=\Theta(R) v\right\} \cong\left\{R \in \mathfrak{e}_{8} \mid v R=R\right\} \\ & =\left\{(\Phi, 0,0, r, s,-\tau s) \mid \Phi \in \mathfrak{e}_{7}, r \in i \boldsymbol{R}, s \in C\right\} . \end{aligned}$	$\begin{aligned} \left(\mathfrak{e}_{8}\right)^{v} & = \left\{\Theta(R) \in \Theta\left(\mathfrak{e}_{8}\right) \mid v \Theta(R)=\Theta(R) v\right\} \cong\left\{R \in \mathfrak{e}_{8} \mid v R=R\right\} \\ & =\left\{(\Phi, 0,0, r, s,-\tau s) \mid \Phi \in \mathfrak{e}_{7}, r \in i \boldsymbol{R}, s \in C\right\} . \end{aligned}$
0902.0431_EQ1068	181	■1.000	`l\left(\left(x_{k l}+i y_{k l}\right)\right)=\left(\left( \begin{array}{cc} x_{k l} & y_{k l} \\ -y_{k l} & x_{k l} \end{array}\right)\right), \quad x_{k l}, y_{k l} \in \boldsymbol{R} .`	$l\left(\left(x_{kl}+i y_{kl}\right)\right)=\left(\left(\begin{array}{cc} x_{kl} & y_{kl} \\ -y_{kl} & x_{kl} \end{array}\right)\right), \quad x_{kl}, y_{kl} \in \boldsymbol{R} .$	$l\left(\left(x_{kl}+i y_{kl}\right)\right)=\left(\left(\begin{array}{cc} x_{kl} & y_{kl} \\ -y_{kl} & x_{kl} \end{array}\right)\right), \quad x_{kl}, y_{kl} \in \boldsymbol{R} .$
0902.0431_EQ1069	182	■1.000	`I=\operatorname{diag}(I, \cdots, I), \quad I=\left( \begin{array}{cc} 1 & 0 \\ 0 & -1 \end{array}\right), \quad J=\operatorname{diag}(J, \cdots, J), \quad J=\left( \begin{array}{cc} 0 & 1 \\ -1 & 0 \end{array}\right),`	$I=\operatorname{diag}(I, \cdots, I), \quad I=\left(\begin{array}{cc} 1 & 0 \\ 0 & -1 \end{array}\right), \quad J=\operatorname{diag}(J, \cdots, J), \quad J=\left(\begin{array}{cc} 0 & 1 \\ -1 & 0 \end{array}\right),$	$I=\operatorname{diag}(I, \cdots, I), \quad I=\left(\begin{array}{cc} 1 & 0 \\ 0 & -1 \end{array}\right), \quad J=\operatorname{diag}(J, \cdots, J), \quad J=\left(\begin{array}{cc} 0 & 1 \\ -1 & 0 \end{array}\right),$
0902.0431_EQ1070	182	■1.000	`l(\mathfrak{S}(8, C)) I=\{B \in \mathfrak{s o}(16) \mid J B=-B J\} .`	$l(\mathfrak{S}(8, C)) I=\{B \in \mathfrak{s o}(16) \mid J B=-B J\} .$	$l(\mathfrak{S}(8, C)) I=\{B \in \mathfrak{s o}(16) \mid J B=-B J\} .$
0902.0431_EQ1072	182	■1.000	`l(-D)=-B={ }^{t} B={ }^{t} l(D)=l\left(\tau^{t} D\right)`	$l(-D)=-B={ }^{t} B={ }^{t} l(D)=l\left(\tau^{t} D\right)$	$l(-D)=-B={ }^{t} B={ }^{t} l(D)=l\left(\tau^{t} D\right)$
0902.0431_EQ1074	182	■1.000	`l(-S) I=-B={ }^{t} B={ }^{t} I^{t}(l(S))=I l\left( \tau^{t} S\right)=l\left({ }^{t} S\right) I`	$l(-S) I=-B={ }^{t} B={ }^{t} I^{t}(l(S))=I l\left(\tau^{t} S\right)=l\left({ }^{t} S\right) I$	$l(-S) I=-B={ }^{t} B={ }^{t} I^{t}(l(S))=I l\left(\tau^{t} S\right)=l\left({ }^{t} S\right) I$
0902.0431_EQ1075	182	■1.000	`\varphi_{*}\left(\left[g X_{1}, g X_{2}\right]\right)=2 \left(X_{1} \vee \gamma X_{2}-X_{2} \vee \gamma X_{1} \right), \quad X_{1}, X_{2} \in \mathfrak{J}^{C} .`	$\varphi_{*}\left(\left[g X_{1}, g X_{2}\right]\right)=2 \left(X_{1} \vee \gamma X_{2}-X_{2} \vee \gamma X_{1} \right), \quad X_{1}, X_{2} \in \mathfrak{J}^{C} .$	$\varphi_{*}\left(\left[g X_{1}, g X_{2}\right]\right)=2 \left(X_{1} \vee \gamma X_{2}-X_{2} \vee \gamma X_{1} \right), \quad X_{1}, X_{2} \in \mathfrak{J}^{C} .$
0902.0431_EQ1084	184	■1.000	`\begin{aligned} & \left.A=2 \gamma X_{1} \times Y_{2}-2 \gamma X_{2} \times Y_{1}+\eta_{1} X_{2}-\eta_{2} X_{1}-\xi_{1} \gamma X_{2}+\xi_{2} \gamma Y_{1} \in \mathfrak{J}^{C}\right) \\ & =k D+i k(g A)+\frac{i}{2} \left\{P_{1}, P_{2}\right\} E . \end{aligned}`	$\begin{aligned} & \left.A=2 \gamma X_{1} \times Y_{2}-2 \gamma X_{2} \times Y_{1}+\eta_{1} X_{2}-\eta_{2} X_{1}-\xi_{1} \gamma X_{2}+\xi_{2} \gamma Y_{1} \in \mathfrak{J}^{C}\right) \\ & =k D+i k(g A)+\frac{i}{2} \left\{P_{1}, P_{2}\right\} E . \end{aligned}$	$\begin{aligned} & \left.A=2 \gamma X_{1} \times Y_{2}-2 \gamma X_{2} \times Y_{1}+\eta_{1} X_{2}-\eta_{2} X_{1}-\xi_{1} \gamma X_{2}+\xi_{2} \gamma Y_{1} \in \mathfrak{J}^{C}\right) \\ & =k D+i k(g A)+\frac{i}{2} \left\{P_{1}, P_{2}\right\} E . \end{aligned}$
0902.0431_EQ1085	184	■1.000	`\operatorname{tr}\left(S_{1} \tau S_{2}-S_{2} \tau S_{1}\right)=4 i\left\{P_{1}, P_{2}\right\}=4 i\left \{\chi^{-1} S_{1}, \chi^{-1} S_{2}\right\} .`	$\operatorname{tr}\left(S_{1} \tau S_{2}-S_{2} \tau S_{1}\right)=4 i\left\{P_{1}, P_{2}\right\}=4 i\left \{\chi^{-1} S_{1}, \chi^{-1} S_{2}\right\} .$	$\operatorname{tr}\left(S_{1} \tau S_{2}-S_{2} \tau S_{1}\right)=4 i\left\{P_{1}, P_{2}\right\}=4 i\left \{\chi^{-1} S_{1}, \chi^{-1} S_{2}\right\} .$
0902.0431_EQ1086	184	■1.000	`S_{1} \tau S_{2}-S_{2} \tau S_{1}-\frac{1}{8} \operatorname{tr}\left(S_{1} \tau S_{2}-S_{2} \tau S_{1} \right)=k D+i k(g A)`	$S_{1} \tau S_{2}-S_{2} \tau S_{1}-\frac{1}{8} \operatorname{tr}\left(S_{1} \tau S_{2}-S_{2} \tau S_{1} \right)=k D+i k(g A)$	$S_{1} \tau S_{2}-S_{2} \tau S_{1}-\frac{1}{8} \operatorname{tr}\left(S_{1} \tau S_{2}-S_{2} \tau S_{1} \right)=k D+i k(g A)$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ1087	184	■1.000	`\begin{aligned} \lambda \gamma P_{1} \times P_{2} & = \left(\begin{array}{c} \gamma Y_{1} \\ -\gamma X_{1} \\ \eta_{1} \\ -\xi_{1} \end{array}\right) \times\left(\begin{array}{c} X_{2} \\ Y_{2} \\ \xi_{2} \\ \eta_{2} \end{array}\right) \\ & =\Phi\left(\begin{array}{c} -\frac{1}{2}\left(\gamma Y_{1} \vee Y_{2}-X_{2} \vee \gamma X_{1}\right) \\ \frac{1}{4}\left(2 \gamma X_{1} \times Y_{2}+\eta_{1} X_{2}+\xi_{2} \gamma Y_{1}\right) \\ \frac{1}{4}\left(2 \gamma Y_{1} \times X_{2}+\xi_{1} Y_{2}+\eta_{2} \gamma X_{1}\right) \\ \frac{1}{8}\left(\left(\gamma Y_{1}, Y_{2}\right)-\left(X_{2}, \gamma X_{1}\right)-3\left(\eta_{1} \eta_{2}-\xi_{2} \xi_{1}\right)\right) \end{array}\right) . \end{aligned}`	$\lambda\gamma P_1 \times P_2 = \begin{pmatrix} \gamma Y_1 \\ -\gamma X_1 \\ \eta_1 \\ -\xi_1 \end{pmatrix} \times \begin{pmatrix} X_2 \\ Y_2 \\ \xi_2 \\ \eta_2 \end{pmatrix} = \Phi \begin{pmatrix} -\frac{1}{2}\left(\gamma Y_1 \vee Y_2 - X_2 \vee \gamma X_1\right) \\ \frac{1}{4}\left(2\gamma X_1 \times Y_2 + \eta_1 X_2 + \xi_2 \gamma Y_1\right) \\ \frac{1}{4}\left(2\gamma Y_1 \times X_2 + \xi_1 Y_2 + \eta_2 \gamma X_1\right) \\ \frac{1}{8}\left(\left(\gamma Y_1, Y_2\right) - \left(X_2, \gamma X_1\right) - 3\left(\eta_1\eta_2 - \xi_2\xi_1\right)\right) \end{pmatrix}.$	$\lambda\gamma P_1 \times P_2 = \begin{pmatrix} \gamma Y_1 \\ -\gamma X_1 \\ \eta_1 \\ -\xi_1 \end{pmatrix} \times \begin{pmatrix} X_2 \\ Y_2 \\ \xi_2 \\ \eta_2 \end{pmatrix} = \Phi \begin{pmatrix} -\frac{1}{2}(\gamma Y_1 \vee Y_2 - X_2 \vee \gamma X_1) \\ \frac{1}{4}(2\gamma X_1 \times Y_2 + \eta_1 X_2 + \xi_2\gamma Y_1) \\ \frac{1}{4}(2\gamma Y_1 \times X_2 + \xi_1 Y_2 + \eta_2\gamma X_1) \\ \frac{1}{8}((\gamma Y_1, Y_2) - (X_2, \gamma X_1) - 3(\eta_1\eta_2 - \xi_2\xi_1)) \end{pmatrix}.$
0902.0431_EQ1094	186	■1.000	`=\left[\Theta\left(\varphi_{*} D, 0,0,0,0,0\right), \Theta(0,0,0,0,2 c,-2 c)=[\zeta l(D), \zeta l(i c E)] . \right.`	$=[\Theta\left(\varphi_{*} D, 0,0,0,0,0\right), \Theta(0,0,0,0,2 c,-2 c)=[\zeta l(D), \zeta l(i c E)].$	$=[\Theta(\varphi_{*} D, 0,0,0,0,0), \Theta(0,0,0,0,2 c,-2 c)=[\zeta l(D), \zeta l(i c E)].$
0902.0431_EQ1111	188	■1.000	`\sigma(\Phi, P, Q, r, s, t)=(\sigma \Phi \sigma, \sigma P, \sigma Q, r, s, t) .`	$\sigma(\Phi, P, Q, r, s, t)=(\sigma \Phi \sigma, \sigma P, \sigma Q, r, s, t).$	$\sigma(\Phi, P, Q, r, s, t)=(\sigma \Phi \sigma, \sigma P, \sigma Q, r, s, t).$
0902.0431_EQ1112	188	■1.000	`\left(E_{8}\right)^{\sigma}=\left\{\alpha \in E_{8} \mid \sigma \alpha=\alpha \sigma\right\} .`	$\left(E_{8}\right)^{\sigma}=\left\{\alpha \in E_{8} \mid \sigma \alpha=\alpha \sigma\right\}.$	$\left(E_{8}\right)^{\sigma}=\left\{\alpha \in E_{8} \mid \sigma \alpha=\alpha \sigma\right\}.$
0902.0431_EQ1114	189	■1.000	`z\left(E_{8}\right)=\{1\} .`	$z\left(E_{8}\right)=\{1\}.$	$z\left(E_{8}\right)=\{1\}.$
0902.0431_EQ1115	189	■1.000	`\alpha=\varphi(E, 1)=1 \quad \text { or } \quad \alpha= \varphi(E,-1)=v .`	$\alpha=\varphi(E, 1)=1 \quad \text{ or } \quad \alpha=\varphi(E,-1)=v.$	$\alpha=\varphi(E, 1)=1 \quad \text{ or } \quad \alpha=\varphi(E,-1)=v.$
0902.0431_EQ1120	190	■1.000	`\left[\left(D_{1}, \phi_{1}, \boldsymbol{X}_{1}, \boldsymbol{Y}_{1}\right),\left(D_{2}, \phi_{2}, \boldsymbol{X}_{2}, \boldsymbol{Y}_{2}\right)\right]=(D, \phi, \boldsymbol{X}, \boldsymbol{Y}),`	$\left[\left(D_{1}, \phi_{1}, \boldsymbol{X}_{1}, \boldsymbol{Y}_{1}\right),\left(D_{2}, \phi_{2}, \boldsymbol{X}_{2}, \boldsymbol{Y}_{2}\right)\right]=(D, \phi, \boldsymbol{X}, \boldsymbol{Y}),$	$\left[\left(D_{1}, \phi_{1}, \boldsymbol{X}_{1}, \boldsymbol{Y}_{1}\right),\left(D_{2}, \phi_{2}, \boldsymbol{X}_{2}, \boldsymbol{Y}_{2}\right)\right]=(D, \phi, \boldsymbol{X}, \boldsymbol{Y}),$
0902.0431_EQ1123	190	■1.000	`B_{8}\left(R_{1}, R_{2}\right)=60 \operatorname{tr} \left(D_{1} D_{2}\right)+\frac{5}{2} B_{6}\left( \phi_{1}, \phi_{2}\right)+15\left(\boldsymbol{X}_{1}, \boldsymbol{Y}_{2}\right)+15\left(\boldsymbol{X}_{2}, \boldsymbol{Y}_{1}\right)`	$B_{8}\left(R_{1}, R_{2}\right)=60 \operatorname{tr}\left(D_{1} D_{2}\right)+\frac{5}{2} B_{6}\left(\phi_{1}, \phi_{2}\right)+15\left(\boldsymbol{X}_{1}, \boldsymbol{Y}_{2}\right)+15\left(\boldsymbol{X}_{2}, \boldsymbol{Y}_{1}\right)$	$B_{8}\left(R_{1}, R_{2}\right)=60 \operatorname{tr}\left(D_{1} D_{2}\right)+\frac{5}{2} B_{6}\left(\phi_{1}, \phi_{2}\right)+15\left(\boldsymbol{X}_{1}, \boldsymbol{Y}_{2}\right)+15\left(\boldsymbol{X}_{2}, \boldsymbol{Y}_{1}\right)$
0902.0431_EQ1125	190	■1.000	`\left\langle R_{1}, R_{2}\right\rangle=-B_{8}\left(R_{1}, \tau \widetilde{\lambda} R_{2}\right) .`	$\left\langle R_{1}, R_{2}\right\rangle=-B_{8}\left(R_{1}, \tau \widetilde{\lambda} R_{2}\right).$	$\left\langle R_{1}, R_{2}\right\rangle=-B_{8}\left(R_{1}, \tau \widetilde{\lambda} R_{2}\right).$
0902.0431_EQ1127	191	■1.000	`E_{8}=\left\{\alpha \in \operatorname{Aut}\left( \mathfrak{e}_{8}^{C}\right) \mid\left\langle\alpha R_{1}, \alpha R_{2}\right\rangle=\left\langle R_{1}, R_{2}\right \rangle\right\}`	$E_{8}=\left\{\alpha \in \operatorname{Aut}\left(\mathfrak{e}_{8}^{C}\right) \mid\left\langle\alpha R_{1}, \alpha R_{2}\right\rangle=\left\langle R_{1}, R_{2}\right\rangle\right\}$	$E_{8}=\left\{\alpha \in \operatorname{Aut}\left(\mathfrak{e}_{8}^{C}\right) \mid\left\langle\alpha R_{1}, \alpha R_{2}\right\rangle=\left\langle R_{1}, R_{2}\right\rangle\right\}$
0902.0431_EQ1129	191	■1.000	`\left(E_{8}\right)^{w}=\left\{\alpha \in E_{8} \mid w \alpha=\alpha w\right\} .`	$\left(E_{8}\right)^{w}=\left\{\alpha \in E_{8} \mid w \alpha=\alpha w\right\}.$	$\left(E_{8}\right)^{w}=\left\{\alpha \in E_{8} \mid w \alpha=\alpha w\right\}.$
0902.0431_EQ1130	191	■1.000	`\varphi_{1}(A)(D, \phi, \boldsymbol{X}, \boldsymbol{Y})= \left(A D A^{-1}, \phi, A \boldsymbol{X},{ }^{t} A^{-1} \boldsymbol{Y}\right) .`	$\varphi_{1}(A)(D, \phi, \boldsymbol{X}, \boldsymbol{Y})=\left(A D A^{-1}, \phi, A \boldsymbol{X},{}^{t} A^{-1} \boldsymbol{Y}\right).$	$\varphi_{1}(A)(D, \phi, \boldsymbol{X}, \boldsymbol{Y})=\left(A D A^{-1}, \phi, A \boldsymbol{X},{}^{t} A^{-1} \boldsymbol{Y}\right).$

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0902.0431_EQ1133	191	1.000	`\varphi_{2}(\alpha)(D, \phi, \boldsymbol{X}, \boldsymbol{Y})=\left(D, \alpha \phi \alpha^{-1}, \alpha \boldsymbol{X},{ }^{t} \alpha^{-1} \boldsymbol{Y}\right) .`	$\varphi_2(\alpha)(D, \phi, \boldsymbol{X}, \boldsymbol{Y}) = \left(D, \alpha\phi\alpha^{-1}, \alpha\boldsymbol{X}, {}^t\alpha^{-1}\boldsymbol{Y}\right).$	$\varphi_2(\alpha)(D, \phi, \boldsymbol{X}, \boldsymbol{Y}) = (D, \alpha\phi\alpha^{-1}, \alpha\boldsymbol{X}, {}^t\alpha^{-1}\boldsymbol{Y}).$
0902.0431_EQ1135	192	1.000	`\begin{aligned} B_{6}\left(\alpha \phi_{1} \alpha^{-1}, \tau^{t}\left(\alpha \phi_{2} \alpha^{-1}\right) \tau \right) & =B_{6}\left(\alpha \phi_{1} \alpha^{-1}, \alpha \tau^{t} \phi_{2} \tau \alpha^{-1}\right)=B_{6}\left(\phi_{1}, \tau^{t} \phi_{2} \tau\right), \\ \left\langle \alpha \boldsymbol{X},{ }^{t} \alpha^{-1} \boldsymbol{Y} \right\rangle & =\langle\boldsymbol{X}, \boldsymbol{Y} \rangle, \end{aligned}`	$\begin{aligned} B_6\left(\alpha\phi_1\alpha^{-1}, \tau^t\left(\alpha\phi_2\alpha^{-1}\right)\tau\right) &= B_6\left(\alpha\phi_1\alpha^{-1}, \alpha\tau^t\phi_2\tau\alpha^{-1}\right)=B_6\left(\phi_1, \tau^t\phi_2\tau\right), \\ \left\langle \alpha\boldsymbol{X}, {}^t\alpha^{-1}\boldsymbol{Y}\right\rangle &= \langle\boldsymbol{X}, \boldsymbol{Y}\rangle, \end{aligned}$	$\begin{aligned} B_6(\alpha\phi_1\alpha^{-1}, \tau^t(\alpha\phi_2\alpha^{-1})\tau) &= B_6(\alpha\phi_1\alpha^{-1}, \alpha\tau^t\phi_2\tau\alpha^{-1}) = B_6(\phi_1, \tau^t\phi_2\tau), \\ \langle\alpha\boldsymbol{X}, {}^t\alpha^{-1}\boldsymbol{Y}\rangle &= \langle\boldsymbol{X}, \boldsymbol{Y}\rangle, \end{aligned}$
0902.0431_EQ1139	192	1.000	`(* \boldsymbol{u}, \boldsymbol{v})=\left(\boldsymbol{u} \wedge \boldsymbol{v}, \boldsymbol{e}_{1} \wedge \cdots \wedge \boldsymbol{e}_{n}\right), \quad \boldsymbol{v} \in \Lambda^{n-k}\left(C^{n}\right) .`	$(*\boldsymbol{u}, \boldsymbol{v}) = \left(\boldsymbol{u} \wedge \boldsymbol{v}, \boldsymbol{e}_1 \wedge \cdots \wedge \boldsymbol{e}_n\right), \quad \boldsymbol{v} \in \Lambda^{n-k}\left(C^n\right).$	$(*\boldsymbol{u}, \boldsymbol{v}) = (\boldsymbol{u} \wedge \boldsymbol{v}, \boldsymbol{e}_1 \wedge \cdots \wedge \boldsymbol{e}_n), \quad \boldsymbol{v} \in \Lambda^{n-k}(C^n).$
0902.0431_EQ1140	192	1.000	`*: \Lambda^{k}\left(C^{n}\right) \rightarrow \Lambda^{n-k}\left(C^{n}\right)`	$*: \Lambda^k\left(C^n\right) \rightarrow \Lambda^{n-k}\left(C^n\right)$	$*: \Lambda^k(C^n) \rightarrow \Lambda^{n-k}(C^n)$
0902.0431_EQ1141	192	1.000	`*^{2} \boldsymbol{u}=(-1)^{k(n-k)} \boldsymbol{u}, \quad \boldsymbol{u} \in \Lambda^{k}\left(C^{n}\right) .`	$*^2\boldsymbol{u} = (-1)^{k(n-k)}\boldsymbol{u}, \quad \boldsymbol{u} \in \Lambda^k\left(C^n\right).$	$*^2\boldsymbol{u} = (-1)^{k(n-k)}\boldsymbol{u}, \quad \boldsymbol{u} \in \Lambda^k(C^n).$
0902.0431_EQ1142	192	1.000	`A\left(\boldsymbol{x}_{1} \wedge \cdots \wedge \boldsymbol{x}_{k}\right)=A \boldsymbol{x}_{1} \wedge \cdots \wedge A \boldsymbol{x}_{k}, \quad A 1=1 .`	$A\left(\boldsymbol{x}_1 \wedge \cdots \wedge \boldsymbol{x}_k\right) = A\boldsymbol{x}_1 \wedge \cdots \wedge A\boldsymbol{x}_k, \quad A1 = 1.$	$A(\boldsymbol{x}_1 \wedge \cdots \wedge \boldsymbol{x}_k) = A\boldsymbol{x}_1 \wedge \cdots \wedge A\boldsymbol{x}_k, \quad A1 = 1.$
0902.0431_EQ1143	193	1.000	`D\left(\boldsymbol{x}_{1} \wedge \cdots \wedge \boldsymbol{x}_{k}\right)=\sum_{j=1}^{k} \boldsymbol{x}_{1} \wedge \cdots \wedge D \boldsymbol{x}_{j} \wedge \cdots \wedge \boldsymbol{x}_{k}, \quad D 1=0 .`	$D\left(\boldsymbol{x}_1 \wedge \cdots \wedge \boldsymbol{x}_k\right) = \sum_{j=1}^{k} \boldsymbol{x}_1 \wedge \cdots \wedge D\boldsymbol{x}_j \wedge \cdots \wedge \boldsymbol{x}_k, \quad D1 = 0.$	$D(\boldsymbol{x}_1 \wedge \cdots \wedge \boldsymbol{x}_k) = \sum_{j=1}^{k} \boldsymbol{x}_1 \wedge \cdots \wedge D\boldsymbol{x}_j \wedge \cdots \wedge \boldsymbol{x}_k, \quad D1 = 0.$
0902.0431_EQ1146	193	1.000	`\left[\left(D_{1}, \boldsymbol{u}_{1}, \boldsymbol{v}_{1} \right),\left(D_{2}, \boldsymbol{u}_{2}, \boldsymbol{v}_{2}\right)\right]=(D, \boldsymbol{u}, \boldsymbol{v}),`	$\left[\left(D_1, \boldsymbol{u}_1, \boldsymbol{v}_1\right),\left(D_2, \boldsymbol{u}_2, \boldsymbol{v}_2\right)\right] = (D, \boldsymbol{u}, \boldsymbol{v}),$	$[(D_1, \boldsymbol{u}_1, \boldsymbol{v}_1), (D_2, \boldsymbol{u}_2, \boldsymbol{v}_2)] = (D, \boldsymbol{u}, \boldsymbol{v}),$
0902.0431_EQ1156	195	1.000	`\boldsymbol{e}_{I}=\boldsymbol{e}_{i} \wedge \boldsymbol{e}_{j} \wedge \boldsymbol{e}_{k} \in \Lambda^{3}\left(C^{9}\right) .`	$\boldsymbol{e}_I = \boldsymbol{e}_i \wedge \boldsymbol{e}_j \wedge \boldsymbol{e}_k \in \Lambda^3\left(C^9\right).$	$\boldsymbol{e}_I = \boldsymbol{e}_i \wedge \boldsymbol{e}_j \wedge \boldsymbol{e}_k \in \Lambda^3(C^9).$
0902.0431_EQ1158	195	1.000	`D=\frac{1}{3}\left(E_{i i}+E_{j j}+E_{k k}\right)-E_{l l}, \quad l \neq i, j, k`	$D = \frac{1}{3}\left(E_{ii} + E_{jj} + E_{kk}\right) - E_{ll}, \quad l \neq i, j, k$	$D = \frac{1}{3}(E_{ii} + E_{jj} + E_{kk}) - E_{ll}, \quad l \neq i, j, k.$
0902.0431_EQ1159	195	1.000	`\begin{aligned} & \left(0, \boldsymbol{e}_{i} \wedge \boldsymbol{e}_{j} \wedge \boldsymbol{e}_{k}, 0 \right)=\left[(D, 0,0),\left(0, \boldsymbol{e}_{i} \wedge \boldsymbol{e}_{j} \wedge \boldsymbol{e}_{k}, 0\right)\right] \in \mathfrak{a}, \\ & \left(0,0, \boldsymbol{e}_{i} \wedge \boldsymbol{e}_{j} \wedge \boldsymbol{e}_{k}\right)=\left[(D, 0,0),\left(0,0,-\boldsymbol{e}_{i} \wedge \boldsymbol{e}_{j} \wedge \boldsymbol{e}_{k}\right)\right] \in \mathfrak{a} . \end{aligned}`	$\begin{aligned} &\left(0, \boldsymbol{e}_i \wedge \boldsymbol{e}_j \wedge \boldsymbol{e}_k, 0\right) = \left[(D, 0, 0), \left(0, \boldsymbol{e}_i \wedge \boldsymbol{e}_j \wedge \boldsymbol{e}_k, 0\right)\right] \in \mathfrak{a}, \\ &\left(0, 0, \boldsymbol{e}_i \wedge \boldsymbol{e}_j \wedge \boldsymbol{e}_k\right) = \left[(D, 0, 0), \left(0, 0, -\boldsymbol{e}_i \wedge \boldsymbol{e}_j \wedge \boldsymbol{e}_k\right)\right] \in \mathfrak{a}. \end{aligned}$	$\begin{aligned} &(0, \boldsymbol{e}_i \wedge \boldsymbol{e}_j \wedge \boldsymbol{e}_k, 0) = [(D, 0, 0), (0, \boldsymbol{e}_i \wedge \boldsymbol{e}_j \wedge \boldsymbol{e}_k, 0)] \in \mathfrak{a}, \\ &(0, 0, \boldsymbol{e}_i \wedge \boldsymbol{e}_j \wedge \boldsymbol{e}_k) = [(D, 0, 0), (0, 0, -\boldsymbol{e}_i \wedge \boldsymbol{e}_j \wedge \boldsymbol{e}_k)] \in \mathfrak{a}. \end{aligned}$

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0902.0431_EQ1161	196	1.000	B_{8}\left(\left(D_{1}, \boldsymbol{u}_{1}, \boldsymbol{v}_{1}\right),\left(D_{2}, \boldsymbol{u}_{2}, \boldsymbol{v}_{2}\right)\right)=60 \left(\operatorname{tr}\left(D_{1} D_{2}\right)+\left(\boldsymbol{u}_{1}, \boldsymbol{v}_{2}\right)+\left(\boldsymbol{u}_{2}, \boldsymbol{v}_{1}\right)\right) .	$B_8\left(\left(D_1, \boldsymbol{u}_1, \boldsymbol{v}_1\right),\left(D_2, \boldsymbol{u}_2, \boldsymbol{v}_2\right)\right)=60\left(\operatorname{tr}\left(D_1 D_2\right)+\left(\boldsymbol{u}_1, \boldsymbol{v}_2\right)+\left(\boldsymbol{u}_2, \boldsymbol{v}_1\right)\right) .$	$B_8((D_1, \boldsymbol{u}_1, \boldsymbol{v}_1), (D_2, \boldsymbol{u}_2, \boldsymbol{v}_2)) = 60(\operatorname{tr}(D_1 D_2) + (\boldsymbol{u}_1, \boldsymbol{v}_2) + (\boldsymbol{u}_2, \boldsymbol{v}_1)).$
0902.0431_EQ1162	196	1.000	B\left(\left(D_{1}, \boldsymbol{u}_{1}, \boldsymbol{v}_{1}\right),\left(D_{2}, \boldsymbol{u}_{2}, \boldsymbol{v}_{2}\right) \right)=\operatorname{tr}\left(D_{1} D_{2}\right)+ \left(\boldsymbol{u}_{1}, v_{2}\right)+\left(\boldsymbol{u}_{2}, \boldsymbol{v}_{1}\right) .	$B\left(\left(D_1, \boldsymbol{u}_1, \boldsymbol{v}_1\right),\left(D_2, \boldsymbol{u}_2, \boldsymbol{v}_2\right)\right)=\operatorname{tr}\left(D_1 D_2\right)+\left(\boldsymbol{u}_1, v_2\right)+\left(\boldsymbol{u}_2, \boldsymbol{v}_1\right) .$	$B((D_1, \boldsymbol{u}_1, \boldsymbol{v}_1), (D_2, \boldsymbol{u}_2, \boldsymbol{v}_2)) = \operatorname{tr}(D_1 D_2) + (\boldsymbol{u}_1, v_2) + (\boldsymbol{u}_2, \boldsymbol{v}_1).$
0902.0431_EQ1163	196	1.000	B_{8}(R, R)=120, \quad B(R, R)=2 .	$B_8(R, R)=120, \quad B(R, R)=2.$	$B_8(R, R)=120, \quad B(R, R)=2.$
0902.0431_EQ1164	196	1.000	\tau \widetilde{\lambda}(D, \boldsymbol{u}, \boldsymbol{v})=\left(-\tau^{t} D,-\tau \boldsymbol{v},-\tau \boldsymbol{u}\right) .	$\tau \widetilde{\lambda}(D, \boldsymbol{u}, \boldsymbol{v})=\left(-\tau^{t} D,-\tau \boldsymbol{v},-\tau \boldsymbol{u}\right) .$	$\tau \widetilde{\lambda}(D, \boldsymbol{u}, \boldsymbol{v}) = (-\tau^t D, -\tau \boldsymbol{v}, -\tau \boldsymbol{u}).$
0902.0431_EQ1166	196	1.000	\left\langle R_{1}, R_{2}\right\rangle=60\left(\operatorname{tr}\left(D_{1} \tau^{t} D_{2}\right)+ \left(\boldsymbol{u}_{1}, \tau \boldsymbol{u}_{2}\right)+ \left(\boldsymbol{v}_{2}, \tau \boldsymbol{v}_{1}\right) \right) .	$\left\langle R_1, R_2\right\rangle=60\left(\operatorname{tr}\left(D_1 \tau^t D_2\right)+\left(\boldsymbol{u}_1, \tau \boldsymbol{u}_2\right)+\left(\boldsymbol{v}_2, \tau \boldsymbol{v}_1\right)\right) .$	$\left\langle R_1, R_2\right\rangle=60(\operatorname{tr}(D_1 \tau^t D_2)+\left(\boldsymbol{u}_1, \tau \boldsymbol{u}_2\right)+\left(\boldsymbol{v}_2, \tau \boldsymbol{v}_1\right)).$
0902.0431_EQ1167	196	1.000	E_{8}=\left\{\alpha \in \operatorname{Aut}\left(\mathfrak{e}_{8}^{C}\right) \mid\left\langle\alpha R_{1}, \alpha R_{2}\right\rangle=\left\langle R_{1}, R_{2}\right \rangle\right\}	$E_8=\left\{\alpha \in \operatorname{Aut}\left(\mathfrak{e}_8^C\right) \mid\left\langle\alpha R_1, \alpha R_2\right\rangle=\left\langle R_1, R_2\right\rangle\right\}$	$E_8=\left\{\alpha \in \operatorname{Aut}(\mathfrak{e}_8{}^C) \mid\left\langle\alpha R_1, \alpha R_2\right\rangle=\left\langle R_1, R_2\right\rangle\right\}$
0902.0431_EQ1169	197	1.000	\left(E_{8}\right)^{w_{3}}=\left\{\alpha \in E_{8} \mid w_{3} \alpha=\alpha w_{3}\right\} .	$\left(E_8\right)^{w_3}=\left\{\alpha \in E_8 \mid w_3 \alpha=\alpha w_3\right\} .$	$\left(E_8\right)^{w_3}=\left\{\alpha \in E_8 \mid w_3 \alpha=\alpha w_3\right\}.$
0902.0431_EQ1170	197	1.000	\varphi(A)(D, \boldsymbol{u}, \boldsymbol{v})=\left(A D A^{-1}, A \boldsymbol{u},{ }^{t} A^{-1} \boldsymbol{v} \right) .	$\varphi(A)(D, \boldsymbol{u}, \boldsymbol{v})=\left(A D A^{-1}, A \boldsymbol{u},{}^t A^{-1} \boldsymbol{v}\right) .$	$\varphi(A)(D, \boldsymbol{u}, \boldsymbol{v})=\left(A D A^{-1}, A \boldsymbol{u},{}^t A^{-1} \boldsymbol{v}\right).$
0902.0431_EQ1177	198	1.000	*(* \boldsymbol{a} \wedge *(\boldsymbol{b} \wedge \boldsymbol{c})+* \boldsymbol{b} \wedge *(\boldsymbol{c} \wedge \boldsymbol{a})+* \boldsymbol{c} \wedge *(\boldsymbol{a} \wedge \boldsymbol{b}))	$*(*\boldsymbol{a} \wedge *(\boldsymbol{b} \wedge \boldsymbol{c})+*\boldsymbol{b} \wedge *(\boldsymbol{c} \wedge \boldsymbol{a})+*\boldsymbol{c} \wedge *(\boldsymbol{a} \wedge \boldsymbol{b}))$	$*(*\boldsymbol{a} \wedge *(\boldsymbol{b} \wedge \boldsymbol{c})+*\boldsymbol{b} \wedge *(\boldsymbol{c} \wedge \boldsymbol{a})+*\boldsymbol{c} \wedge *(\boldsymbol{a} \wedge \boldsymbol{b}))$
0902.0431_EQ1184	199	1.000	((\boldsymbol{x} \times \boldsymbol{y}) \boldsymbol{z}, \boldsymbol{v})=-(\boldsymbol{x} \wedge \boldsymbol{z}, \boldsymbol{y} \wedge \boldsymbol{v})+\frac{4}{5}(\boldsymbol{x}, \boldsymbol{y})(\boldsymbol{z}, \boldsymbol{v})=(\boldsymbol{y}, \boldsymbol{z})(\boldsymbol{x}, \boldsymbol{v})-\frac{1}{5}(\boldsymbol{x}, \boldsymbol{y})(\boldsymbol{z}, \boldsymbol{v}),	$((\boldsymbol{x} \times \boldsymbol{y})\boldsymbol{z}, \boldsymbol{v})=-(\boldsymbol{x} \wedge \boldsymbol{z}, \boldsymbol{y} \wedge \boldsymbol{v})+\frac{4}{5}(\boldsymbol{x}, \boldsymbol{y})(\boldsymbol{z}, \boldsymbol{v})=(\boldsymbol{y}, \boldsymbol{z})(\boldsymbol{x}, \boldsymbol{v})-\frac{1}{5}(\boldsymbol{x}, \boldsymbol{y})(\boldsymbol{z}, \boldsymbol{v}),$	$((\boldsymbol{x} \times \boldsymbol{y})\boldsymbol{z}, \boldsymbol{v})=-(\boldsymbol{x} \wedge \boldsymbol{z}, \boldsymbol{y} \wedge \boldsymbol{v})+\frac{4}{5}(\boldsymbol{x}, \boldsymbol{y})(\boldsymbol{z}, \boldsymbol{v})=(\boldsymbol{y}, \boldsymbol{z})(\boldsymbol{x}, \boldsymbol{v})-\frac{1}{5}(\boldsymbol{x}, \boldsymbol{y})(\boldsymbol{z}, \boldsymbol{v}),$
0902.0431_EQ1185 (i)	199	1.000	(\boldsymbol{x} \times \boldsymbol{y}) \boldsymbol{z}=(\boldsymbol{y}, \boldsymbol{z}) \boldsymbol{x}- \frac{1}{5}(\boldsymbol{x}, \boldsymbol{y}) \boldsymbol{z} .	$(\boldsymbol{x} \times \boldsymbol{y})\boldsymbol{z}=(\boldsymbol{y}, \boldsymbol{z})\boldsymbol{x}-\frac{1}{5}(\boldsymbol{x}, \boldsymbol{y})\boldsymbol{z} .$	$(\boldsymbol{x} \times \boldsymbol{y})\boldsymbol{z}=(\boldsymbol{y}, \boldsymbol{z})\boldsymbol{x}-\frac{1}{5}(\boldsymbol{x}, \boldsymbol{y})\boldsymbol{z}.$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ1191	200	1.000	\begin{aligned} & ((\boldsymbol{a} \times \boldsymbol{b})\boldsymbol{v}, \boldsymbol{w})=(\boldsymbol{a} \wedge \boldsymbol{v}, \boldsymbol{b} \wedge \boldsymbol{w})-\frac{3}{5}(\boldsymbol{a}, \boldsymbol{b})(\boldsymbol{v}, \boldsymbol{w}) \\ & \quad=-\left(\boldsymbol{a}_{1}, \boldsymbol{w}\right)\left(\boldsymbol{x} \wedge \boldsymbol{a}_{2}, \boldsymbol{b}\right)+\left(\boldsymbol{a}_{2}, \boldsymbol{w}\right)\left(\boldsymbol{x} \wedge \boldsymbol{a}_{1}, \boldsymbol{b}\right)+\frac{2}{5}(\boldsymbol{a}, \boldsymbol{b})(\boldsymbol{v}, \boldsymbol{w}) \end{aligned}	$\begin{aligned} & ((\boldsymbol{a} \times \boldsymbol{b})\boldsymbol{v}, \boldsymbol{w})=(\boldsymbol{a} \wedge \boldsymbol{v}, \boldsymbol{b} \wedge \boldsymbol{w})-\frac{3}{5}(\boldsymbol{a}, \boldsymbol{b})(\boldsymbol{v}, \boldsymbol{w}) \\ & \quad=-\left(\boldsymbol{a}_{1}, \boldsymbol{w}\right)\left(\boldsymbol{x} \wedge \boldsymbol{a}_{2}, \boldsymbol{b}\right)+\left(\boldsymbol{a}_{2}, \boldsymbol{w}\right)\left(\boldsymbol{x} \wedge \boldsymbol{a}_{1}, \boldsymbol{b}\right)+\frac{2}{5}(\boldsymbol{a}, \boldsymbol{b})(\boldsymbol{v}, \boldsymbol{w}) \end{aligned}$	$\begin{aligned} & ((\boldsymbol{a} \times \boldsymbol{b})\boldsymbol{v}, \boldsymbol{w})=(\boldsymbol{a} \wedge \boldsymbol{v}, \boldsymbol{b} \wedge \boldsymbol{w})-\frac{3}{5}(\boldsymbol{a}, \boldsymbol{b})(\boldsymbol{v}, \boldsymbol{w}) \\ & \quad=-\left(\boldsymbol{a}_{1}, \boldsymbol{w}\right)\left(\boldsymbol{x} \wedge \boldsymbol{a}_{2}, \boldsymbol{b}\right)+\left(\boldsymbol{a}_{2}, \boldsymbol{w}\right)\left(\boldsymbol{x} \wedge \boldsymbol{a}_{1}, \boldsymbol{b}\right)+\frac{2}{5}(\boldsymbol{a}, \boldsymbol{b})(\boldsymbol{v}, \boldsymbol{w}), \end{aligned}$
0902.0431_EQ1194	201	1.000	(\boldsymbol{x} \times \boldsymbol{y}) \boldsymbol{a}= \left(\boldsymbol{y}, \boldsymbol{a}_{1}\right) \boldsymbol{x} \wedge \boldsymbol{a}_{2}-\left(\boldsymbol{y}, \boldsymbol{a}_{2}\right) \boldsymbol{x} \wedge \boldsymbol{a}_{1}-\frac{2}{5}(\boldsymbol{x}, \boldsymbol{y}) \boldsymbol{a} .	$(\boldsymbol{x} \times \boldsymbol{y}) \boldsymbol{a}=\left(\boldsymbol{y}, \boldsymbol{a}_{1}\right) \boldsymbol{x} \wedge \boldsymbol{a}_{2}-\left(\boldsymbol{y}, \boldsymbol{a}_{2}\right) \boldsymbol{x} \wedge \boldsymbol{a}_{1}-\frac{2}{5}(\boldsymbol{x}, \boldsymbol{y}) \boldsymbol{a} .$	$(\boldsymbol{x} \times \boldsymbol{y}) \boldsymbol{a}=\left(\boldsymbol{y}, \boldsymbol{a}_{1}\right) \boldsymbol{x} \wedge \boldsymbol{a}_{2}-\left(\boldsymbol{y}, \boldsymbol{a}_{2}\right) \boldsymbol{x} \wedge \boldsymbol{a}_{1}-\frac{2}{5}(\boldsymbol{x}, \boldsymbol{y}) \boldsymbol{a} .$
0902.0431_EQ1198	201	1.000	\left[(C, D),\left(E_{45}, 0\right)\right]=\left(5 E_{45}, 0\right) \in \mathfrak{g}_{01} \cap \mathfrak{a},	$\left[(C, D),\left(E_{45}, 0\right)\right]=\left(5 E_{45}, 0\right) \in \mathfrak{g}_{01} \cap \mathfrak{a},$	$\left[(C, D),\left(E_{45}, 0\right)\right]=\left(5 E_{45}, 0\right) \in \mathfrak{g}_{01} \cap \mathfrak{a},$
0902.0431_EQ1199	202	1.000	\mathfrak{a} \supset\left[\mathfrak{g}_{1}, \mathfrak{g}_{-1}\right] \ni\left[\boldsymbol{e}_{1} \otimes\left(\boldsymbol{e}_{1} \wedge \boldsymbol{e}_{2} \right), \boldsymbol{e}_{1} \otimes\left(\boldsymbol{e}_{1} \wedge \boldsymbol{e}_{3}\right) \right]=\left(0,-E_{23}\right),	$\mathfrak{a} \supset\left[\mathfrak{g}_{1}, \mathfrak{g}_{-1}\right] \ni\left[\boldsymbol{e}_{1} \otimes\left(\boldsymbol{e}_{1} \wedge \boldsymbol{e}_{2} \right), \boldsymbol{e}_{1} \otimes\left(\boldsymbol{e}_{1} \wedge \boldsymbol{e}_{3}\right) \right]=\left(0,-E_{23}\right),$	$\mathfrak{a} \supset\left[\mathfrak{g}_{1}, \mathfrak{g}_{-1}\right] \ni\left[\boldsymbol{e}_{1} \otimes\left(\boldsymbol{e}_{1} \wedge \boldsymbol{e}_{2} \right), \boldsymbol{e}_{1} \otimes\left(\boldsymbol{e}_{1} \wedge \boldsymbol{e}_{3}\right) \right]=\left(0,-E_{23}\right),$
0902.0431_EQ1200	202	1.000	\operatorname{ad}(T) \operatorname{ad}\left(S_{1523} \right) \operatorname{ad}\left(S_{1415}\right) \operatorname{ad}\left(S_{1314}\right) \operatorname{ad} \left(S_{1213}\right) R=\left(-E_{12}, 0\right) \in \mathfrak{g}_{01} \cap \mathfrak{a} .	$\operatorname{ad}(T) \operatorname{ad}\left(S_{1523}\right) \operatorname{ad}\left(S_{1415}\right) \operatorname{ad}\left(S_{1314}\right) \operatorname{ad}\left(S_{1213}\right) R=\left(-E_{12}, 0\right) \in \mathfrak{g}_{01} \cap \mathfrak{a} .$	$\operatorname{ad}(T) \operatorname{ad}\left(S_{1523}\right) \operatorname{ad}\left(S_{1415}\right) \operatorname{ad}\left(S_{1314}\right) \operatorname{ad}\left(S_{1213}\right) R=\left(-E_{12}, 0\right) \in \mathfrak{g}_{01} \cap \mathfrak{a} .$
0902.0431_EQ1203	202	1.000	B_{8}(R, R)=120, \quad B(R, R)=2 .	$B_{8}(R, R)=120, \quad B(R, R)=2 .$	$B_{8}(R, R)=120, \quad B(R, R)=2 .$
0902.0431_EQ1204	202	1.000	\begin{aligned} & \tau \widetilde{\lambda}(C, D, \boldsymbol{x} \otimes \boldsymbol{a}, \boldsymbol{b} \otimes \boldsymbol{y}, \boldsymbol{c} \otimes \boldsymbol{z}, \boldsymbol{w} \otimes \boldsymbol{d}) \\ & \quad=\left(-\tau^{t} C,-\tau^{t} D, \tau \boldsymbol{w} \otimes \tau \boldsymbol{d}, \tau \boldsymbol{c} \otimes \tau \boldsymbol{z}, \tau \boldsymbol{b} \otimes \tau \boldsymbol{y}, \tau \boldsymbol{x} \otimes \tau \boldsymbol{a}\right) . \end{aligned}	$\begin{aligned} & \tau \widetilde{\lambda}(C, D, \boldsymbol{x} \otimes \boldsymbol{a}, \boldsymbol{b} \otimes \boldsymbol{y}, \boldsymbol{c} \otimes \boldsymbol{z}, \boldsymbol{w} \otimes \boldsymbol{d}) \\ & \quad=\left(-\tau^{t} C,-\tau^{t} D, \tau \boldsymbol{w} \otimes \tau \boldsymbol{d}, \tau \boldsymbol{c} \otimes \tau \boldsymbol{z}, \tau \boldsymbol{b} \otimes \tau \boldsymbol{y}, \tau \boldsymbol{x} \otimes \tau \boldsymbol{a}\right) . \end{aligned}$	$\begin{aligned} & \tau \widetilde{\lambda}(C, D, \boldsymbol{x} \otimes \boldsymbol{a}, \boldsymbol{b} \otimes \boldsymbol{y}, \boldsymbol{c} \otimes \boldsymbol{z}, \boldsymbol{w} \otimes \boldsymbol{d}) \\ & \quad=\left(-\tau^{t} C,-\tau^{t} D, \tau \boldsymbol{w} \otimes \tau \boldsymbol{d}, \tau \boldsymbol{c} \otimes \tau \boldsymbol{z}, \tau \boldsymbol{b} \otimes \tau \boldsymbol{y}, \tau \boldsymbol{x} \otimes \tau \boldsymbol{a}\right) . \end{aligned}$
0902.0431_EQ1205	203	1.000	\left\langle R_{1}, R_{2}\right\rangle=-B_{8}\left(R_{1}, \tau \widetilde{\lambda} R_{2}\right)	$\left\langle R_{1}, R_{2}\right\rangle=-B_{8}\left(R_{1}, \tau \widetilde{\lambda} R_{2}\right)$	$\left\langle R_{1}, R_{2}\right\rangle=-B_{8}\left(R_{1}, \tau \widetilde{\lambda} R_{2}\right)$
0902.0431_EQ1207	203	1.000	E_{8}=\left\{\alpha \in \operatorname{Aut}\left(\mathfrak{e}_{8}^{C}\right) \mid\left\langle\alpha R_{1}, \alpha R_{2}\right\rangle=\left\langle R_{1}, R_{2}\right\rangle\right\}	$E_{8}=\left\{\alpha \in \operatorname{Aut}\left(\mathfrak{e}_{8}^{C}\right) \mid\left\langle\alpha R_{1}, \alpha R_{2}\right\rangle=\left\langle R_{1}, R_{2}\right\rangle\right\}$	$E_{8}=\left\{\alpha \in \operatorname{Aut}\left(\mathfrak{e}_{8}{}^{C}\right) \mid\left\langle\alpha R_{1}, \alpha R_{2}\right\rangle=\left\langle R_{1}, R_{2}\right\rangle\right\}$

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0902.0431_EQ1208	203	■1.000	`z_{5}\left(C, D, g_{1}, g_{2}, g_{-2}, g_{-1}\right)= \left(C, D, \zeta\left(g_{1}\right), \zeta^{2}\left(g_{2} \right), \zeta^{3}\left(g_{-2}\right), \zeta^{4} \left(g_{-1}\right)\right) .`	$z_5\left(C, D, g_1, g_2, g_{-2}, g_{-1}\right)=\left(C, D, \zeta\left(g_1\right), \zeta^2\left(g_2\right), \zeta^3\left(g_{-2}\right), \zeta^4\left(g_{-1}\right)\right) .$	$z_5(C, D, g_1, g_2, g_{-2}, g_{-1}) = (C, D, \zeta(g_1), \zeta^2(g_2), \zeta^3(g_{-2}), \zeta^4(g_{-1})).$
0902.0431_EQ1209	203	■1.000	`\left(E_{8}\right)^{z_{5}}=\left\{\alpha \in E_{8} \mid z_{5} \alpha=\alpha z_{5}\right\} .`	$\left(E_8\right)^{z_5}=\left\{\alpha \in E_8 \mid z_5 \alpha=\alpha z_5\right\} .$	$(E_8)^{z_5} = \{\alpha \in E_8 \mid z_5\alpha = \alpha z_5\}.$
0902.0431_EQ1212	203	■1.000	`\left\langle\varphi(A) R_{1}, \varphi_{1}(A) R_{2}\right \rangle=\left\langle R_{1}, R_{2}\right\rangle .`	$\left\langle\varphi(A) R_1, \varphi_1(A) R_2\right\rangle=\left\langle R_1, R_2\right\rangle .$	$\langle\varphi(A)R_1, \varphi_1(A)R_2\rangle = \langle R_1, R_2\rangle.$
0902.0431_EQ1213	204	■1.000	`\varphi(A, B)=\varphi_{1}(A) \varphi_{2}(B) .`	$\varphi(A, B)=\varphi_1(A) \varphi_2(B) .$	$\varphi(A, B) = \varphi_1(A)\varphi_2(B).$
0902.0431_EQ1215	204	■1.000	`\begin{aligned} \mathfrak{e}_{8(8)} & = \mathfrak{e}_{7(7)} \oplus \mathfrak{P}^{\prime} \oplus \mathfrak{P}^{\prime} \oplus \boldsymbol{R} \oplus \boldsymbol{R} \oplus \boldsymbol{R}, \quad\left(\text { where } \mathfrak{e}_{7(7)}=\left(\mathfrak{e}_{7}^{C} \right)^{\tau \gamma}\right), \\ \mathfrak{e}_{8(-24)} & =\mathfrak{e}_{7(-25)} \oplus \mathfrak{P} \oplus \mathfrak{P} \oplus \mathfrak{P} \oplus \boldsymbol{R} \oplus \boldsymbol{R} \oplus \boldsymbol{R}, \quad\left(\text { where } \mathfrak{e}_{7(-25)}=\left(\mathfrak{e}_{7}^{C}\right)^{\tau}\right) . \end{aligned}`	$\begin{aligned} \mathfrak{e}_{8(8)} & = \mathfrak{e}_{7(7)} \oplus \mathfrak{P}^{\prime} \oplus \mathfrak{P}^{\prime} \oplus \boldsymbol{R} \oplus \boldsymbol{R} \oplus \boldsymbol{R}, \quad\left(\text { where } \mathfrak{e}_{7(7)}=\left(\mathfrak{e}_{7}^{C} \right)^{\tau \gamma}\right), \\ \mathfrak{e}_{8(-24)} & =\mathfrak{e}_{7(-25)} \oplus \mathfrak{P} \oplus \mathfrak{P} \oplus \mathfrak{P} \oplus \boldsymbol{R} \oplus \boldsymbol{R} \oplus \boldsymbol{R}, \quad\left(\text { where } \mathfrak{e}_{7(-25)}=\left(\mathfrak{e}_{7}^{C}\right)^{\tau}\right) . \end{aligned}$	$\begin{aligned} \mathfrak{e}_{8(8)} & = \mathfrak{e}_{7(7)} \oplus \mathfrak{P}^{\prime} \oplus \mathfrak{P}^{\prime} \oplus \boldsymbol{R} \oplus \boldsymbol{R} \oplus \boldsymbol{R}, \quad (\text{where } \mathfrak{e}_{7(7)}=(\mathfrak{e}_7{}^{C})^{\tau\gamma}), \\ \mathfrak{e}_{8(-24)} & =\mathfrak{e}_{7(-25)} \oplus \mathfrak{P} \oplus \mathfrak{P} \oplus \mathfrak{P} \oplus \boldsymbol{R} \oplus \boldsymbol{R} \oplus \boldsymbol{R}, \quad (\text{where } \mathfrak{e}_{7(-25)}=(\mathfrak{e}_7{}^{C})^{\tau}). \end{aligned}$
0902.0431_EQ1219	204	■1.000	`z\left(E_{8(8)}\right)=\{1\}, \quad z\left(E_{8(-24)} \right)=\{1\} .`	$z\left(E_{8(8)}\right)=\{1\}, \quad z\left(E_{8(-24)}\right)=\{1\}.$	$z(E_{8(8)})=\{1\}, \quad z(E_{8(-24)})=\{1\}.$
0902.0431_EQ0341	55	—	—	—	$\begin{aligned} \lambda_0-\lambda_1 &= \alpha_1 \\ \lambda_0-\lambda_2 &= \alpha_1+\alpha_2 \\ -\lambda_0+\lambda_3 &= \alpha_2+2\alpha_3+2\alpha_4 \\ \lambda_1-\lambda_2 &= \alpha_2 \\ -\lambda_1+\lambda_3 &= \alpha_1+\alpha_2+2\alpha_3+2\alpha_4 \\ -\lambda_2+\lambda_3 &= \alpha_1+2\alpha_2+2\alpha_3+2\alpha_4 \\ \lambda_0+\lambda_1 &= \alpha_1+2\alpha_2+2\alpha_3 \\ \lambda_0+\lambda_2 &= \alpha_1+\alpha_2+2\alpha_3 \\ \lambda_0+\lambda_3 &= 2\alpha_1+3\alpha_2+4\alpha_3+2\alpha_4 \\ \lambda_1+\lambda_2 &= \alpha_2+2\alpha_3 \\ \lambda_1+\lambda_3 &= \alpha_1+3\alpha_2+4\alpha_3+2\alpha_4 \\ \lambda_2+\lambda_3 &= \alpha_1+2\alpha_2+4\alpha_3+4\alpha_4, \\ \frac{1}{2}(\lambda_0+\lambda_1+\lambda_2+\lambda_3) &= \alpha_1+2\alpha_2+3\alpha_3+\alpha_4 \\ \frac{1}{2}(-\lambda_0-\lambda_1-\lambda_2+\lambda_3) &= \alpha_4 \\ \frac{1}{2}(\lambda_0+\lambda_1-\lambda_2+\lambda_3) &= \alpha_1+2\alpha_2+2\alpha_3+\alpha_4 \\ \frac{1}{2}(\lambda_0-\lambda_1+\lambda_2+\lambda_3) &= \alpha_1+\alpha_2+2\alpha_3+\alpha_4 \\ \frac{1}{2}(-\lambda_0-\lambda_1+\lambda_2+\lambda_3) &= \alpha_3+\alpha_4 \\ \frac{1}{2}(-\lambda_0+\lambda_1-\lambda_2+\lambda_3) &= \alpha_2+\alpha_3+\alpha_4 \\ \frac{1}{2}(\lambda_0-\lambda_1-\lambda_2+\lambda_3) &= \alpha_1+\alpha_2+\alpha_3+\alpha_4 \\ \frac{1}{2}(-\lambda_0+\lambda_1+\lambda_2+\lambda_3) &= \alpha_2+2\alpha_3+\alpha_4. \end{aligned}$

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0902.0431_EQ0758	126	—	—	—	$\frac{1}{2}(-\lambda_0-\lambda_1+\lambda_2-\lambda_3)+\frac{1}{2}(\mu_3-\mu_1)=0 \quad 0\ 1\ 1\ 0\ 0\ 0$ $\frac{1}{2}(\ \ \lambda_0+\lambda_1+\lambda_2-\lambda_3)+\frac{1}{2}(\mu_3-\mu_1)=1 \quad 2\ 3\ 3\ 2\ 1\ 1$ $\frac{1}{2}(-\lambda_0+\lambda_1+\lambda_2+\lambda_3)+\frac{1}{2}(\mu_3-\mu_1)=0 \quad 1\ 2\ 3\ 2\ 1\ 1$ $\frac{1}{2}(\ \ \lambda_0-\lambda_1+\lambda_2+\lambda_3)+\frac{1}{2}(\mu_3-\mu_1)=1 \quad 1\ 2\ 3\ 2\ 1\ 1$ $\frac{1}{2}(\ \ \lambda_0+\lambda_1-\lambda_2+\lambda_3)+\frac{1}{2}(\mu_3-\mu_1)=1 \quad 2\ 2\ 3\ 2\ 1\ 1$ $\frac{1}{2}(-\lambda_0-\lambda_1-\lambda_2+\lambda_3)+\frac{1}{2}(\mu_3-\mu_1)=0 \quad 0\ 0\ 1\ 0\ 0\ 0$ $\frac{1}{2}(\ \ \lambda_0-\lambda_1-\lambda_2-\lambda_3)+\frac{1}{2}(\mu_3-\mu_1)=1 \quad 1\ 1\ 1\ 0\ 0\ 0$ $\frac{1}{2}(-\lambda_0+\lambda_1-\lambda_2-\lambda_3)+\frac{1}{2}(\mu_3-\mu_1)=0 \quad 1\ 1\ 1\ 0\ 0\ 0$ $\frac{1}{2}(\ \ \lambda_0-\lambda_1+\lambda_2-\lambda_3)-\frac{1}{2}(\mu_1-\mu_2)=1 \quad 1\ 2\ 2\ 1\ 1\ 1$ $\frac{1}{2}(\ \ \lambda_0-\lambda_1-\lambda_2+\lambda_3)-\frac{1}{2}(\mu_1-\mu_2)=1 \quad 1\ 1\ 2\ 1\ 1\ 1$ $\frac{1}{2}(\ \ \lambda_0+\lambda_1+\lambda_2+\lambda_3)+\frac{1}{2}(\mu_1-\mu_2)=0 \quad 0\ 0\ 0\ 1\ 0\ 0$ $\frac{1}{2}(\ \ \lambda_0+\lambda_1-\lambda_2-\lambda_3)-\frac{1}{2}(\mu_1-\mu_2)=1 \quad 2\ 2\ 2\ 1\ 1\ 1$ $\frac{1}{2}(-\lambda_0+\lambda_1-\lambda_2+\lambda_3)-\frac{1}{2}(\mu_1-\mu_2)=0 \quad 1\ 1\ 2\ 1\ 1\ 1$ $\frac{1}{2}(-\lambda_0+\lambda_1+\lambda_2-\lambda_3)-\frac{1}{2}(\mu_1-\mu_2)=0 \quad 1\ 2\ 2\ 1\ 1\ 1$ $\frac{1}{2}(\ \ \lambda_0+\lambda_1+\lambda_2+\lambda_3)-\frac{1}{2}(\mu_1-\mu_2)=1 \quad 2\ 3\ 4\ 3\ 2\ 2$ $\frac{1}{2}(-\lambda_0-\lambda_1+\lambda_2+\lambda_3)-\frac{1}{2}(\mu_1-\mu_2)=0 \quad 0\ 1\ 2\ 1\ 1\ 1$ $-\mu_1-\frac{2}{3}\nu=1 \quad 2\ 3\ 4\ 2\ 1\ 2$ $\mu_2+\frac{2}{3}\nu=0 \quad 0\ 0\ 0\ 0\ 1\ 0$ $-\mu_3-\frac{2}{3}\nu=0 \quad 0\ 0\ 0\ 0\ 0\ 1$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ0940	156	—	—	—	$$\begin{aligned} & P = (F_1(1), 0, 0, 0) \\ & \xrightarrow{f} \boldsymbol{e}_2 \wedge \boldsymbol{e}_4 \wedge \boldsymbol{e}_5 + \boldsymbol{e}_3 \wedge \boldsymbol{e}_6 \wedge \boldsymbol{e}_4 \\ & \xrightarrow{D} (D\boldsymbol{e}_2 \wedge \boldsymbol{e}_4 \wedge \boldsymbol{e}_5 + \boldsymbol{e}_2 \wedge D\boldsymbol{e}_4 \wedge \boldsymbol{e}_5 + \boldsymbol{e}_2 \wedge \boldsymbol{e}_4 \wedge D\boldsymbol{e}_5) \\ & \quad + (D\boldsymbol{e}_3 \wedge \boldsymbol{e}_6 \wedge \boldsymbol{e}_4 + \boldsymbol{e}_3 \wedge D\boldsymbol{e}_6 \wedge \boldsymbol{e}_4 + \boldsymbol{e}_3 \wedge \boldsymbol{e}_6 \wedge D\boldsymbol{e}_4) \\ & = \Big(b_{12}\boldsymbol{e}_1 \wedge \boldsymbol{e}_4 \wedge \boldsymbol{e}_5 + \Big(b_{22} + \frac{\nu}{3}\Big)\boldsymbol{e}_2 \wedge \boldsymbol{e}_4 \wedge \boldsymbol{e}_5 - \overline{b}_{23}\boldsymbol{e}_3 \wedge \boldsymbol{e}_4 \wedge \boldsymbol{e}_5 - \overline{l}_{23}\boldsymbol{e}_6 \wedge \boldsymbol{e}_4 \wedge \boldsymbol{e}_5 \\ & \quad + l_{11}\boldsymbol{e}_2 \wedge \boldsymbol{e}_1 \wedge \boldsymbol{e}_5 + l_{31}\boldsymbol{e}_2 \wedge \boldsymbol{e}_3 \wedge \boldsymbol{e}_5 + \Big(c_{11} - \frac{\nu}{3}\Big)\boldsymbol{e}_2 \wedge \boldsymbol{e}_4 \wedge \boldsymbol{e}_5 - \overline{c}_{13}\boldsymbol{e}_2 \wedge \boldsymbol{e}_6 \wedge \boldsymbol{e}_5 \\ & \quad + l_{12}\boldsymbol{e}_2 \wedge \boldsymbol{e}_4 \wedge \boldsymbol{e}_1 + l_{32}\boldsymbol{e}_2 \wedge \boldsymbol{e}_4 \wedge \boldsymbol{e}_3 + \Big(c_{22} - \frac{\nu}{3}\Big)\boldsymbol{e}_3 \wedge \boldsymbol{e}_6 \wedge \boldsymbol{e}_4 - \overline{c}_{23}\boldsymbol{e}_2 \wedge \boldsymbol{e}_4 \wedge \boldsymbol{e}_6 \Big) \\ & \quad + \Big(b_{13}\boldsymbol{e}_1 \wedge \boldsymbol{e}_6 \wedge \boldsymbol{e}_4 + b_{23}\boldsymbol{e}_2 \wedge \boldsymbol{e}_6 \wedge \boldsymbol{e}_4 + \Big(b_{33} + \frac{\nu}{3}\Big)\boldsymbol{e}_3 \wedge \boldsymbol{e}_6 \wedge \boldsymbol{e}_4 - \overline{l}_{32}\boldsymbol{e}_5 \wedge \boldsymbol{e}_6 \wedge \boldsymbol{e}_4 \\ & \quad + l_{13}\boldsymbol{e}_3 \wedge \boldsymbol{e}_1 \wedge \boldsymbol{e}_4 + l_{23}\boldsymbol{e}_3 \wedge \boldsymbol{e}_2 \wedge \boldsymbol{e}_4 + c_{23}\boldsymbol{e}_3 \wedge \boldsymbol{e}_5 \wedge \boldsymbol{e}_4 + \Big(c_{33} - \frac{\nu}{3}\Big)\boldsymbol{e}_3 \wedge \boldsymbol{e}_6 \wedge \boldsymbol{e}_4 \\ & \quad + l_{11}\boldsymbol{e}_3 \wedge \boldsymbol{e}_6 \wedge \boldsymbol{e}_1 + l_{21}\boldsymbol{e}_3 \wedge \boldsymbol{e}_6 \wedge \boldsymbol{e}_2 + \Big(c_{11} - \frac{\nu}{3}\Big)\boldsymbol{e}_3 \wedge \boldsymbol{e}_6 \wedge \boldsymbol{e}_4 - \overline{c}_{12}\boldsymbol{e}_3 \wedge \boldsymbol{e}_6 \wedge \boldsymbol{e}_5 \Big) \\ & \xrightarrow{f^{-1}} \left(\begin{array}{c} \left(\begin{array}{ccc} 0 & h(b_{13}, c_{13}) & 0 \\ * & h(b_{23} + \overline{c}_{23}) & h(b_{22} - c_{33} - \frac{\nu}{3}, -b_{33} + c_{33} + \frac{\nu}{3}) \\ h(\overline{c}_{12}, \overline{b}_{12}) & * & -h(\overline{b}_{23} + c_{23}) \end{array} \right) \\ \left(\begin{array}{ccc} -h(l_{23} + l_{32}) & h(l_{13}, \overline{l}_{31}) & * \\ * & 0 & -h(l_{11}) \\ h(l_{21}, \overline{l}_{12}) & * & 0 \end{array} \right) \\ 0 \\ -h(\overline{l}_{23} + \overline{l}_{32}) \end{array} \right) \end{aligned}$$

Identifier	Page	Conf.	LaTeX source	Rendered	Image
0902.0431_EQ1028	172	—	—	—	$$\begin{array}{rcccccccc} \lambda_2+\frac{1}{2}(\mu_2-\mu_3)=0 & 1 & 2 & 2 & 1 & 1 & 0 & 1 \\ \lambda_3+\frac{1}{2}(\mu_2-\mu_3)=0 & 1 & 2 & 2 & 1 & 0 & 0 & 1 \\ \lambda_0-\frac{1}{2}(\mu_2-\mu_3)=2 & 3 & 4 & 3 & 3 & 2 & 1 & 2 \\ \lambda_1-\frac{1}{2}(\mu_2-\mu_3)=0 & 0 & 0 & 0 & 1 & 1 & 1 & 0 \\ \lambda_2-\frac{1}{2}(\mu_2-\mu_3)=0 & 0 & 0 & 0 & 1 & 1 & 0 & 0 \\ \lambda_3-\frac{1}{2}(\mu_2-\mu_3)=0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 \\ \frac{1}{2}(\lambda_0+\lambda_1+\lambda_2-\lambda_3)+\frac{1}{2}(\mu_3-\mu_1)=1 & 1 & 2 & 2 & 2 & 2 & 1 & 1 \\ \frac{1}{2}(\lambda_0+\lambda_1-\lambda_2+\lambda_3)+\frac{1}{2}(\mu_3-\mu_1)=1 & 1 & 2 & 2 & 2 & 1 & 1 & 1 \\ \frac{1}{2}(\lambda_0-\lambda_1+\lambda_2+\lambda_3)+\frac{1}{2}(\mu_3-\mu_1)=1 & 1 & 2 & 2 & 2 & 1 & 0 & 1 \\ \frac{1}{2}(\lambda_0-\lambda_1-\lambda_2-\lambda_3)+\frac{1}{2}(\mu_3-\mu_1)=1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ \frac{1}{2}(\lambda_0+\lambda_1+\lambda_2-\lambda_3)-\frac{1}{2}(\mu_3-\mu_1)=1 & 3 & 4 & 3 & 2 & 2 & 1 & 2 \\ \frac{1}{2}(\lambda_0+\lambda_1-\lambda_2+\lambda_3)-\frac{1}{2}(\mu_3-\mu_1)=1 & 3 & 4 & 3 & 2 & 1 & 1 & 2 \\ \frac{1}{2}(\lambda_0-\lambda_1+\lambda_2+\lambda_3)-\frac{1}{2}(\mu_3-\mu_1)=1 & 3 & 4 & 3 & 2 & 1 & 0 & 2 \\ \frac{1}{2}(\lambda_0-\lambda_1-\lambda_2-\lambda_3)-\frac{1}{2}(\mu_3-\mu_1)=1 & 2 & 2 & 1 & 0 & 0 & 0 & 1 \\ \frac{1}{2}(\lambda_0-\lambda_1+\lambda_2-\lambda_3)+\frac{1}{2}(\mu_1-\mu_2)=1 & 2 & 2 & 1 & 1 & 1 & 0 & 1 \\ \frac{1}{2}(\lambda_0-\lambda_1-\lambda_2+\lambda_3)+\frac{1}{2}(\mu_1-\mu_2)=1 & 2 & 2 & 1 & 1 & 0 & 0 & 1 \\ \frac{1}{2}(\lambda_0+\lambda_1-\lambda_2-\lambda_3)+\frac{1}{2}(\mu_1-\mu_2)=1 & 2 & 2 & 1 & 1 & 1 & 1 & 1 \\ \frac{1}{2}(\lambda_0+\lambda_1+\lambda_2+\lambda_3)+\frac{1}{2}(\mu_1-\mu_2)=1 & 3 & 4 & 3 & 3 & 2 & 1 & 2 \\ \frac{1}{2}(\lambda_0-\lambda_1+\lambda_2-\lambda_3)-\frac{1}{2}(\mu_1-\mu_2)=1 & 1 & 2 & 2 & 1 & 1 & 0 & 1 \\ \frac{1}{2}(\lambda_0-\lambda_1-\lambda_2+\lambda_3)-\frac{1}{2}(\mu_1-\mu_2)=1 & 1 & 2 & 2 & 1 & 0 & 0 & 1 \\ \frac{1}{2}(\lambda_0+\lambda_1-\lambda_2-\lambda_3)-\frac{1}{2}(\mu_1-\mu_2)=1 & 1 & 2 & 2 & 1 & 1 & 1 & 1 \\ \frac{1}{2}(\lambda_0+\lambda_1+\lambda_2+\lambda_3)-\frac{1}{2}(\mu_1-\mu_2)=1 & 2 & 4 & 4 & 3 & 2 & 1 & 2 \\ \mu_1+\frac{2}{3}\nu=0 & 1 & 1 & 0 & 0 & 0 & 0 & 1 \\ \mu_2+\frac{2}{3}\nu=0 & 0 & 1 & 1 & 0 & 0 & 0 & 1 \\ -\mu_3-\frac{2}{3}\nu=0 & 1 & 1 & 1 & 0 & 0 & 0 & 0 \end{array}$$