1. (Elineuc5.tex)

$$\overrightarrow{w} = \frac{1}{\sqrt{6}} (2\overrightarrow{e_1} + \overrightarrow{e_2} - \overrightarrow{e_3})$$

- 2. (Elineuc13.tex) Oui
- 3. (Eexo292.tex)

$$(\vec{a}/\vec{c})\vec{b} - (\vec{b}/\vec{c})\vec{a}$$

4. (Elineuc14.tex)

$$\left(\frac{1}{3}(2a-b+c-1), \frac{1}{3}(-a+2b+c-1), \frac{1}{3}(a+b+2c-1)\right)$$

5. (Elineuc9.tex)

$$\begin{cases} \det(\overrightarrow{A_1M}, \overrightarrow{u}_1, \overrightarrow{u}_1 \wedge \overrightarrow{u}_2) = 0 \\ \det(\overrightarrow{A_2M}, \overrightarrow{u}_2, \overrightarrow{u}_1 \wedge \overrightarrow{u}_2) = 0 \\ \det(\overrightarrow{A_1M}, \overrightarrow{u}_1, \overrightarrow{u}_2) = 0 \end{cases}$$

6. (Elineuc10.tex)

$$\begin{cases} \det(\overrightarrow{A_1M}, \overrightarrow{u}_1, \overrightarrow{u}_1 \wedge \overrightarrow{u}_2) = 0 \\ \det(\overrightarrow{A_2M}, \overrightarrow{u}_2, \overrightarrow{u}_1 \wedge \overrightarrow{u}_2) = 0 \\ \det(\overrightarrow{A_2M}, \overrightarrow{u}_1, \overrightarrow{u}_2) = 0 \end{cases}$$

7. (Elineuc20.tex)

$$M - \frac{(\overrightarrow{AM}/\overrightarrow{u})}{\|\overrightarrow{u}\|^2} \overrightarrow{u}$$

8. (Elineuc6.tex)

$$\frac{\|\overrightarrow{u}\wedge\overrightarrow{AM}\|}{\|\overrightarrow{u}\|}$$

9. (Elineuc18.tex)

$$\left(\frac{1}{3}(a-2b+2c-2), \frac{1}{3}(-2a+b+2c-2), \frac{1}{3}(2a+2b+c+2)\right)$$

 $10.~_{\rm (Elineuc21.tex)}$ 

$$\left(\frac{3}{2}-\sqrt{3}\right)\overrightarrow{i}+\left(1+\frac{3\sqrt{3}}{2}\right)\overrightarrow{j}$$

11. (Elineuc4.tex)

$$\overrightarrow{w} = \frac{1}{\sqrt{2}} (\overrightarrow{e_1} - \overrightarrow{e_3})$$

12. (Elineuc16.tex)

$$(b-1, a+1)$$

13. (Elineuc17.tex)

$$\left(\frac{1}{3}(a-2b-2c-2),\frac{1}{3}(-2a+b-2c-2),\right.\\ \left.\frac{1}{3}(-2a-2b+c-2)\right)$$

14. (Elineuc8.tex)

$$\begin{cases} \det(\overrightarrow{A_1M}, \overrightarrow{u}_1, \overrightarrow{u}_1 \wedge \overrightarrow{u}_2) = 0 \\ \det(\overrightarrow{A_2M}, \overrightarrow{u}_2, \overrightarrow{u}_1 \wedge \overrightarrow{u}_2) = 0 \end{cases}$$

15. (Elineuc7.tex)

$$\frac{|\det(\overrightarrow{AA'},\overrightarrow{u},\overrightarrow{u'})|}{\|\overrightarrow{u}\wedge\overrightarrow{u'}\|}$$

16. (Elineuc15.tex)

$$(-b-1, -a-1)$$

17. (Elineuc11.tex) Oui

18. (Elineuc12.tex) non

19. (Elineuc2.tex)

$$\det(\overrightarrow{u}, \overrightarrow{u} \wedge \overrightarrow{u}', \overrightarrow{AM}) = 0$$

20. (Elineuc1.tex)

$$\left(\begin{array}{c} -3\\0\\3 \end{array}\right)$$

 $21.~{\tiny (Elineuc19.tex)}$ 

$$A + \frac{(\overrightarrow{AM}/\overrightarrow{u})}{\|\overrightarrow{u}\|^2} \overrightarrow{u}$$

22. (Eexo187.tex) non

23. (Elineuc3.tex)

$$\overrightarrow{w} = \frac{1}{\sqrt{6}} (\overrightarrow{e_1} - 2\overrightarrow{e_2} + \overrightarrow{e_3})$$