Solution

$$4 \cdot 3 \cdot \int_{4\pi}^{0} \int_{16\pi^2}^{4\pi} \int_{0}^{16\pi^2} \frac{1}{4e^{\alpha \cdot 1 \cdot 0.999} e^{2\beta \cdot 0.999 - \gamma \cdot 0.999}} d\alpha d\beta d\gamma = 5.31263\ldots E - 6$$

Steps

$$4 \cdot 3 \cdot \int_{4\pi}^{0} \int_{16\pi^2}^{4\pi} \int_{0}^{16\pi^2} \frac{1}{4e^{\alpha \cdot 1 \cdot 0.999} e^{2\beta \cdot 0.999 - \gamma \cdot 0.999}} d\alpha d\beta d\gamma$$

$\int_{0}^{16\pi^2} \frac{1}{4e^{\alpha \cdot 1 \cdot 0.999} e^{2\beta \cdot 0.999 - \gamma \cdot 0.999}} d\alpha = \frac{0.2502495}{e^{-0.999\gamma + 1.998\beta}}$	*Show Steps*

$$= 4 \cdot 3 \cdot \int_{4\pi}^{0} \int_{16\pi^2}^{4\pi} \frac{0.2502495}{e^{-0.999\gamma + 1.998\beta}} d\beta d\gamma$$

$\int_{16\pi^2}^{4\pi} \frac{0.2502495}{e^{-0.999\gamma + 1.998\beta}} d\beta = -1.56188\ldots E - 12 e^{0.999\gamma}$	*Show Steps*

$$= 4 \cdot 3 \cdot \int_{4\pi}^{0} -1.56188\ldots E - 12 e^{0.999\gamma} d\gamma$$

$\int_{4\pi}^{0} -1.56188\ldots E - 12 e^{0.999\gamma} d\gamma = 4.42719\ldots E - 7$	*Show Steps*

$$= 4 \cdot 3 \cdot 4.42719\ldots E - 7$$

$4 \cdot 3 \cdot 4.42719\ldots E - 7 = 5.31263\ldots E - 6$	*Show Steps*

$$= 5.31263\ldots E - 6$$