

$$\frac{2}{\sqrt{3}}(\sqrt{6}-12)-\frac{4}{\sqrt{2}} \quad \text{を簡単にしなさい。}$$

$$\begin{aligned}\frac{2}{\sqrt{3}}(\sqrt{6}-12)-\frac{4}{\sqrt{2}} &= \frac{2 \times \sqrt{3}}{\sqrt{3} \times \sqrt{3}}(\sqrt{6}-12) - \frac{4 \times \sqrt{2}}{\sqrt{2} \times \sqrt{2}} \\ &= \frac{2\sqrt{3}}{3}(\sqrt{6}-12) - \frac{4\sqrt{2}}{2} \\ &= \frac{2\sqrt{3} \times \sqrt{6}}{3} - \frac{2\sqrt{3} \times 12}{3} - 2\sqrt{2} \\ &= \frac{2 \times 3\sqrt{2}}{3} - 8\sqrt{3} - 2\sqrt{2} \\ &= 2\sqrt{2} - 8\sqrt{3} - 2\sqrt{2} \\ &= -8\sqrt{3}\end{aligned}$$