

$$\sqrt{x(y+z)} = \sqrt{xy} + \sqrt{xz}$$

$$\textcircled{7} \quad \sqrt{48} (\sqrt{3} + \sqrt{2})$$

$$\sqrt{16 \times 3} (\sqrt{3} + \sqrt{2})$$

$$\downarrow$$

$$4\sqrt{3} (\sqrt{3} + \sqrt{2})$$

$$\underbrace{4\sqrt{3} \times \sqrt{3}}_4 + 4\sqrt{3} \times \sqrt{2}$$

$$12 + 4\sqrt{6}$$

$$\underline{\text{ج}}: \sqrt{\underbrace{48}_{4 \times 12} \times 3} + \sqrt{\underbrace{48}_{4 \times 12} \times 2}$$

$$\sqrt{4^2 \times 3^2} + \sqrt{4^2 \times 3 \times 2}$$

$$4 \times 3 + 4\sqrt{6}$$

$$12 + 4\sqrt{6}$$

$$\textcircled{8} \quad (\sqrt{12} + \sqrt{27} - \sqrt{48}) \div \sqrt{3}$$

$$(\sqrt{4 \times 3} + \sqrt{9 \times 3} - \sqrt{16 \times 3}) \div \sqrt{3}$$

$$(\underbrace{2\sqrt{3} + 3\sqrt{3} - 4\sqrt{3}}_{\sqrt{3}}) \div \sqrt{3}$$

$$\sqrt{3} \div \sqrt{3} = 1$$

$$\textcircled{9} \quad (\omega - \sqrt{2})(\omega + \sqrt{2}) =$$

$$\omega^2 + \omega\sqrt{2} - \omega\sqrt{2} - 2 = \omega^2 - 2 = 23$$

$$\underline{\text{ج}}: \text{آکایا فریج} = (a+b)(a-b) = a^2 - b^2$$

$$\omega^2 - (\sqrt{2})^2 = 23 - 2 = 21$$

$$\textcircled{9} \quad (r\sqrt{r} - 3\sqrt{r})(2\sqrt{r} - v\sqrt{r})$$

$$\underline{10\sqrt{r}} - \underbrace{1r\sqrt{r \times r}}_r - \underbrace{12\sqrt{r \times r}}_r + \underline{21\sqrt{r}}$$

$$31\sqrt{r} - 2r - 2r = 31\sqrt{r} - 4r$$

$$\textcircled{10} \quad (2\sqrt{v} + 4\sqrt{v})(10\sqrt{v} - 4\sqrt{v})$$

$$\underline{20\sqrt{v}} - \underbrace{2 \cdot \sqrt{v \times v}}_v + \underbrace{4 \cdot \sqrt{v \times v}}_v - \underline{4\sqrt{v}}$$

$$16\sqrt{v} - 10 - 10 = 16\sqrt{v} - 20$$

