

4, 9, 16, 25. ...

$$\textcircled{2} (\sqrt{3} + 2\sqrt{8})^2 = (\sqrt{3} + 2\sqrt{8})(\sqrt{3} + 2\sqrt{8})$$

$$= \sqrt{9} + 2\sqrt{24} + 2\sqrt{24} + 4\sqrt{64}$$

$$= 3 + 4\sqrt{24} + 4(8)$$

$$= 3 + 4\sqrt{24} + 32$$

$$= 35 + 4(\underline{2\sqrt{6}})$$

$$= \boxed{35 + 8\sqrt{6}}$$

$$\begin{array}{c} \sqrt{24} \\ \wedge \\ \sqrt{4} \sqrt{6} \\ 2\sqrt{6} \end{array}$$

③ $(\sqrt{8} + \sqrt{6})(\sqrt{3} + \sqrt{2})$ 4, 9, 16, ...

$$= \sqrt{24} + \sqrt{16} + \sqrt{18} + \sqrt{12}$$

$$= \underline{2\sqrt{6}} + 4 + 3\underline{\sqrt{2}} + \underline{2\sqrt{3}}$$

$$= 4 + 2\sqrt{6} + 3\sqrt{2} + 2\sqrt{3}$$

$$\begin{aligned} \sqrt{24} &> \sqrt{4\sqrt{6}} \\ &= 2\sqrt{6} \end{aligned}$$

$$\begin{aligned} \sqrt{18} &> \sqrt{9\sqrt{2}} \\ &= 3\sqrt{2} \end{aligned}$$

$$\begin{aligned} \sqrt{12} &> \sqrt{4\sqrt{3}} \\ &= 2\sqrt{3} \end{aligned}$$