

9.1

$$\textcircled{1} \sqrt{36} = \sqrt{6 \cdot 6} = 6$$

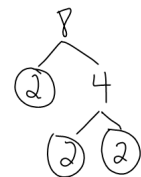
$$\textcircled{2} \sqrt{\frac{1}{16}} = \frac{\sqrt{1}}{\sqrt{16}} = \frac{1}{4}$$

$$\textcircled{3} -\sqrt{81} = -(9) = -9$$

$$\begin{aligned} \textcircled{4} \sqrt{x^6} &= \sqrt{\cancel{x} \cancel{x} \cancel{x} \cancel{x} \cancel{x} \cancel{x}} \\ &= x x x \\ &= x^3 \end{aligned}$$

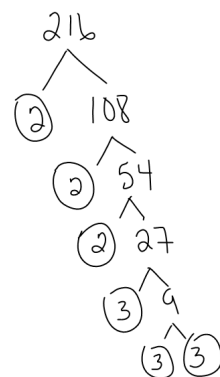
$$\begin{aligned} \textcircled{5} \sqrt{49y^4} &= \sqrt{\cancel{7} \cancel{7} \cancel{y} \cancel{y} \cancel{y} \cancel{y}} \\ &= 7 y y \\ &= 7y^2 \end{aligned}$$

$$\begin{aligned} \textcircled{6} \sqrt[3]{8} &= \sqrt[3]{2 \cdot 2 \cdot 2} \\ &= 2 \end{aligned}$$



$$\textcircled{7} \sqrt[3]{216}$$

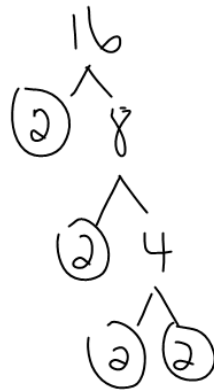
$$\begin{aligned} &\sqrt[3]{\cancel{2} \cdot \cancel{2} \cdot \cancel{2} \cdot \cancel{3} \cdot \cancel{3} \cdot \cancel{3}} \\ &= 2 \cdot 3 \\ &= 6 \end{aligned}$$



$$\textcircled{8} \quad \sqrt[4]{16}$$

$$\sqrt[4]{\boxed{2 \cdot 2 \cdot 2 \cdot 2}}$$

$$= 2$$



$$\begin{aligned} \textcircled{9} \quad \sqrt[4]{x^{20}} &= \sqrt[4]{\boxed{x \cdot x \cdot x \cdot x \cdot x \cdot x \cdot x \cdot x \cdot x \cdot x \cdot x \cdot x \cdot x \cdot x \cdot x \cdot x}} \\ &= x \cdot x \cdot x \cdot x \\ &= x^5 \end{aligned}$$

$$\begin{aligned} \textcircled{10} \quad \sqrt{x^2 + 10x + 25} &= \sqrt{\boxed{(x+5)(x+5)}} \\ &= x+5 \end{aligned}$$

$$\sqrt{x^2 + 10x + 25} \neq \sqrt{x^2} + \sqrt{10x} + \sqrt{25}$$

$$x + \sqrt{10x} + 5$$

Simplify

$$\begin{aligned} \textcircled{1} \quad 3\sqrt{6} \cdot 8\sqrt{6} &= 24\sqrt{36} \\ &= 24(6) \\ &= 144 \end{aligned}$$

$$\begin{aligned} \textcircled{2} \quad (4\sqrt{3})(-2\sqrt{27}) &= -8\sqrt{81} \\ &= -8(9) \\ &= -72 \end{aligned}$$

$$\begin{aligned} \textcircled{3} \quad \sqrt{6x^5} \cdot \sqrt{150x^3} &= \sqrt{900x^8} \\ &= 30x^4 \end{aligned}$$

$$x^5 \cdot x^3 = x^8$$

$$(x^5)^3 = x^{15}$$

$$\textcircled{4} \quad \frac{\sqrt{350}}{\sqrt{14}} = \sqrt{\frac{350}{14}} = \sqrt{25} = 5$$

$\begin{matrix} 14 \\ \wedge \\ 2 \quad 7 \end{matrix}$