

Adv. Geometry Radicals

key

Simplify.

$$\textcircled{1} \frac{\sqrt{50}}{\sqrt{25 \cdot 2}} = \boxed{5\sqrt{2}}$$

$$\textcircled{2} \frac{\sqrt{72}}{\sqrt{36 \cdot 2}} = \boxed{6\sqrt{2}}$$

$$\textcircled{3} \frac{\sqrt{128}}{\sqrt{64 \cdot 2}} = \boxed{8\sqrt{2}}$$

$$\textcircled{4} \frac{\sqrt{98}}{\sqrt{49 \cdot 2}} = \boxed{7\sqrt{2}}$$

$$\textcircled{5} \frac{\sqrt{80}}{\sqrt{16 \cdot 5}} = \boxed{4\sqrt{5}}$$

$$\textcircled{6} \frac{\sqrt{28x^2}}{\sqrt{4 \cdot 7 \cdot x^2}} = \boxed{2x\sqrt{7}}$$

$$\textcircled{7} \frac{\sqrt{320}}{\sqrt{16 \cdot 20}} = \frac{16 \cdot 20}{\sqrt{16 \cdot 4 \cdot 5}} = \frac{4 \cdot 2 \cdot \sqrt{5}}{8\sqrt{5}} = \boxed{8\sqrt{5}}$$

$$\textcircled{8} (\sqrt{57})^2 = \boxed{57}$$

$$\textcircled{9} \frac{2\sqrt{5}}{\sqrt{5}} = \frac{2\sqrt{5}}{1} = \boxed{\frac{2\sqrt{5}}{1}}$$

$$\textcircled{10} \frac{1}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{\sqrt{2}}{2} = \boxed{\frac{\sqrt{2}}{2}}$$

$$\textcircled{11} \frac{4}{\sqrt{6}} \cdot \frac{\sqrt{6}}{\sqrt{6}} = \frac{4\sqrt{6}}{6} = \boxed{\frac{2\sqrt{6}}{3}}$$

$$\textcircled{12} \frac{5}{\sqrt{15}} \cdot \frac{\sqrt{15}}{\sqrt{15}} = \frac{5\sqrt{15}}{15} = \boxed{\frac{\sqrt{15}}{3}}$$

$$\textcircled{13} \frac{6}{\sqrt{12}} \cdot \frac{\sqrt{12}}{\sqrt{12}} = \frac{6\sqrt{12}}{12} = \frac{\sqrt{12}}{2} = \frac{\sqrt{4 \cdot 3}}{2} = \frac{2\sqrt{3}}{2} = \boxed{\sqrt{3}}$$

$$\textcircled{14} \frac{\sqrt{24}}{\sqrt{6}} = \sqrt{\frac{24}{6}} = \sqrt{4} = \boxed{2}$$

$$\textcircled{15} \frac{\sqrt{3}}{\sqrt{27}} = \sqrt{\frac{3}{27}} = \sqrt{\frac{1}{9}} = \frac{\sqrt{1}}{\sqrt{9}} = \boxed{\frac{1}{3}}$$

$$\textcircled{16} \frac{\sqrt{18}}{\sqrt{12}} = \sqrt{\frac{18}{12}} = \sqrt{\frac{3}{2}} = \frac{\sqrt{3}}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{\sqrt{6}}{2}$$

these are =

Solve For X. Write answer in simplest radical form

$$\textcircled{17} \frac{X \cdot \sqrt{2}}{\sqrt{2}} = \frac{42}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}}$$

$$X = \frac{42\sqrt{2}}{2} = \boxed{21\sqrt{2}}$$

$$\textcircled{18} \frac{\sqrt{3} X}{\sqrt{3}} = \frac{9}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}}$$

$$X = \frac{9\sqrt{3}}{3} = \boxed{3\sqrt{3}}$$

$$\textcircled{19} \frac{\sqrt{2} X}{\sqrt{2}} = \frac{15\sqrt{2}}{\sqrt{2}}$$

$$X = \boxed{15}$$