

Simplify Square Roots

1. Simplify $\sqrt{196}$

2. Simplify $\sqrt{2420}$

3. Simplify $\sqrt{98}$

4. Simplify $\sqrt{144}$

5. Simplify $\sqrt{512}$

Simplify Square Roots

1. Simplify $\sqrt{196}$

$$\begin{aligned}\sqrt{196} &= \sqrt{14^2} \\ &= 14\end{aligned}$$

2. Simplify $\sqrt{2420}$

$$\begin{aligned}\sqrt{2420} &= \sqrt{2^2 \times 11^2 \times 5} \\ &= \sqrt{2^2} \times \sqrt{11^2} \times \sqrt{5} \\ &= 2 \times 11 \times \sqrt{5} \\ &= 22\sqrt{5}\end{aligned}$$

3. Simplify $\sqrt{98}$

$$\begin{aligned}\sqrt{98} &= \sqrt{2 \times 7^2} \\ &= \sqrt{2} \times \sqrt{7^2} \\ &= 7\sqrt{2}\end{aligned}$$

4. Simplify $\sqrt{144}$

$$\begin{aligned}\sqrt{144} &= \sqrt{12^2} \\ &= 12\end{aligned}$$

5. Simplify $\sqrt{512}$

$$\begin{aligned}\sqrt{512} &= \sqrt{2^9} \\ &= \sqrt{2^2} \times \sqrt{2^2} \times \sqrt{2^2} \times \sqrt{2^2} \times \sqrt{2} \\ &= 2 \times 2 \times 2 \times 2\sqrt{2} \\ &= 16\sqrt{2}\end{aligned}$$

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