Simplify Square Roots

1. Simplify $\sqrt{196}$

2. Simplify $\sqrt{2420}$

3. Simplify $\sqrt{98}$

4. Simplify $\sqrt{144}$

5. Simplify $\sqrt{512}$

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Simplify Square Roots

1. Simplify $\sqrt{196}$

$$\sqrt{196} = \sqrt{14^2}$$
$$= 14$$

2. Simplify $\sqrt{2420}$

$$\sqrt{2420} = \sqrt{2^2 \times 11^2 \times 5}$$
$$= \sqrt{2^2} \times \sqrt{11^2} \times \sqrt{5}$$
$$= 2 \times 11 \times \sqrt{5}$$
$$= 22\sqrt{5}$$

3. Simplify $\sqrt{98}$

$$\sqrt{98} = \sqrt{2 \times 7^2}$$
$$= \sqrt{2} \times \sqrt{7^2}$$
$$= 7\sqrt{2}$$

4. Simplify $\sqrt{144}$

$$\sqrt{144} = \sqrt{12^2}$$
$$= 12$$

5. Simplify $\sqrt{512}$

$$\sqrt{512} = \sqrt{2^9}$$
$$= \sqrt{2^2} \times \sqrt{2^2} \times \sqrt{2^2} \times \sqrt{2^2} \times \sqrt{2}$$
$$= 2 \times 2 \times 2 \times 2\sqrt{2}$$
$$= 16\sqrt{2}$$