

Name: _____

Prime Factorization of Square Roots

Find the Prime Factorization of the following square roots.

Examples:

$$\text{Square root of } 16 = \sqrt{16}$$

$$= \sqrt{2 \times 2 \times 2 \times 2}$$

$$= 2 \times 2$$

$$= 4$$

$$\begin{array}{r|l} 2 & 16 \\ \hline 2 & 8 \\ \hline 2 & 4 \\ \hline & 2 \end{array}$$

1.

$$\begin{array}{r|l} & 64 \\ \hline & \\ \hline & \\ \hline & \\ \hline & \\ \hline & \\ \hline & \end{array}$$

$$\sqrt{64} = \sqrt{(\quad \times \quad) \times (\quad \times \quad) \times (\quad \times \quad)} = ___ \times ___ \times ___ = ___$$

2.

$$\begin{array}{r|l} & 121 \\ \hline & \\ \hline & \\ \hline & \end{array}$$

$$\sqrt[2]{121} = \sqrt[2]{(\quad \times \quad)} = ___$$

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3.

81

$$\sqrt[2]{81} = \sqrt{(\quad \times \quad) \times (\quad \times \quad)} = ___ \times ___ = ___$$

4.

324

$$\sqrt{324} = \sqrt{(\quad \times \quad) \times (\quad \times \quad) \times (\quad \times \quad)} = ___ \times ___ \times ___ = ___$$

5.

900

$$\sqrt{64} = \sqrt{(\quad \times \quad) \times (\quad \times \quad) \times (\quad \times \quad)} = ___ \times ___ \times ___ = ___$$