Properties of n^{th} Roots

Product Property

$$\sqrt[n]{a \cdot b} = \sqrt[n]{a} \cdot \sqrt[n]{b}$$

$$\sqrt[3]{27y^3} = \sqrt[3]{27} \cdot \sqrt[3]{y^3} = 3y$$

Quotient Property

$$\sqrt[n]{\frac{a}{b}} = \frac{\sqrt[n]{a}}{\sqrt[n]{b}}$$

$$\sqrt[4]{\frac{16}{81}} = \frac{\sqrt[4]{16}}{\sqrt[4]{81}} = \frac{2}{3}$$

Simplify the following n^{th} Roots

Popular n^{th} Roots $\sqrt[3]{32}$

3 rd roots

Prime Factorization

$$\sqrt[3]{32}$$

Simplify the following n^{th} Roots

Popular n^{th} Roots

$$\sqrt[4]{96}$$

$$\sqrt[4]{1} = 1$$

$$\sqrt[3]{16} = 2$$

Prime Factorization

Simplify the following n^{th} Roots

Popular n^{th} Roots

$$\sqrt[3]{x^5}$$

3rd roots

$$\sqrt[3]{x^3} = x$$

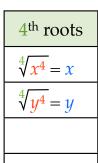
Prime Factorization

$$\sqrt[3]{x^5}$$

Simplify the following n^{th} Roots

Popular n^{th} Roots

$$\sqrt[4]{x^9 \cdot y^5}$$



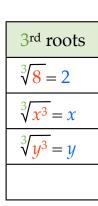
Prime Factorization

$$\sqrt[4]{x^9\cdot y^5}$$

Simplify the following n^{th} Roots

Popular n^{th} Roots

$$\sqrt[3]{24x^3y^4}$$



Prime Factorization

$$\sqrt[3]{24x^3y^4}$$