$$\sqrt[n]{a} = \sqrt[m \cdot n]{a^m}$$

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

$$a^n = \frac{1}{a^{-n}} \qquad a^{-n} = \frac{1}{a^n}$$

$$\sqrt[n]{a^m} = a^{\frac{m}{n}}$$

$$a^n \cdot a^m = a^{n+m}$$

$$a^n : a^m = a^{n-m}$$

$$(a^m)^n = a^{m \cdot n}$$

$$(a \cdot b)^n = a^n \cdot b^n$$

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