

## Radicals

$$\sqrt{a}$$

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

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

$$\sqrt[5]{a}$$

$$\sqrt[6]{a}$$

$$\sqrt[7]{a}$$

## Rational Exponents

$$a^{\frac{1}{2}}$$

$$a^{\frac{1}{3}}$$

$$a^{\frac{1}{4}}$$

$$a^{\frac{1}{5}}$$

$$a^{\frac{1}{6} \text{ index}}$$

$$a^{\frac{1}{7} \text{ index}}$$

Definition of  $a^{\frac{1}{n}}$

If  $n$  is a positive integer greater than 1 and  $\sqrt[n]{a}$  is a real number, then

$$a^{\frac{1}{n}} = \sqrt[n]{a}$$