

# Rational Exponents

$$\sqrt{x} = x^{1/2}$$

$$\sqrt[4]{4} = (4)^{1/4} = 2$$

$$\sqrt[3]{x} = x^{1/3}$$

$$\sqrt{x} = x^{1/2}$$

$$\sqrt[3]{x} = x^{1/3}$$

$$\sqrt{x^2} = x^{2/2}$$

$$\sqrt{x^3} = x^{3/2}$$

$$\sqrt[3]{x^7} = x^{7/3}$$

$$\sqrt{x^{-5}} = x^{-5/2} = \left(\frac{1}{x}\right)^{5/2} = \frac{1}{x^{5/2}}$$

$$\sqrt[3]{\left(\frac{2}{3}\right)^{-3}} = \left(\frac{2}{3}\right)^{-3/3} = \left(\frac{3}{2}\right)^{1}$$

Ex: 6

$$\textcircled{7} (x^{-1})^{m/n}$$

$$x^{-m/n}$$

$$\sqrt[n]{x^m}$$

$$\textcircled{28} 27^{2/3} + 16^{3/4} - \left(\frac{1}{3}\right)^{-1} + (-3)^0$$

$$(3^3)^{2/3} + (2^4)^{3/4} - (3)^1 + 1$$

$$3^2 + 2^3 - 3 + 1$$

$$9 + 8 - 3 + 1$$

$$\boxed{15}$$

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