$$X^a \cdot X^b = X^{a+b}$$

$$\frac{X^a}{X^b} = X^{a-b}$$

$$(X^a)^b = X^{a \cdot b}$$

$$X^0 = 1$$

$$X^{-a} = \frac{1}{X^a}$$

$$\frac{1}{X^{-a}} = X^a$$

$$X^{\frac{a}{b}} = \sqrt[b]{X^a}$$

$x^5 \cdot x^6 = x^{5+6} = x^{11}$

$(2x^3)(5x^4) = 10x^7$

$(x^2y^3)(x^4y^2) = x^6y^5$

$\frac{x^{10}}{x^4} = x^{10-4} = x^6$

$\frac{x^2}{x^5} = \frac{1}{x^{5-2}} = \frac{1}{x^3}$

$\frac{10x^2y^7}{2x^6y^2} = \frac{5y^5}{x^4}$

$(x^2)^3 = x^{2 \cdot 3} = x^6$

$(2y^5)^4 = 2^4y^{20} = 16y^{20}$

$\frac{x^3}{x^3} = x^{3-3} = x^0 = 1$

$2^0 = 1$

$\left(\frac{1}{4}\right)^0 = 1$

$(a^4b^5)^0 = 1$

$x^{-3} = \frac{1}{x^3}$

$\frac{y^2}{y^6} = y^{2-6} = y^{-4} = \frac{1}{y^4}$

$2^{-3} = \frac{1}{2^3} = \frac{1}{8}$

$10^{-5} = \frac{1}{100{,}000}$

$\frac{1}{x^{-3}} = x^3$

$\frac{2}{y^{-5}} = 2y^5$

$\frac{x^3}{y^{-7}} = x^3y^7$

$\frac{x^{-2}}{y^{-4}} = \frac{y^4}{x^2}$

$x^{\frac{1}{2}} = \sqrt[2]{x}$

$x^{\frac{2}{3}} = \sqrt[3]{x^2}$

$9^{\frac{1}{2}} = \sqrt{9} = 3$

$5^{\frac{2}{3}} = \sqrt[3]{5^2}$