9|12 Negative Exponents

So what is

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

$$x^{-4} = \frac{1}{x^4}$$

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

Place Value

$10^3 = 1{,}000$

$10^2 = 100$

$10^1 = 10$

$10^0 = 1$

$10^{-1} = \frac{1}{10^1} = \frac{1}{10}$

$10^{-2} = \frac{1}{10^2} = \frac{1}{100}$

$10^{-3} = \frac{1}{10^3} = \frac{1}{1000}$

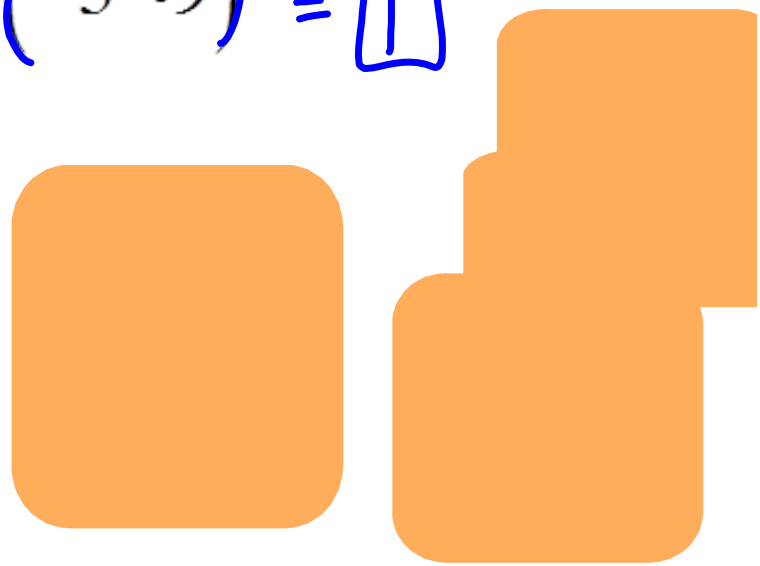
Evaluate:

$7^{-1} = \frac{1}{7^1} = \frac{1}{7}$

$(-3^2 \cdot 9)^0 = 1$

$\left(\frac{2}{5}\right)^3$

$\frac{2}{5} \cdot \frac{2}{5} \cdot \frac{2}{5} = \frac{8}{125}$



$x^3 \cdot x^7 = x^{3+7} = x^{10}$

$2^6 \cdot 2^3 = 2^{6+3} = 2^9$

$2w^6 \cdot 5w^{-4} = 10w^{6+-4} = 10w^2$

$m^{-5} \cdot m^{-4} = m^{-5+-4} = m^{-9} = \frac{1}{m^9}$

$3x^2y^5 \cdot 4x^1y^{-6}z^0$

$12x^3y^{-1} \cdot 1$

$12x^3y^{-1}$

$\frac{12x^3}{y^1} = \frac{12x^3}{y}$