L57: Negative Exponents

$$\frac{x^2}{x^3} = x^{-1} \qquad \frac{\cancel{x}\cdot\cancel{x}}{\cancel{x}\cdot\cancel{x}\cdot x} = \frac{1}{x}$$

$$\frac{a^3}{a^5} = a^{-2} \qquad \frac{\cancel{a}\cdot\cancel{a}\cdot\cancel{a}}{\cancel{a}\cdot\cancel{a}\cdot\cancel{a}\cdot a\cdot a} = \frac{1}{a^2}$$

$$\frac{4^4}{4^7} = 4^{-3}$$

$$\frac{4 \cdot 4 \cdot 4 \cdot 4}{4 \cdot 4 \cdot 4 \cdot 4 \cdot 4 \cdot 4 \cdot 4}$$

$$\frac{1}{4^3} = \frac{1}{64}$$

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

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

$$4^{-3} = \frac{1}{4^3} = \frac{1}{64}$$

$$5^{-4} = \frac{1}{5^4}$$

1) reciprocal of base

2) apply absolute value of exponent

$$x^{-9} = \frac{1}{x^9}$$

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

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

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

$2.45 \times 10^4 \rightarrow 2.45 \times 10{,}000$

24500

$2.45 \times 10^{-2} = 0.0245$

$2.45 \times \frac{1}{10^2}$

$2.45 \times \frac{1}{100} = \frac{2.45}{100}$

$= 2.45 \div 100$

1.23×10^{4} → 4 spaces →

1.23×10^{-4} → 4 spaces ←

.002568

2.568×10^{-3}

0.02902

2.902×10^{-2}

.000000000008

8×10^{-12}

L57 #1, 2, 6-8, 11, 13-15, 19-30