

Name: _____

Date: _____

Notes

Algebra Section 8.3

Pages 503-508

Goal: "You will use zero and negative exponents"



Zero Exponent

Follow the Pattern:

$$2^5 =$$

$$2^4 =$$

$$2^3 =$$

$$2^2 =$$

$$2^1 =$$

$$2^0 = ?$$

Proof:

$$\frac{x^5}{x^5} = \quad \text{Use your exponent rule.}$$

Anything divided by itself is? _____

$$\text{so } x^0 =$$

Negative Exponent

1)

2)

Follow the Pattern:

$$2^2 =$$

$$2^1 =$$

$$2^0 =$$

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

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

Proof:

$$\frac{a^m}{a^n} =$$

$$\frac{2^4}{2^5} = \frac{2 \cdot 2 \cdot 2 \cdot 2}{2 \cdot 2 \cdot 2 \cdot 2 \cdot 2} =$$

Simplify the following expressions. Write your answer using positive exponents.

Ex: x^{-2}

Ex: 4^{-3}

Ex: $\frac{1}{y^{-3}}$

Ex: $\left(\frac{2}{3}\right)^0$

Ex: $(-8)^{-2}$

Ex: $\frac{1}{2^{-3}}$

Ex: $(-1)^0$

Ex: $\left(\frac{2}{3}\right)^{-2}$

Ex: $\frac{7^3}{7^5}$

Ex: $\frac{5^{-1}}{5^2}$

Ex: $(2xy^{-5})^3$

Ex: $\frac{(2x)^{-2}y^5}{-4x^2y^2}$

Ex: $(3x^{-2}y^2)^3$

Ex: $\frac{4x^{-2}y^4}{8xy^6}$