

# Negative Exponents

Section 10.7

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## Exponents & Negative numbers

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- When negative numbers are raised to an exponent, the following rules hold true:
  - If the exponent is odd- the answer is negative
  - If the exponent is even- the answer is positive
- Examples:

## Negative Exponents

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$$a^{-m} = \frac{1}{a^m}, a \neq 0$$

You must make all negative exponents positive by switching sides

## EXTRA EXAMPLES

1.

$$\frac{x^{-4} \cdot x^8}{x^4} = \boxed{x^4}$$

2.

$$\frac{x^{-3}y^2 \cdot x^4y^{-3}}{x^3y^3} = \boxed{\frac{x}{y}}$$

3.  $a^{-4}b^3 \cdot a^{-2}b^{-7}$

$$\frac{b^3}{a^4 \cdot a^2 \cdot b^7} = \frac{1}{a^6 b^4}$$

4.

$$\frac{a^{-4}b^3 \cdot a^2b^{-2}}{a^4b^3} = \boxed{\frac{b}{a^2}}$$

## Examples

$$5. \frac{a^3}{a^6} = \boxed{\frac{1}{a^3}}$$

$$6. \frac{a^3}{a^{-4}} = a^3 \cdot a^4 = \boxed{a^7}$$

$$7. \frac{a^3 b}{a^2 b^4} = \boxed{\frac{a}{b^3}}$$

$$8. \frac{a^3 b^4}{a^5 b} = \boxed{\frac{b^3}{a^2}}$$

# CLASSWORK

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Wkst 8.2

# HOMEWORK

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● Pg 253 # 1-12