

EXPONENTS HOMEWORK – HOMEWORK: RULES OF EXPONENTS*

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Abstract

This module provides practice problems designed to emphasize basic exponent concepts.

Memorize these:

- $x^a x^b = x^{a+b}$
- $\frac{x^a}{x^b} x^{a-b}$ or $\frac{1}{x^{b-a}}$
- $(x^a)^b = x^{ab}$

Simplify, using these rules:

Exercise 1

$$3^{10} 3^5$$

Exercise 2

$$\frac{3^{10}}{3^5}$$

Exercise 3

$$\frac{3^5}{3^{10}}$$

Exercise 4

$$(3^5)^{10}$$

Exercise 5

$$(3^{10})^5$$

Exercise 6

$$3^{10} + 3^5$$

Exercise 7

$$3^{10} - 3^5$$

Exercise 8

$$\frac{6x^3 y^2 z^5}{4x^{10} y z^2}$$

Exercise 9

$$\frac{6x^2 y^3 + 3x^3 y}{xy + x^2 y}$$

Exercise 10

$$\frac{(3x^2 y)^2 + xy^3}{(xy)}$$

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Exercise 11
 $(3x^2 + 4xy)^2$