

Vocabulary

exponential form: a value written with both a base and an exponent (power)

7^4

5^3

3^9

base: the part of a value written in exponential form that is repeatedly multiplied

exponent (power): the part of the a value written in exponential form that tells how many times to multiply the base by itself

Vocabulary

10^5

10 is the base

5 is the exponent or power

We read this as, "ten to the fifth power."

It means $10 \times 10 \times 10 \times 10 \times 10$.

Section 1.3 Powers and Exponents

pg. 13

evaluate 5^3 $5 \times 3 \neq 5^3$

Multiplication is repeated addition.

$$5 \oplus 5 + 5 = 5 \times 3 = 15$$

Powers are repeated multiplication.

$$5 \otimes 5 \times 5 = 5^3 = 125$$

Properties of Multiplication and Addition

What is your identity?



Properties of Multiplication and Addition

Identity Property of Addition

$$3 + 0 = 3 \quad 0 + 3 = 3$$

Identity Property of Multiplication

$$3 \times 1 = 3 \quad 1 \times 3 = 3$$

Properties of Multiplication and Addition

What does it mean to ^{group} associate?



Properties of Multiplication and Addition

Associative Property of Addition

$$(1 + 2) + 3 = 1 + (2 + 3)$$

Associative Property of Multiplication

$$(1 \times 2) \times 3 = 1 \times (2 \times 3)$$

Properties of Multiplication and Addition

What does it mean to *Change* commute?
location



Properties of Multiplication and Addition

Commutative Property of Addition

$$3 + 5 = 8 \quad 5 + 3 = 8$$

$$3 + 5 = 5 + 3$$

Commutative Property of Multiplication

$$2 \times 5 = 5 \times 2$$