

September 1, 2017
 * 3rd - Wednesday

Formal Def.

$$|x| = \begin{cases} x, & \text{if } x \geq 0 \\ -x, & \text{if } x < 0 \end{cases}$$

Absolute Value: $a.b.s(-5) \rightarrow |-5|$

$$|-7| = -(-7) = 7$$

$$x = -7$$

Sep 1-8:56 AM

Commutative Property

- $a+b = b+a$
- $a \times b = b \times a$

Key: order changes, but the result is the same.

Sep 1-9:21 AM

Associative Property

+ $a+(b+c) = (a+b)+c$

$$2+(3+4) = (2+3)+4$$

$$2+7 = 9+4$$

$$9 = 9$$

• $a \times (b \times c) = (a \times b) \times c$

$$a(bc) = (ab)c$$

Key: association changes, but result is the same.

Sep 1-9:24 AM

① $5 + (2y - 3)$
 unlike terms being associated
 Goal: get 5 & (-3) associated

② $5 + (-3 + 2y)$ Comm.

③ $(5 + (-3)) + 2y$ Assoc.

④ $2 + 2y$

Sep 1-9:28 AM

Distributive Property

L side Right side

$$a(b \pm c) = ab \pm ac$$

* multiplication over addition

$$5(x+2) = 5x + 5(2)$$

$$= 5x + 10$$

$$-(3-y) = -3 + y$$

"-"

$$6(x+4)$$

* Do not distribute the 6!

$$6 + x + 4$$

Sep 1-9:33 AM

Rewrite using Distribution

$$4y - 12 = 4(y - 3)$$

R side L side

Sep 1-9:42 AM

multiplicative Inverse

$$\frac{8}{1} \cdot \frac{1}{8} = \frac{8}{8} = 1$$

↓

$$x \cdot \frac{1}{x} = 1$$

m.i.

Sep 1-9:44 AM

Multiplicative Identity

$$8 \cdot 1 = 8$$

↓

$$x \cdot 1 = x$$

m.i.

Sep 1-9:48 AM