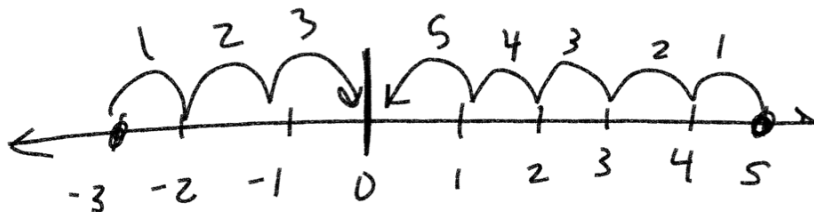


# M-A1 Algebra I Week 5 10/10

Absolute value - Distance from a number to zero on the number line

$$|5| = 5$$

$$|-3| = 3$$



$$|-2| = 2$$

$$-|4| = -4$$

$$-|-5| = \boxed{-5}$$



$$|8-4| = |4| = \boxed{4}$$

$$|5-7| = |-2| = \boxed{2}$$

$$1.) \downarrow 6 + (-4) = \boxed{2}$$

$6-4=2$

$$2.) \downarrow -6 + 4 = \boxed{-2}$$

$6-4=2$

$$3.) 6+4 = \boxed{10}$$

$$4.) \downarrow -6 + \downarrow (-4) = \boxed{-10}$$

$6+4=10$

$$5.) 3+7 = \boxed{10}$$

$$6.) -3 \downarrow +7 = \boxed{4}$$

$7-3=4$

$$7.) \downarrow -3 + \downarrow (-7) = \boxed{-10}$$

$3+7=10$

$$8.) 3 + \downarrow (-7) = \boxed{-4}$$

$7-3=4$

$$1.) \quad -9 - 6 = \boxed{-15} \quad 2.) \quad 9 - 6 = \boxed{3} \quad 3.) \quad 9 - (-6) = \boxed{15}$$

$\downarrow$   
 $-9 + (-6)$

$9 + +6 =$

$$4.) \quad -9 - (-6) = \boxed{-3} \quad 5.) \quad 7 - 11 = -4$$

$-9 + 6 = \boxed{-3}$

$7 + (-11)$

$6.) \quad -7 - 11 = -18$   
 $-7 + (-11)$

$$7.) \quad -7 - (-11) = \boxed{4} \quad 8.) \quad 7 - (-11) = \boxed{18}$$

$-7 + +11$

$7 + (+11)$

$$1.) \quad -7 * 6 = \boxed{-42} \quad 2.) \quad 7 * (-6) = \boxed{-42} \quad 3.) \quad 7 * 6 = \boxed{42}$$

$$4.) \quad -7 * (-6) = \boxed{42} \quad 5.) \quad \frac{-12}{-3} = \boxed{4} \quad 6.) \quad \frac{12}{-3} = \boxed{-4}$$

$$7.) \quad \frac{12}{3} = \boxed{4} \quad 8.) \quad \frac{-12}{3} = \boxed{-4}$$

$$\begin{matrix} \textcircled{1} & \textcircled{2} & \textcircled{3} & & \textcircled{4} \\ (-2) & (-2) & (-2) & (2) & (2) & (-2) \end{matrix} = \boxed{64}$$

$= \oplus \ominus \ominus \oplus \oplus \oplus$

$$\begin{matrix} \textcircled{1} & \textcircled{2} & & \textcircled{3} \\ (-2) & (-2) & (2) & (2) & (-2) & (2) \end{matrix}$$

$$\boxed{-64}$$

even # of negatives  $\rightarrow \oplus$

# Distributive Property

$$2(5x+4) = (5x+4) + (5x+4)$$
$$10x + 8$$

$$2(5x+4)$$

$$2(5x) + 2(4)$$

$$10x + 8$$

"Simplify"

$$4(7x-3)$$

$$28x - 12$$

$$(3x+4)7 = 21x + 28$$

"opposite"

$$-(-6x-3) = 6x + 3$$

$$\frac{1}{4}(12x-8) = \frac{1}{4}(12x) - \frac{1}{4}(8)$$

$$\frac{12x}{4} - \frac{8}{4} = 3x - 2$$

$$8 - 2(5x+3) - 4x$$

"combine like terms"

$$8 - 10x - 6 - 4x$$

$$-14x + 2$$

$$-10x + (-4x) = -14x$$

$$8 + (-6) = 2$$

$$1.) \quad -5(8-6)$$

$$\boxed{-40 + 5b}$$

$$\boxed{5b - 40}$$

$$2.) \quad -(3k-12)$$

$$\boxed{-3k + 12}$$

$$3.) \quad 5(t-3) - 2t$$

$$\boxed{5t} - \boxed{15} - 2t$$

$$4.) \quad 4(2x+7)$$

$$\boxed{8x + 28}$$

$$5.) \quad 5(3x+12)$$

$$\boxed{15x + 60}$$

$$\boxed{3t - 15}$$

$$6.) \quad -6(-3)(2k+4)$$

$$\boxed{-6} - 6k \boxed{-12}$$

$$-6k \quad -6 + (-12)$$

$$\boxed{-6k - 18}$$

$$27 + 28 + 73 = 27 + 73 + 28$$

$$\underbrace{27 + 73}_{100} + 28 = 128$$

with addition  
and multiplication

ORDER DOES NOT  
MATTER!

Commutative Property

$$3 + 4 = 4 + 3$$

$$5 * 8 = 8 * 5$$

$$a + b = b + a$$

$$a * b = b * a$$

$$(77 * 4) * 25 = 77 * (4 * 25)$$

$$77 * 100 = 7700$$

Addition and  
Multiplication

you can change the order of parenthesis

Associative Property

$$(8 + 4) + 5 = 8 + (4 + 5)$$

Identity Property → what it is

$$5 + 0 = 5$$

$$6 * 1 = 6$$

$$a + 0 = a$$

$$a * 1 = a$$

Inverse Property → how it dies

$$8 + (-8) = 0$$

add the opposite  
change the sign

$$a + (-a) = 0$$

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

multiply inverses = 1

$$\frac{3}{4} * \frac{4}{3} = \frac{12}{12} = 1$$

$$a * \frac{1}{a} = 1$$

