Pre-Algebra   Week 3

1.) h increased by 3 $\boxed{h+3}$

2.) 5 less than g $\boxed{g-5}$
   ~switch order~

3.) the product of x and 8 $\boxed{x*8}$ $\boxed{8x}$

4.) 6 more than $\overline{\text{the}}$ quotient of 9 and a $\boxed{6+9/a}$ $\boxed{6+(9/a)}$ $\boxed{\frac{9}{a}+6}$

5.) twice the sum of r and 7 $\boxed{(r+7)*2}$ $\boxed{2(r+7)}$

PEMDAS

Parenthesis
Exponents
Multiplication/Division
Addition/Subtraction

1.) $4 + 28 \div 7 * 8 - 12$

$4 + 4 * 8 - 12$

$4 + 32 - 12$

$36 - 12 = \boxed{24}$

$$50 - (8 + 7) * 4 \div 2 + 10$$

$$50 - 15 * 4 \div 2 + 10$$

$$50 - 60 \div 2 + 10$$

$$50 - 30 + 10$$

$$20 + 10 = \boxed{30}$$

P
E
(MD)   L → R
AS

$$3 [(8 + 12) \div 5 - 15] + (18 \div 3 * 7)$$

$$3 [20 \div 5 - 15] + (18 \div 3 * 7)$$

$$3 [4 - 15] + (18 \div 3 * 7)$$

$$3 [-11] + (18 \div 3 * 7)$$

$$3 [-11] + (6 * 7)$$

$$3 \overset{*}{\,} [-11] + 42$$

$$-33 + 42 = \boxed{9}$$

$15a - 2(b+c)$ $a = 2$ $b = 3$ $c = 4$

$15(2) - 2(3+4)$

                            *

                    PEMDAS

$30 - 2(7)$

$30 - 14 = \boxed{16}$

$(4 + d) - e(9 - f)$ $d = 7$ $e = 4$ $f = 8$

$(4 + 7) - 4(9 - 8)$

$11 - 4(9 - 8)$

$11 - 4(1)$

                *

$11 - 4 = \boxed{7}$

1-4   Integers and Absolute Value

$|-4|$ absolute value — the distance from a number to zero on the number line.
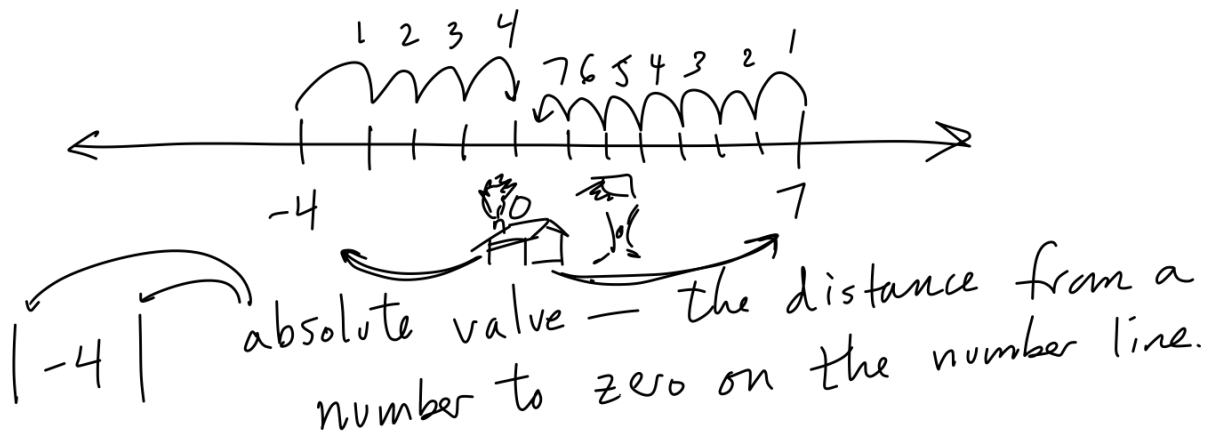
$|-4| = \boxed{4}$ $|7| = 7$

$3 < 7$ 3 "is less than" 7
                $<$ left than

$8 > 7$ 8 "is greater than" 7
                $>$

$|-9|$ -3 $|-2|$ $|-5|$
  ↓   ↓   ↓
$9 > -3$ $2 < 5$

$|-8|$ $|8|$ $-|-3|$ $|-3|$
  ↓   ↓   ↓   ↓
  $\boxed{8 \quad = \quad 8}$ $-(3)$ 3
                              $-3 < 3$

$$\{ \overset{\text{owe}}{-4}, \overset{\text{have}}{3}, \overset{\text{owe}}{-8} \}$$

least   greatest
$$-8, \quad -4, \quad 3$$

\#

-8   ~4   0   3
      Least   greatest
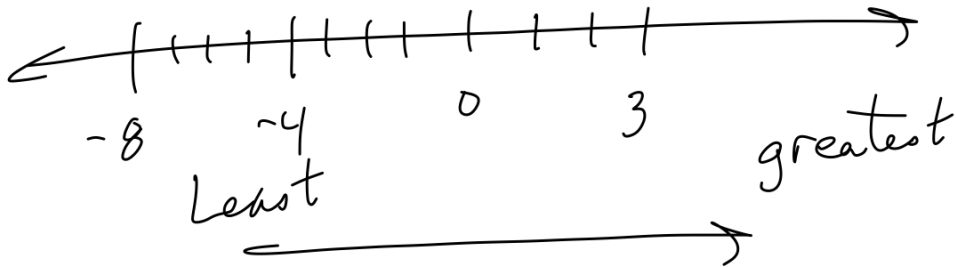
1-5 Adding Integers
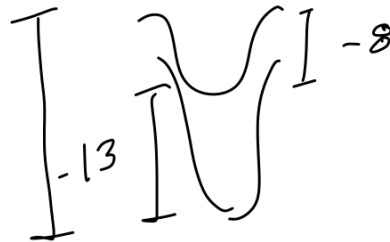
Same sign → <u>add</u> <u>Sum</u>

Different signs → <u>difference</u> subtract

$$9 + (-12) = \boxed{-3}$$

$$12 - 9 = \mathbf{3}$$

backwards 9

$$\boxed{5} + (-9) = \boxed{-4}$$

start

$$9 - 5 = 4$$

-5   0   5

-4
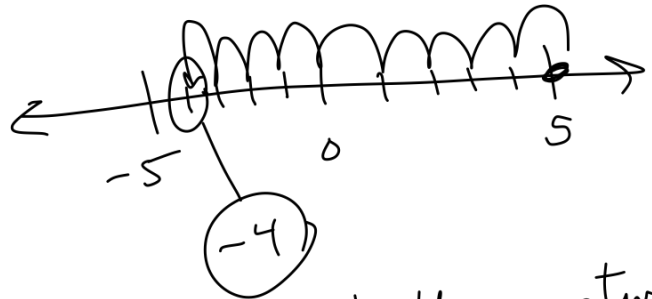
same sign → both negative sum

$$-8 + (-13) =$$

$$8 + 13 = 21$$

$$-8 + (-13) = \boxed{-21}$$

-8

-13

3.) $-1 + (-8)$ think   same sign → sum

$1 + 8 = 9$ $-1 + (-8) = \boxed{-9}$

5.) $-5 + 15$ different signs → difference

$15 - 5 = 10$ $-5 + \underline{15} = \boxed{10}$

7.) $(-3) + (-6) = \boxed{-9}$

different → $\ominus$

9.) $(-2) + 4$ $4 - 2 = 2$ $(-2) + \underline{4} = \boxed{2}$

11.) $7 \boxed{+ (-2)} = 7 - 2 = \boxed{5}$

1-6   Subtracting Integers $\ominus$

Left

$\boxed{-5} - 8 = -5 + -8 = \boxed{-13}$

$-15 \uparrow \quad -10 \quad -5$
$\quad -13$

$\boxed{5} - 8 = -3$

Left   opposite $5 + (-8)$

$\boxed{5} - (-8)$ backwards $= 13$

$-5 \uparrow \quad 0 \quad 5$
$\quad -3$

$5 - (-8) = 5 + 8 = \boxed{13}$

$0 \quad 5 \quad 10 \quad \uparrow 15$
$\qquad\qquad 13$
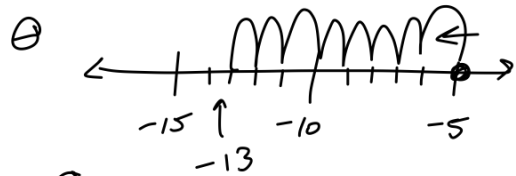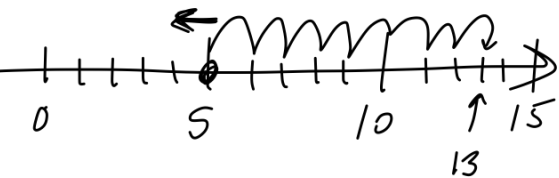
$\boxed{-5} - (-8) = -5 + \underline{8} = \boxed{3}$

$$3 - (-9) = 3 + 9 = \boxed{12}$$

$$-3 \boxed{-} 9 = -3 + (-9) = \boxed{-12}$$

-3 IV
-9
(-12)

-15   -10   -5   -3
-12
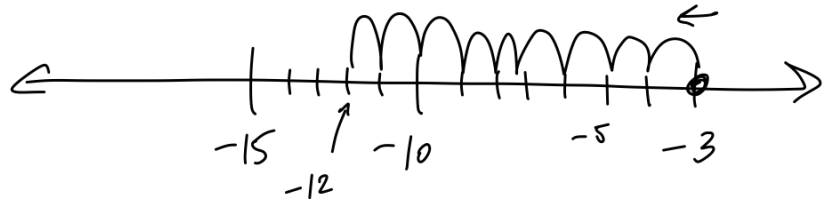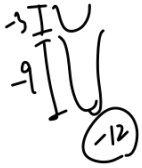
$$-3 - (-9) =$$

$$-3 + 9 = 6 \qquad -3 + 9 = 9 + (-3)$$
$$9 - 3$$

$$3 - 9 = \boxed{-6} \qquad 3 - 9 = 3 + (-9)$$

HW 1-4 evens
1-5 evens } optimal
1-6 evens

HW #2   1-4-16
Quiz #2 due 17th
Quiz #3 due 24th