

Math 7/8 Notes

2.2 Subtracting Integers

I. Additive Inverse

A. Instead of subtracting an integer, you can add its additive inverse or opposite as follows

1) Subtracting a positive integer b is the same as adding its opposite, $-b$.

$$\text{So, } a - b = a + (-b)$$

2) Subtracting a negative integer $-b$ is the same as adding its opposite, b .

$$\text{So, } a - (-b) = a + b$$

B. To subtract integers on a horizontal number line

1) You move to the left when you subtract a positive integer.

2) You move to the right when you subtract a negative integer.

~~II~~ C. Examples

1) Evaluate $10 - 25$

$$10 + (-25)$$

~~$$|10| - |25| = 15 \quad \text{since } |25| >$$~~

$$|-25| - |10| = 15 \quad \text{since } |-25| \text{ is greater}$$

the answer

$$2) 21 - 30$$

$$21 + (-30)$$

$$|-30| - |21| = 9$$

(-30) has largest absolute value so answer is negative.

$$21 - 30 = \boxed{-9}$$

Signs are different

$$3) -24 - 47$$

$$(-24) + (-47)$$

$$|-24| + |-47| = 24 + 47 = 71$$

Both are negative so answer is negative.

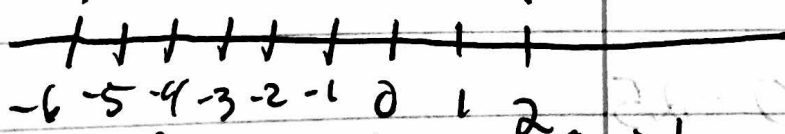
$$-24 - 47 = \boxed{-71}$$

II. Find Distance between two integers

A. Examples

1) Find the distance between 2 and -6.

$$|2 - (-6)| \text{ Method 1}$$



$$\text{Method 2} \quad |2 - (-6)| = \cancel{2} |2 + 6| = 8$$

$$\text{or } |-6 - 2| = |(-6) + (-2)| = |-8| = 8$$

Homework 2.1

~~Homework 7 for Math 7/8~~

~~2.1 Pg. 73 # 7-12, 13-18~~

~~or~~

~~2.1 Pg. 73 # 19-24 ☆~~

~~2.2 Pg. 84 # 1-18~~

~~2.2~~

~~or~~

~~2.2 Pg. 84 # 19-24, 29, 30 ☆~~

Homework 7 for Math 7/8

2.1 Pg. 73 # 7-12, 13-18

2.2 Pg. 84 # 1-18

or

2.1 Pg. 73 # 19-24

2.2 Pg. 84 # 19-24, 29, 30
