

EXPLORING INTEGERS

Name: Key Date: _____ Period: _____

SECTION 1.3 DISTANCE BETWEEN POINTS (ABSOLUTE VALUE)

VOCABULARY

DEFINITION	EXAMPLE
Absolute value: <i>The distance of a number from 0.</i>	$ -5 = 5$

Big Idea:

- How does the magnitude of a number relate to its distance from the origin?
- How do you find the distance between two numbers on a number line?

EXAMPLE 1

Evaluate each of the following.

$| -6 | = 6$

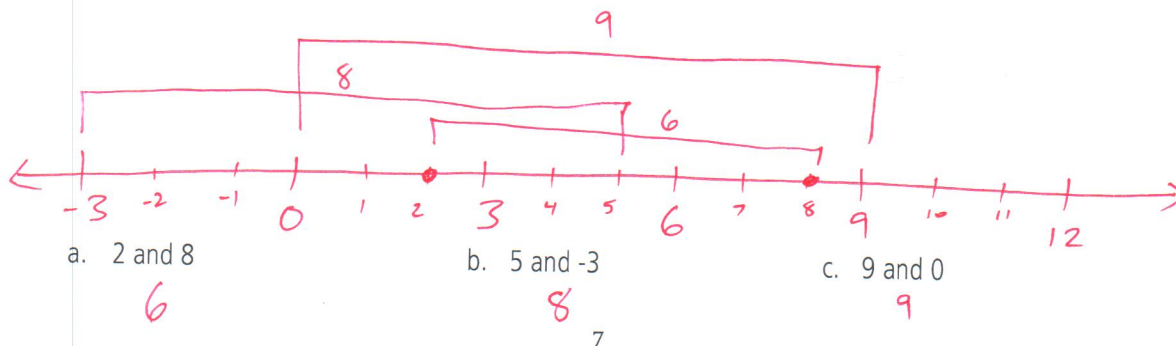
$| 6 | = 6$

$-| 6 | = -6$

$-| -6 | = -6$

EXPLORATION

Construct a number line and use it to find the distance between each pair of numbers.



d. -4 and -1

3

e. 0 and 6

6

f. 0 and 9

9

g. -4 and 1

5

h. 0 and -6

6

i. 0 and -9

9

PRACTICE EXERCISES

1. How does the value of $|10|$ compare to the value of $|-10|$?

It is the same value, 10.

2. How does the value of $|10|$ compare to the value of $-|10|$?

It is the negative of the original, and they are 20 units apart (10 and -10)

3. Discuss the relationship between the "negative" of a number and the "opposite" of a number.

The negative and the opposite of a number are the same thing.

4. Find the absolute values of the following numbers.

a. 13

13

b. -5183

5183

c. 32

32

d. 0

0

5. For each pair of numbers below, place the correct symbol $<$, $>$, or $=$.

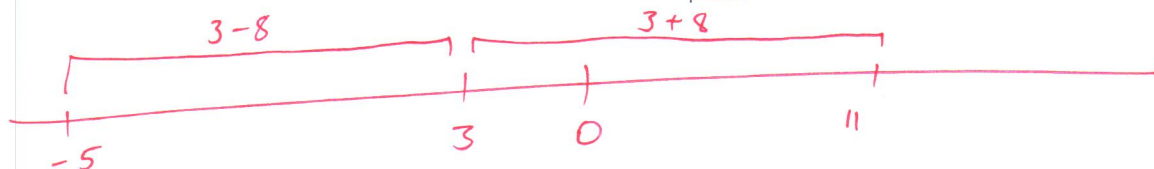
a. $|8| \underline{=} |-8|$
 8 8

b. $|11| \underline{>} |-10|$
 11 -10

c. $|0| \underline{<} |-55|$
 0 55

d. $|-18| \underline{>} |-19|$
 -18 -19

6. What two numbers are a distance of 8 from the number 3? Explain.



7. Find the distance between the following numbers.

a. 8 and -3

11

b. 11 and 24

13

c. 0 and -15

15

d. -3 and -7

4

SUMMARY (What I learned today)
