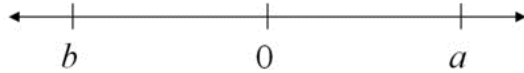


## Pre-Algebra

**Essential Questions:** How do we determine the absolute value of a number? How do we add and subtract integers?

### Do Now:

- a) Assuming that **a** and **b** are the same distance from zero, what assumptions can you make about **a** and **b**? List as many as you can.



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- b) Which of these numbers is closer to zero?



## Absolute Value

The absolute value of a number is its distance from zero on a number line.

Evaluate each expression.

1)  $|3|$

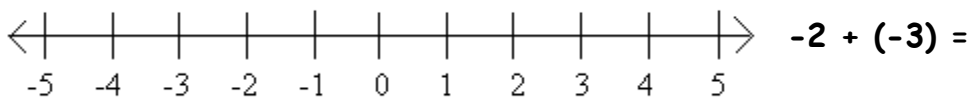
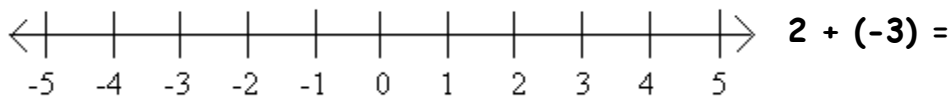
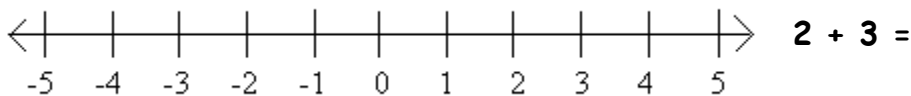
2)  $|-5|$

3)  $|0|$

4)  $-|10|$

5)  $-|-12|$

## Adding Integers



**SAME SIGNS:** Sum and keep the sign of the numbers.

**DIFFERENT SIGNS:** Take the difference and keep the sign of the number with the larger absolute value.

Find the sum.

1)  $9 + 12$

2)  $-4 + 5$

3)  $-6 + 11$

4)  $-8 + (-6)$

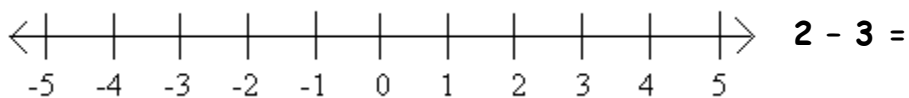
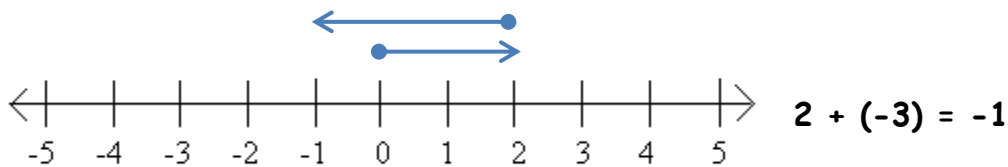
5)  $-12 + 12$

6)  $-9 + (-2)$

7)  $-13 + 15$

8)  $-25 + (-30)$

### Subtracting Integers



Subtraction is the same as adding the *OPPOSITE*.

\_\_\_\_\_

Find the difference.

9)  $-6 - 7$

10)  $7 - 15$

11)  $-12 - 12$

12)  $10 - (-18)$

13)  $-8 - (-3)$

14)  $-24 - 30$

15)  $1 - 14$

16)  $-9 - (-13)$

- 17) Which expression(s) below can go in the blank to make the statement true?  
Circle all that apply.

$$5 - 7 + \underline{\hspace{2cm}} = 0$$

A.  $1 - (-1)$

B.  $9 + (-11)$

C.  $2 - 4$

D.  $4 + (-2)$

E.  $-1 - 1$

F.  $-9 + 11$



We can subtract integers by following the rules of addition. However, we must remember to \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_.  
In other words, when subtracting integers, always add the opposite.

### Turn and Talk

The variables **a** and **b** represent two different integers and  $b < a$ . Tell whether the value of the expression is positive, negative or could be both. Justify your response.

Expression:  $b - a$

HW # \_\_\_\_\_

Perform the indicated operation(s).

1.  $-12 + 7$

2.  $-10 - (-4)$

3.  $1 + (-46)$

4.  $2 - (-2)$

5.  $-30 + 50$

6.  $11 - 17$

7.  $-8 + (-6)$

8.  $-20 - 5$

9.  $-3 + 14$

10.  $2 - (-9) - 8$

11.  $10 + 3 - (-8)$

12.  $4 - 6 + 1 - 4 + 8 - 1$

13. Which expression below can go in the blank to make the statement true?

$$-4 + 9 + \underline{\hspace{2cm}} = 0$$

A.  $2 + 3$

B.  $2 - (-3)$

C.  $-2 - 3$

D.  $-2 + 3$