11.2 Adding Integers

ESSENTIAL QUESTION: Is the sum of 2 integers positive, negative, or zero? How can you tell?

Adding integers with the same sign

$2 + 5 =$ 7 $\qquad\qquad$ $-2 + (-5) =$ -7

If the integers are positive the answer is _positive_.
If the integers are negative the answer is _negative_

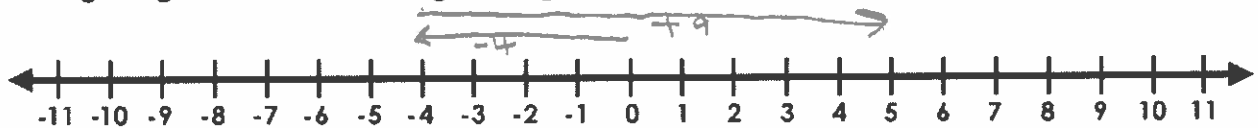Two numbers that are the same _distance_ from 0, but on opposite sides of 0, are called _opposites_.

For example, _-3_ and _3_ are _opposites_

The sum of two opposites always equals _zero_.
$-3 + 3 =$ 0 $\qquad\qquad$ $12 + (-12) =$ 0

Adding integers with different signs using a number line. -4 + 9 = 5

+9
-4

$$-11 \; -10 \; -9 \; -8 \; -7 \; -6 \; -5 \; -4 \; -3 \; -2 \; -1 \; 0 \; 1 \; 2 \; 3 \; 4 \; 5 \; 6 \; 7 \; 8 \; 9 \; 10 \; 11$$

$-7 + 4 =$ -3 $\qquad$ $5 + (-3) =$ 2 $\qquad$ $-8 + 2 =$ -6
To add integers with different signs, _subtract_ the integers and then take the _sign_ of the _bigger_ number.

$5 + (-10) =$ -5 $\qquad$ $-3 + 7 =$ 4 $\qquad$ $-10 + 10 =$ 0

$-2 + 11 =$ 9 $\qquad$ $9 + (-14) =$ -5 $\qquad$ $14 + (-8) =$ 6

The list shows four bank account transactions in July. Find the change C in the account balance.

JULY TRANSACTIONS	
Withdrawal	-$40
Deposit	$50
Deposit	$75
Withdrawal	-$50

-40 + 50 + 75 + (-50)

-40 + (-50) + 50 + 75

-90 + 125 = 35

The account balance increased 35 dollars in July.