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6.1 Integers

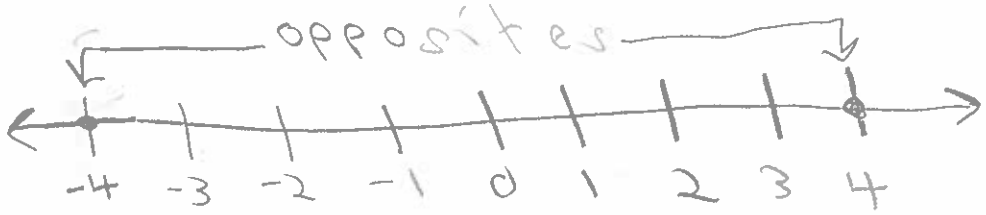
ESSENTIAL QUESTION: How can you represent numbers that are less than zero?

Positive Numbers -> Numbers that are greater than 0. They can be written with or without a positive sign (+)

Examples: +1 5 +20 10,000

Negative Numbers -> Numbers that are less than 0. They are written with a negative sign

Examples: -1 -5 -20 -10,000



Opposites ->Two numbers that are the same distance from 0 on a number line, but on opposite sides of 0.

Numbers that are opposite equal 0.

The opposite of 0 is 0.

Integers -> The set of whole numbers and their opposites.

EXAMPLE 1

Write a positive or negative integer that represents the situation.

1) A contestant gains 250 points on a game show. +250

2) Gasoline freezes at 40 degrees below zero. -40

3) A hiker climbs 900 feet up a mountain. +900

4) You have a debt of $24. -24

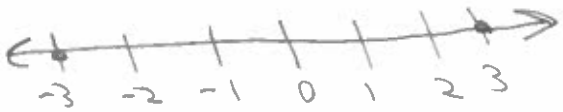
5) A student loses 5 points for being late to class. -5

6) A savings account earns $10. +10

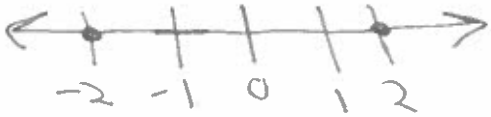
EXAMPLE 2

Graph each integer and its opposite.

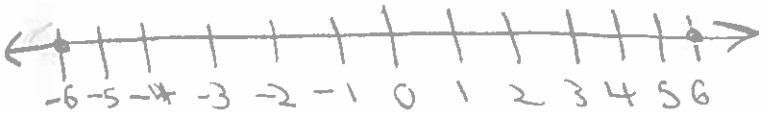
1) 3



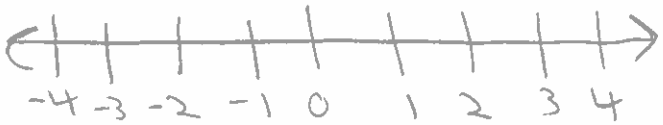
2) -2



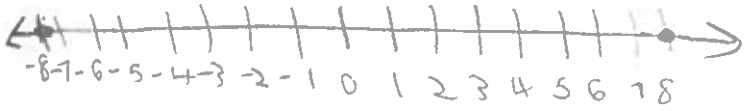
3) 6



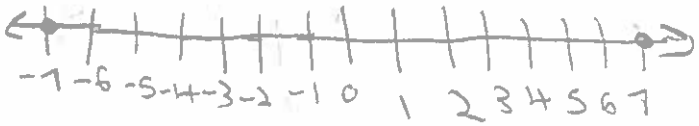
4) -4



5) -8



6) 7



EXAMPLE 3

You deliver flowers to an office building. You enter at ground level and go down 2 floors to make the first delivery. Then you go up 7 floors to make the second delivery.

1)Write an integer that represents each position.

Ground Level → 0

Go down 2 Levels → -2

Go up 7 floors → +7

2)Write an integer that represents how you return to ground level.

The integer representing ("down 5 floors") is -5