

6.1 Integers

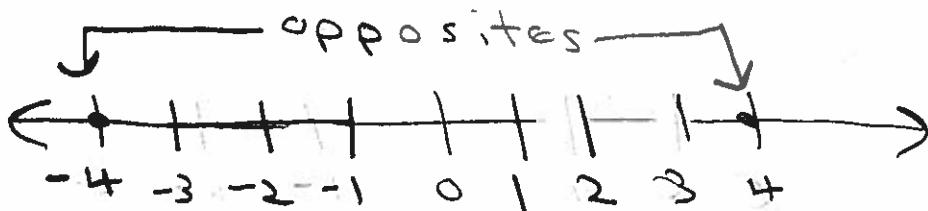
ESSENTIAL QUESTION: How can you represent numbers that are less than zero?

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 and 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

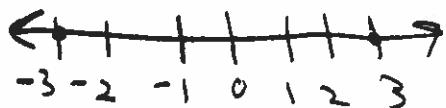
5) A student loses 5 points for being late to class. - 5

6) A savings account earns \$10. + 10

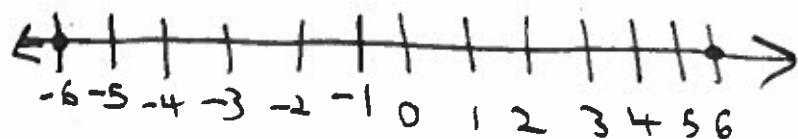
EXAMPLE 2

Graph each integer and its opposite.

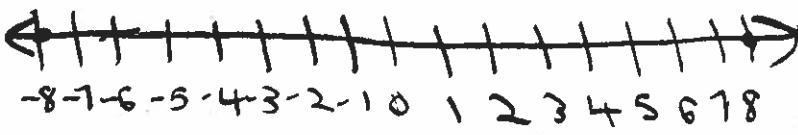
1) 3



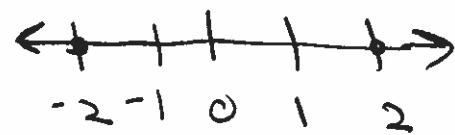
3) 6



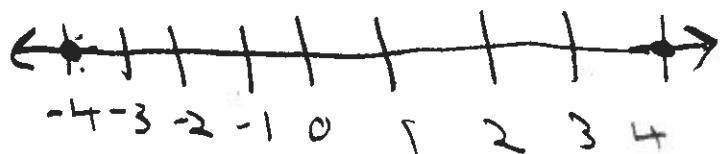
5) -8



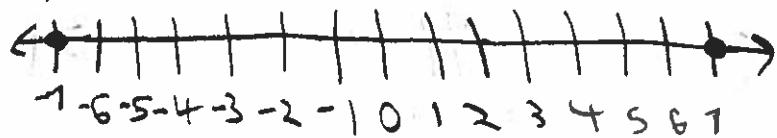
2) -2



4) -4



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 $\rightarrow 0$ Go up 7 floors $\rightarrow +7$

Go down 2 levels $\rightarrow -2$

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

The integer representing going down 5 floors would be -5

Ground Level

