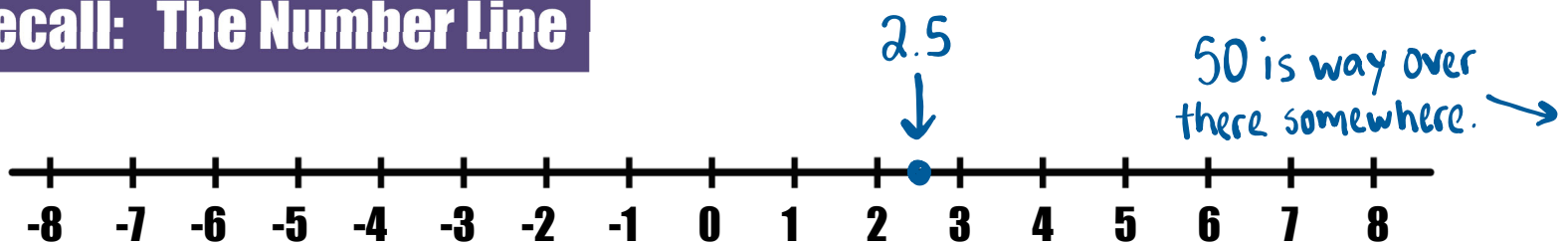
PRINCIPLES - LESSON 1A
THE ABSOLUTE BASICS

Recall: The Number Line



What happens to the numbers as we move to the RIGHT?

As we move RIGHT on a number line, the numbers increase.

What happens to the numbers as we move to the LEFT?

As we move LEFT on a number line, the numbers decrease.

Does the number 2.5 exist on this number line?

Yes. Even if not labeled, all numbers exist on the number line.

Does the number 50 exist on this number line?

Yes. Even if not shown, all numbers exist on the number line.

THE SYMBOLS OF INEQUALITY

These are the symbols of inequality:

$>$ greater than

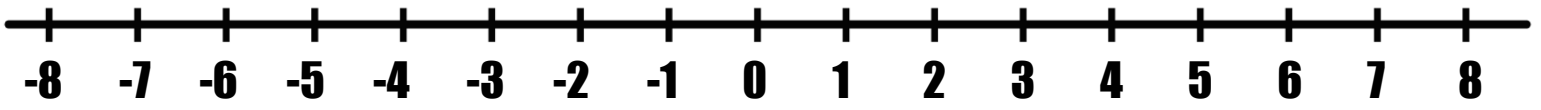
$\geq$ greater than or equal to

$<$ less than

$\leq$ less than or equal to

$\neq$ not equal to

ORDERING NUMBERS



Insert <, >, or = to make each statement true.

ex1) $12.2 \geq 12.02$

ex3) $\frac{1}{5} \leq \frac{1}{4}$

$0.20 \quad 0.25$

ex2) $0.3 \leq 0.\overline{3}$

$0.300 \quad 0.333$

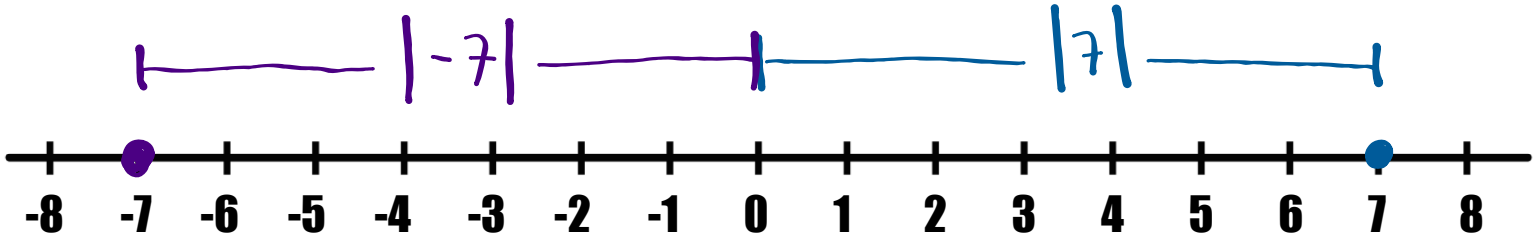
ex4) $\sqrt{7} \geq 2.64$

$\approx 2.646 \quad 2.640$

One simple way to compare two numbers is to convert them both to decimals.

ABSOLUTE VALUE

Absolute Value = a number's distance from zero on the number line.

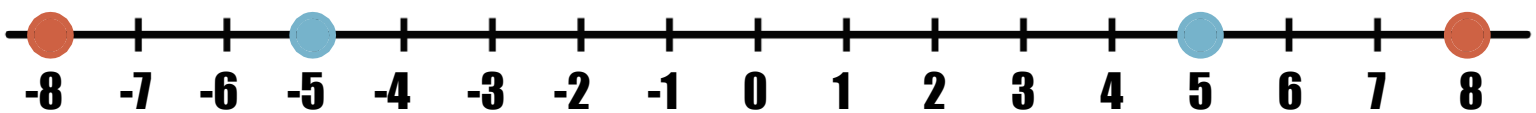


ex5) $|7| = 7$ ex6) $|-7| = 7$ ex7) $|0| = 0$

Since absolute value is a distance, its result can never be negative.

OPPOSITES

Opposites = numbers that are the same distance from zero but in the opposite direction.



5 and -5 are opposites.

8 and -8 are opposites.

SIMPLIFYING

What does it mean to simplify?

Simplify = to rewrite in the easiest way

Simplify.

ex8) $|2| + |-2|$

$= 2 + 2$

$= \boxed{4}$

ex9) $-|-110|$

$= -110$

$= \boxed{-110}$

ex10) $-(-110)$

the opposite of

negative 110

$= \boxed{110}$

ex11) $-[-(-110)]$

$= -110$

$= \boxed{-110}$