

7-1A Alternative Lesson

Name _____

Date _____

KEY TERMS

absolute value distance

The **absolute value** of a number is the distance between the number and zero on the number line. We write $|x|$ to mean the absolute value of x .

EXAMPLES

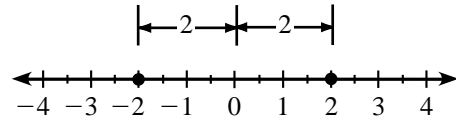
Evaluate.

1. $|6.2|$
The distance from 0 to 6.2 is 6.2.
So $|6.2| = 6.2$.

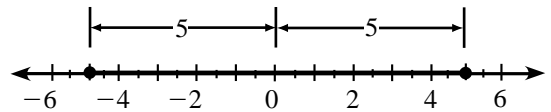
2. $|-11|$
The distance from 0 to -11 is 11.
So $|-11| = 11$.

Graph and solve.

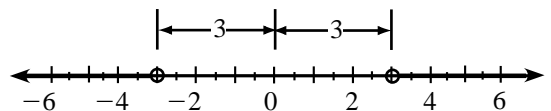
3. $|x| = 2$
The distance from 0 to x is 2. There are two possible values of x for which this is true, $x = 2$ and $x = -2$.



4. $|x| \leq 5$
The distance from 0 to x is less than or equal to 5. So x can be any number 5 units from 0 or less than 5 units from 0, either to the right or to the left.



5. $|x| > 3$
The distance from 0 to x is greater than 3. So x can be any number greater than 3 or less than -3 . We use open dots at 3 and -3 to show that they are not part of the solution.



TRY IT

Evaluate.

- a. $|-7|$
The distance from 0 to 7 is _____.
So $|-7| =$ _____.

- b. $|5\frac{1}{2}|$
The distance from _____ to _____ is _____.
So $|5\frac{1}{2}| =$ _____.

Graph and solve.

- c. $|x| = 1.5$
-

- d. $|x| \geq 4$
-

- e. $|x| < 1$
-

Summary The distance from a number to 0 on the number line is the absolute value of the number.

