Lesson 1.7: Solving Absolute Value Equations/Inequalities

Absolute value: the distance of a number from zero on a number line. Always non-negative

1. $|x| = 3$ $|x| =$
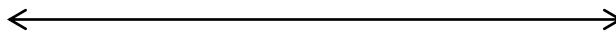
2. Solve $|x - 3| = 5$

Option 1   Option 2

** Check solutions **

3. Solve $|10x + 2| - 18 = -12$

4. Solve $|10 - 3x| + 5 = 2$

Recall: In inequalities if you multiply/divide by a negative you must reverse the inequality!

5. Solve $|6x - 3| \leq 15$

Option 1   Option 2

$$\longleftrightarrow$$

6. Solve $|6x - 3| \geq 15$

$$\longleftrightarrow$$

7. Solve $|3 - x| \geq -5$

Note: Absolute value is used for tolerances (limits)/distance/ranges

8. A manufacturer has a 0.6 oz. tolerance for a bottle of ketchup advertised as 16 oz. Write and solve an absolute value inequality that describes acceptable volumes for "16 oz." bottles.

**Do these values make sense with the scenario?