

Full Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Absolute Value Equations

### SOLVE ABSOLUTE VALUE EQUATIONS

Phrase	Definition
<b>Absolute value equations</b>	<ul style="list-style-type: none"><li>• Absolute value equations where the _____ are _____ the absolute values.</li><li>• Can have _____, _____, or _____ solutions.</li></ul>

How to solve :

Step 1 : \_\_\_\_\_ the absolute value equation.

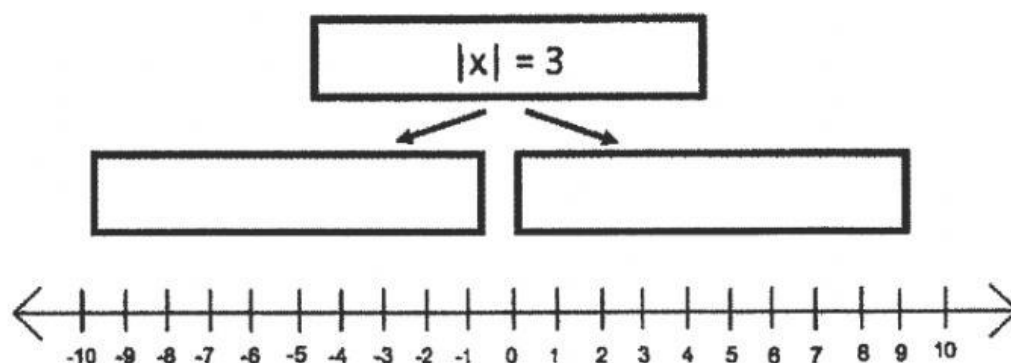
Step 2 : Get rid of the absolute value signs and rewrite the equations.

- Set the expression inside the absolute value equals to \_\_\_\_\_ c.
- Set the expression inside the absolute value equals to \_\_\_\_\_ c.

Step 3 : Solve for the variables in both \_\_\_\_\_.

Step 4 : Both \_\_\_\_\_ values are solutions to the absolute value equation.

Example 1: Solve .



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## DO NOW!

Solve for  $x$  in absolute value equations.

(1)  $|x| = 3$

(2)  $|4x| = 12$

(3)  $|-3x| = 9$

solution:

solution:

solution:

(4)  $\left|\frac{x}{5}\right| = 1$

(5)  $|x - 3| = 3$

(6)  $|-1 + x| = 12$

solution:

solution:

(7)  $|9x - 4| = 86$

(8)  $|x - 2| + 7 = 9$

solution:

solution:

(9)  $3|-8x| + 8 = 41$

(10)  $5|3x - 5| + 2 = -23$

solution:

solution: