

Ch 4.6 **Absolute value Equations and Inequalities:**

Absolute Value - distance from zero. Distance is always positive #. $| ? | = +\#$

Ex1a) $|x| = 5$

Ex1b) $|x| + 4 = 6$

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Ex1c) $|x - 5| = 2$

Ex1d) $|2x - 7| - 3 = 2$

Ex1e) $|x + 7| = -2$

Ex1f) $2|d+3| = 8$

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1 Give the positive answer to
 $|5x + 1| + 3 = 14$

2. Give the negative answer
as a decimal.

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2 Give the negative answer
as a decimal.

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Ex2) **Absolute Value Inequalities** -
are compound inequalities.

And and **Or** is not given, you have to decide. The symbol determines if it is an And or Or problem.

Less thAnd

$<$
 $\leq$

GreatOR

$>$
 $\geq$

Then write a compound inequality to solve. (Get absolute value by itself first.)

And: $-\# < \text{inside of the } | | < +\#$

$\leq$

$\leq$

Or: $\text{inside } | | < -\# \text{ or inside } | | > +\#$

$\leq$

$\geq$

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Ex2a) $|x + 6| < 8$

Ex2b) $|2t + 4| < 8$

Ex2c) $|2x + 5| - 2 \leq 7$

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$$\text{Ex3a) } |v + 2| > 5$$

$$\text{Ex3b) } -3|2c - 5| \leq -9$$

$$\text{Ex3c) } |3x - 3| + 4 \geq 10$$

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$$|3 + x| + 7 > 10$$

Is this an And or OR problem?

A And

B Or

Solve and Graph:

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