

# Algebra I

6-6

## Solve Absolute Value Inequalities

Solve and graph the following:

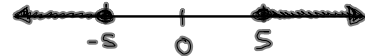
1)  $|x| < 4$



$x < 4$  and  $x > -4$

less than

2)  $|x| \geq 5$



$x \geq 5$  or  $x \leq -5$

great or

Solve and graph the solution set.

3)  $|2x - 7| < 9$

$2x - 7 < 9$  and  $2x - 7 > -9$

$\frac{2x < 16}{2}$

$\frac{2x > -2}{2}$

$x < 8$

$x > -1$



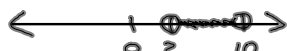
4)  $3|x - 6| < 12$

$\frac{3|x - 6| < 12}{3}$

$|x - 6| < 4$

$x - 6 < 4$  and  $x - 6 > -4$

$x < 10$     $x > 2$



5)  $-2|6x - 1| + 5 < 3$

$-2|6x - 1| + 5 - 5 < 3 - 5$

$\frac{-2|6x - 1| < -2}{-2}$

$|6x - 1| > 1$

$6x - 1 > 1$  or  $6x - 1 < -1$

$\frac{6x > 2}{6}$

$\frac{6x < 0}{6}$

$x > \frac{1}{3}$

$x < 0$



Assignment:

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