5-3 - 5-4 Solving Inequalities

$<$ is less than

$>$ is greater than

$\leq$ is less than or equal to
at most

$\geq$ is greater than or equal to
at least

Ex. 1 Write an inequality for each sentence.

My height is greater than 52 inches.

$h > 52$ in

Your speed is less than or equal to 65 mph.

$s \leq 65$

Ex. 2 For the given value, state whether each inequality is true or false.

$s - 9 < 4$ $s = 6$

$6 - 9 < 4$ True

$-3 < 4$

$14 \leq 2a + 1$ $a = 7$

$14 \leq 2 \cdot 7 + 1$ True

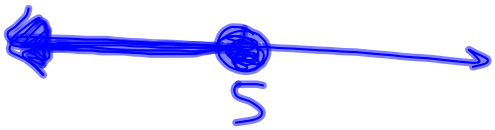
$14 \leq 15$

Graphing inequalities:

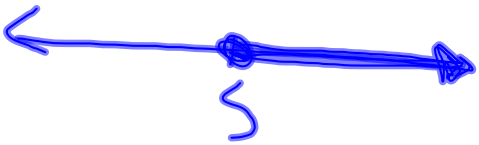
$x < 5$

$x > 5$

$x \leq 5$



$x \geq 5$



Ex. 3 Solve and graph the inequality.

$y + 5 > 11$

$-5 \quad -5$

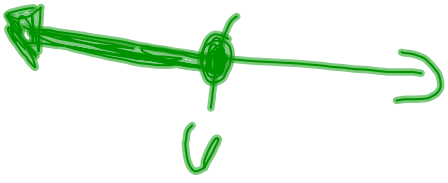
$y > 6$

$2x + 3 \leq 15$

$-3 \quad -3$

$\frac{2x}{2} \leq \frac{12}{2}$

$x \leq 6$



Ex. 4 Special cases: solve and graph each inequality.

$14 > 3x - 1$

$+1 \quad +1$

$15 > 3x$

$\frac{15}{3} > \frac{3x}{3}$

$5 > x \rightarrow x < 5$

$-2y + 5 \leq 17$

$-5 \quad -5$

$-2y \leq 12$

$\frac{-2y}{-2} \leq \frac{12}{-2}$

$y \geq -6$

If we ever X or ÷ by a negative, we must flip the sign.

Homework

p.237 #1-7
p.244 #3-9