

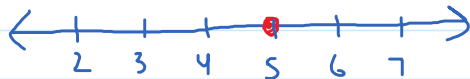
9.2 Solving Single-Step Inequalities

November 23, 2015 12:26 PM

* the rules are the same for an equal sign except that there is an **inequality** symbol!

$$x - 3 = 2$$

$$\begin{array}{r} +3 \quad +3 \\ \hline x = 5 \end{array}$$



solution 5

$$x - 3 \geq 2$$

$$\begin{array}{r} +3 \quad +3 \\ \hline x \geq 5 \end{array}$$



solution 5, 6, 7, 8.

Ex #1

a) $8x \leq 24$

$$\begin{array}{r} \cancel{8} \quad \cancel{8} \\ \hline x \leq 3 \end{array}$$

b) $\frac{x}{-2} > 6^{x-2}$

$$\begin{array}{r} \cancel{x} \quad \cancel{-2} \\ \hline x < -12 \end{array}$$

* When multiplying/Dividing by a **NEGATIVE** #, you reverse the inequality symbol

Ex #2

a) $-n < 4$

$$\begin{array}{r} \cancel{-1} \quad \cancel{-1} \\ \hline n > -4 \end{array}$$

b) $-6 > -m$

re-write $\frac{-m}{-1} < \frac{-6}{-1}$

$$\begin{array}{r} \cancel{-1} \quad \cancel{-1} \\ \hline m > 6 \end{array}$$

Ex. #3

a) $5x + 6 \geq 16$

$$\begin{array}{r} \cancel{-6} \quad \cancel{-6} \\ \hline 5x \geq 10 \\ \hline \frac{5x}{5} \geq \frac{10}{5} \\ \hline x \geq 2 \end{array}$$



solutions for x are 2, 3, 4..

$$b) -5 > \frac{x}{3}$$

re-write

$$\frac{x}{3} < -5 \times 3$$

$$x < -15$$



solutions for x are
 $-16, -17, -18.$

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