

## B. GRAPHING One-Variable Inequalities

**OBJ. B1** Solve inequalities in 1-variable.

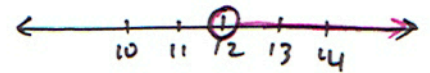
Very similar to solving equations.

EX1

$$\begin{array}{r|l} X+5 < 2X-7 \\ -X & -X \\ \hline 5 < X-7 \\ +7 & +7 \\ \hline 12 < X \end{array}$$

or  $X > 12$

Try to get  $x$  by itself on one side



**OBJ. B2**

Understand how to flip inequality sign when  $\times$  or  $\div$  by a **NEGATIVE NUMBER**

EX1

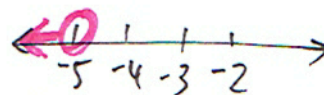
$$\begin{array}{r|l} -2X < 7 \\ \hline X > -\frac{7}{2} \end{array}$$

Since we are dividing by  $-2$ , we have to flip the sign!



EX2

$$\begin{array}{r|l} -2X+3 > 13 \\ -3 & -3 \\ \hline -2X > 10 \\ \hline X < -5 \end{array}$$



Ex 3

$$\begin{array}{r|l} \frac{x}{-3} - 7 > 5 \\ +7 & +7 \\ \hline -\cancel{7} \cdot \frac{x}{-\cancel{3}} > 12 - 3 \\ x < -36 \end{array}$$

Since we're multiplying by a negative #, flip the sign!

