

# 1 variable inequalities

- 1 variable inequalities are graphed on a # line

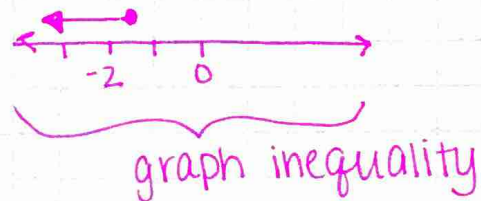
$<$  } open circle  
 $>$  }  
 $\geq$  } closed circle  
 $\leq$  }

\* always solve for the variable alone 1<sup>st</sup>

**ex 1**

$$\begin{array}{r}
 7 + 3x \leq 4 + x \\
 \quad -x \quad -x \\
 \hline
 7 + 2x \leq 4 \\
 -7 \quad -7 \\
 \hline
 2x \leq -3 \\
 \frac{2x}{2} \leq \frac{-3}{2} \\
 \hline
 x \leq -3/2
 \end{array}$$

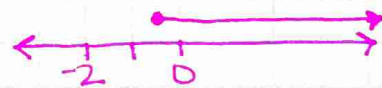
solving inequality



**ex 2**

$$\begin{array}{r}
 3 - 2(x+1) \geq -4x \\
 3 - 2x - 2 \geq -4x \\
 \quad +2x \quad \quad +2x \\
 \hline
 1 \geq -2x \\
 -2 \quad -2 \\
 \hline
 -1/2 \geq -x
 \end{array}$$

$-1/2 \geq -x$



flip sign  
when multiply  
or dividing by  
a negative