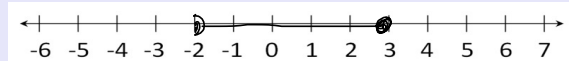
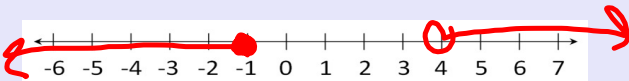


Warm Up

Graph the following inequalities.

1. $x > 4$ or $x \leq -1$

2. $-2 \leq x \leq 3$



Solve the following Inequalities.

1. $3 - 2x > -17$

$$\begin{array}{r} \cancel{3} - 2x > \cancel{-3} - 17 \\ \hline -2x > -20 \\ \hline \cancel{-2} & \cancel{-2} \\ \hline x < 10 \end{array}$$

2. $4 \geq 5p - 6$

$$\begin{array}{r} +6 \\ \hline 10 \geq 5p \\ \hline p \\ \\ \hline p \leq 2 \end{array}$$

Solving Compound Inequalities

Write down what you remember about compound Inequalities.
(Hint: They were the first two problems in your warm up)

Do with lines.
and/or
2 Inequalities in 1 phrase integers


When we **graph** compound inequalities

the word **and** means

lines connected
inbetween

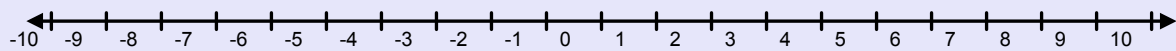
and the word **or** means

opposite directions

Rays 

Example:

$$-2p + 1 \leq -5 \text{ or } 20 - 8p \geq 4$$



Example

$$2 \leq \frac{2x-4}{3} < 4$$

$$3 \cdot 2 \leq \frac{2x-4}{3} \cdot 3 < 4 \cdot 3$$

$$\begin{array}{r} 6 \leq 2x - 4 \\ +4 \quad \quad \quad +4 \\ \hline 10 \leq 2x \end{array}$$

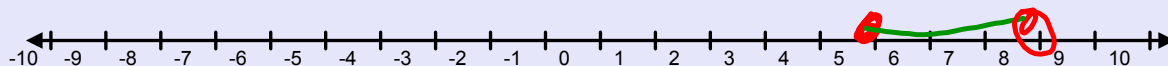
$$\frac{10}{2} \leq \frac{2x}{2} \quad x \geq 5$$

$$\frac{2x-4}{3} < 4 \cdot 3$$

$$\begin{array}{r} 2x - 4 < 12 \\ +4 \quad \quad +4 \\ \hline \end{array}$$

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

$$x < 8$$



Complete the worksheet on solving and graphing compound inequalities