

HW: Worksheet

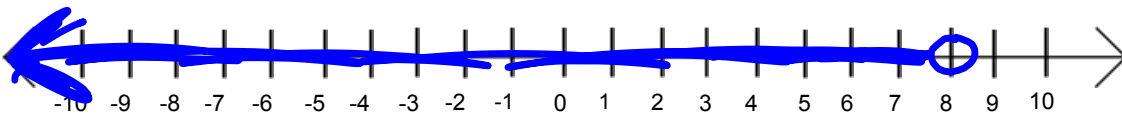
Warm up:

Solve and graph.

1) $5 > x - 3$

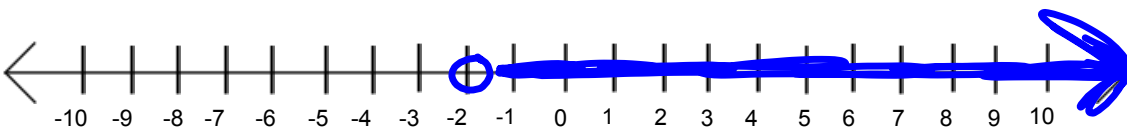
$$\begin{array}{r} +3 \quad +3 \\ \hline 8 > x \end{array}$$

$$x < 8$$



2) $7 + x > 5$

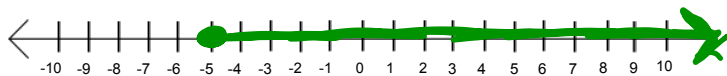
$$\begin{array}{r} -7 \quad -7 \\ \hline x > -2 \end{array}$$



HW: Solve and graph:

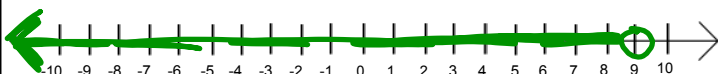
1) $x + 2 \geq -3$

$$\begin{array}{r} -2 \quad -2 \\ \hline x \geq -5 \end{array}$$



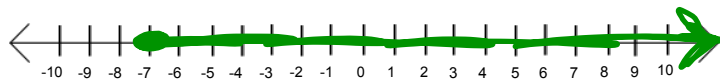
2) $x - 4 < 5$

$$\begin{array}{r} +4 \quad +4 \\ \hline x < 9 \end{array}$$



3) $-1 \leq 6 + x$

$$\begin{array}{r} -6 \quad -6 \\ \hline -7 \leq x \\ x \geq -7 \end{array}$$



4) $7 < x + 4$

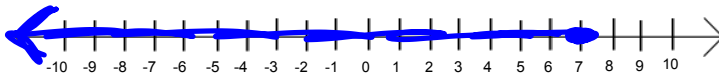
$$\begin{array}{r} -4 \quad -4 \\ \hline 3 < x \end{array}$$

$$x > 3$$



5) $-2 + x \leq 5$

$$\begin{array}{r} +2 \quad +2 \\ \hline x \leq 7 \end{array}$$



6) $x - 10 > -2$

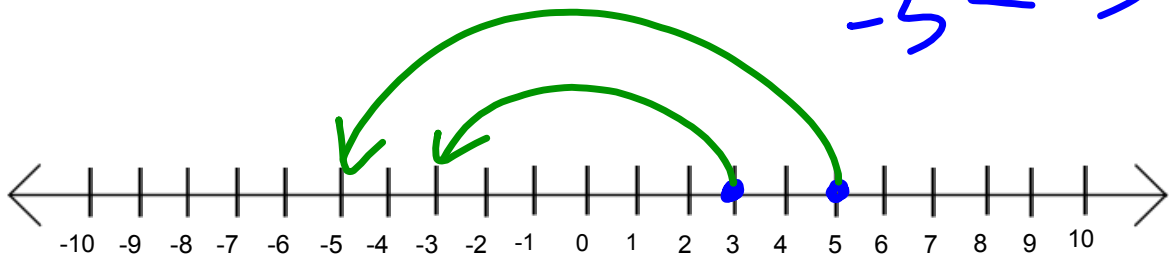
$$\begin{array}{r} +10 \quad +10 \\ \hline x > 8 \end{array}$$



$$5 > 3$$

$$\begin{array}{r} + 3 \quad + 3 \\ \hline 8 > 6 \\ \times (-2) \quad \times (-2) \\ -16 < -12 \end{array}$$

$$\begin{array}{r} 5 > 3 \\ \times (-1) \quad \times (-1) \\ -5 < -3 \end{array}$$



If you multiply or divide both sides of an inequality by a negative number...

the direction of the symbol changes

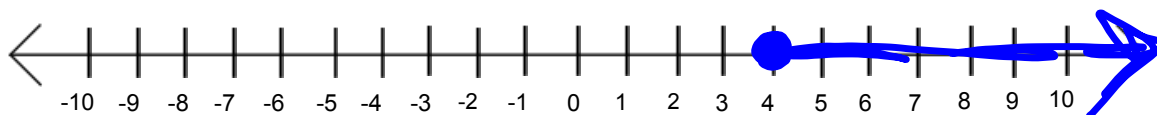
$$-6x + 10 \leq -14$$

$$\underline{-10 \quad -10}$$

$$\underline{-6x \leq -24}$$

$$\underline{-6 \quad -6}$$

$$x \geq 4$$

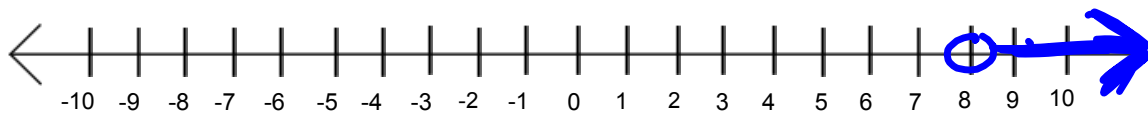


$$4x - 3 > 29$$

$$+3 \quad +3$$

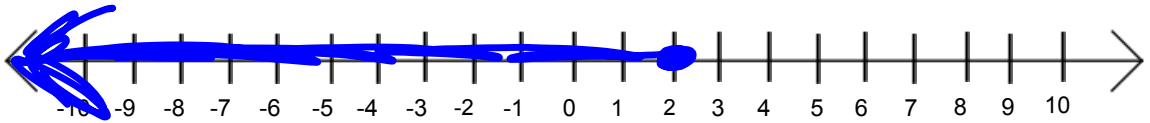
$$\frac{4x}{4} > \frac{32}{4}$$

$$x > 8$$



$$7 - x \geq 5$$

$$\frac{-x}{-1} \geq \frac{-2}{-1}$$
$$x \leq 2$$



$$3 - \frac{x}{5} < 1$$

$$\begin{array}{c} -3 \qquad -3 \\ \hline -5 \left(-\frac{x}{5} \right) < (-2) (-5) \\ \hline x > 10 \end{array}$$



$$\frac{x}{4} + 8 \geq 9$$

$$4 \quad -8 \quad -8$$

$$4 \left(\frac{x}{4} \right) \geq (1) 4$$

$$x \geq 4$$



1) $5x < -15$

5) $4 - 3x \leq -20$

2) $4 \geq \frac{x}{2}$

6) $-7 < 5x - 2$

3) $2x + 7 \leq -3$

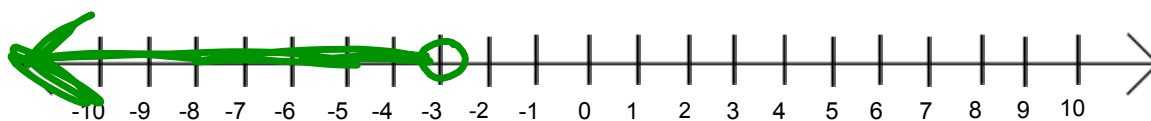
7) $-3 \leq -5 - \frac{x}{3}$

4) $-n + 6 < -2$

8) $3 \leq 6 + \frac{x}{2}$

$$1) \frac{5x}{5} < \frac{-15}{5}$$

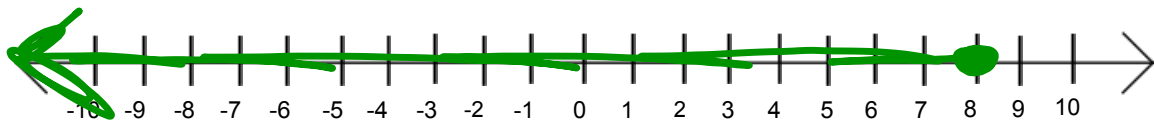
$$x < -3$$



$$2) \left(4 \geq \frac{x}{2} \right) \cdot 2$$

$$8 \geq x$$

$$x \leq 8$$



$$3) 2x + 7 \leq -3$$

$$\begin{array}{r} -7 \quad -7 \\ \hline 2x \leq -10 \\ \hline x \leq -5 \end{array}$$

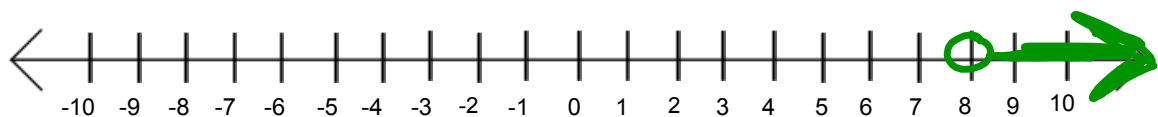
$$x \leq -5$$



$$4) -n + 6 < -2$$

$$\begin{array}{r} -6 \quad -6 \\ \hline -n < -8 \\ \hline -1 \quad -1 \end{array}$$

$$n > 8$$



$$5) 4 - 3x \leq -20$$

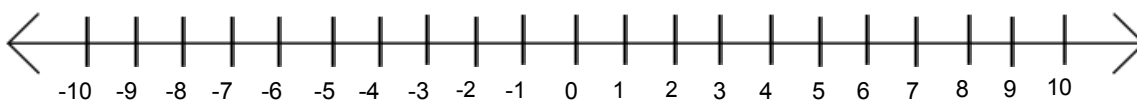
$$\begin{array}{r} -4 \qquad \qquad -4 \\ \hline -3x \leq -24 \\ \hline \frac{-3x}{-3} \leq \frac{-24}{-3} \\ \hline x \geq 8 \end{array}$$



$$6) -7 < 5x - 2$$



$$7) -3 \leq -5 - \frac{x}{3}$$



$$8) 3 \leq 6 + \frac{x}{2}$$



