

HW: Worksheet

Warm up:

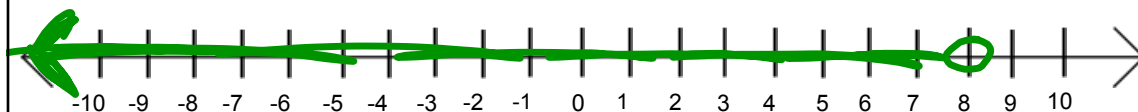
Solve and graph.

Survey

1) $5 > x - 3$

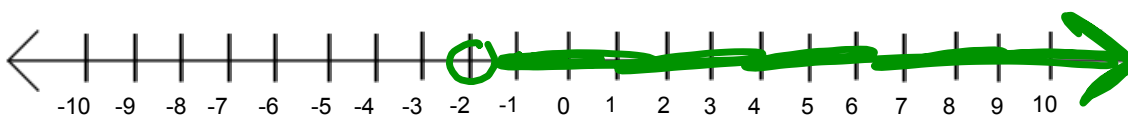
$$\begin{array}{r} +3 \quad +3 \\ \hline 8 > x \end{array}$$

$$x < 8$$



2) $7 + x > 5$

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



HW: Solve and graph:

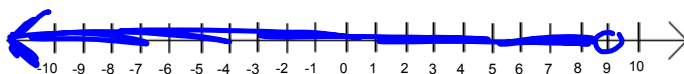
1) $x + 2 \geq -3$

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



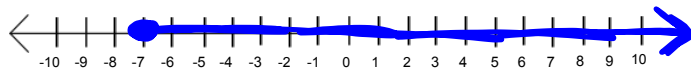
2) $x - 4 < 5$

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



3) $-1 \leq 6 + x$

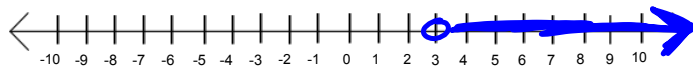
$$\begin{array}{r} -6 \quad -6 \\ \hline -7 \leq x \\ \hline x \geq -7 \end{array}$$



4) $7 < x + 4$

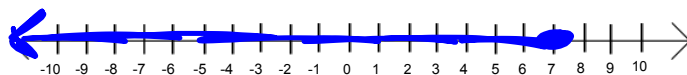
$$\begin{array}{r} -4 \quad -4 \\ \hline 3 < x \\ \hline x > 3 \end{array}$$

$$3 < x$$



5) $-2 + x \leq 5$

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



6) $x - 10 > -2$

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

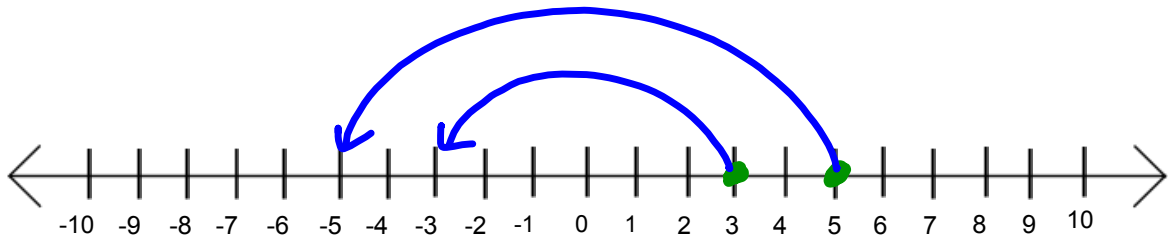


$$\begin{array}{r} 5 > 3 \\ + 2 \quad + 2 \\ \hline 7 > 5 \\ \times (-2) \quad \times (-2) \\ -14 < -10 \end{array}$$

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

the direction of the symbol changes

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



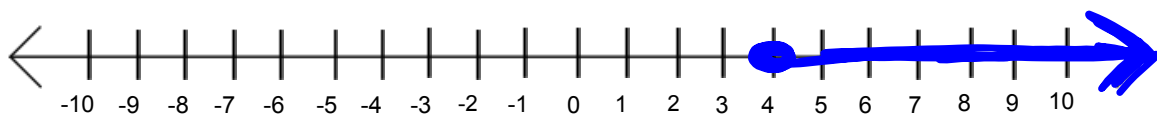
$$-6x + 10 \leq -14$$

$$\begin{array}{r} -10 \\ -10 \end{array}$$

$$-6x \leq -24$$

$$\begin{array}{r} -6 \\ -6 \end{array}$$

$$x \geq 4$$

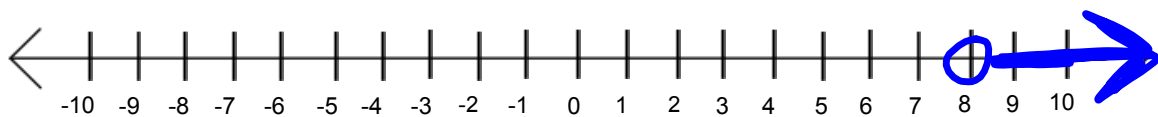


$$4x - 3 > 29$$

$$+3 \quad +3$$

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

$$x > 8$$



$$7 - x \geq 5$$

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

$$x \leq 2$$

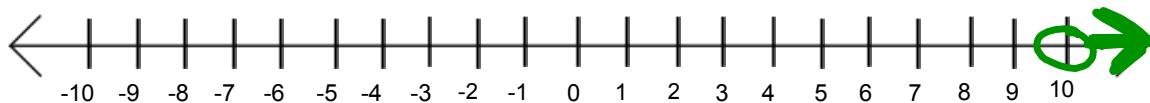


$$3 - \frac{x}{5} < 1$$

$$-3 \quad -3$$

$$-5 \left(-\frac{x}{5} \right) < (-2) (-5)$$

$$x > 10$$

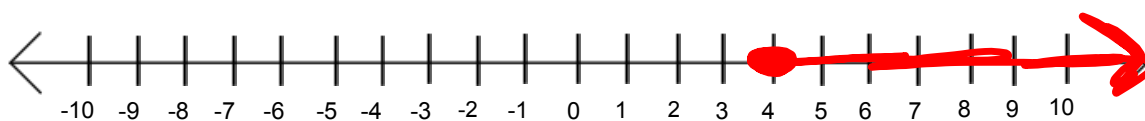


$$\frac{x}{4} + 8 \geq 9$$

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

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

$$x \geq 4$$



1) $5x < -15$

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

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

6) $-7 < 5x - 2$

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

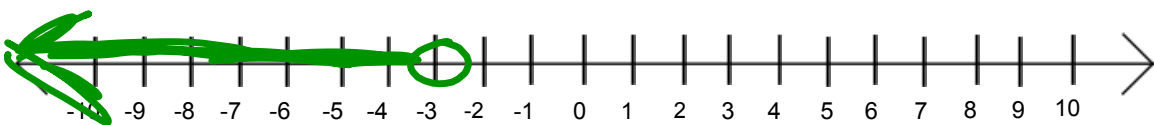
7) $-3 \leq -5 - \frac{x}{3}$

4) $-n + 6 < -2$

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

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

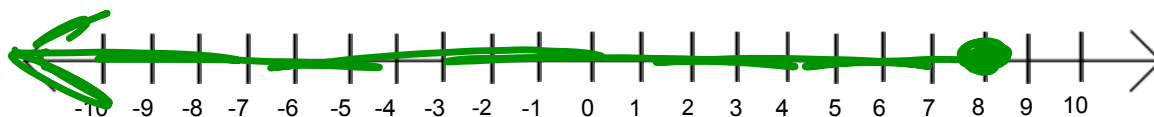
$$x < -3$$



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

$$8 \geq x$$

$$x \leq 8$$



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

$$\quad -6 \quad -6$$

$$-n < -8$$

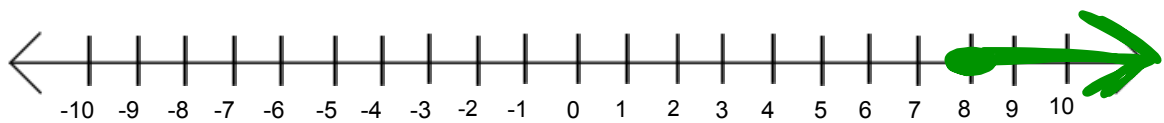
$$\quad -1 \quad -1$$

$$n > 8$$



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

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



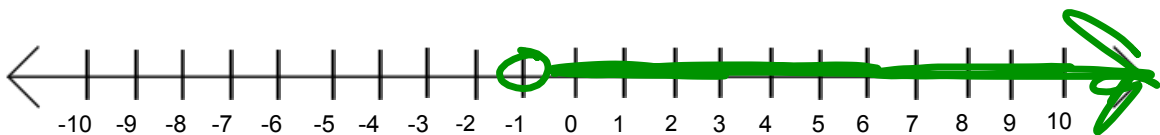
$$6) -7 < 5x - 2$$

$$\begin{array}{r} +2 \qquad \qquad +2 \\ \hline \end{array}$$

$$\begin{array}{r} -5 < 5x \\ \hline 5 \qquad \qquad 5 \end{array}$$

$$\begin{array}{r} -1 < x \end{array}$$

$$x > -1$$



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

$+5 \quad +5$

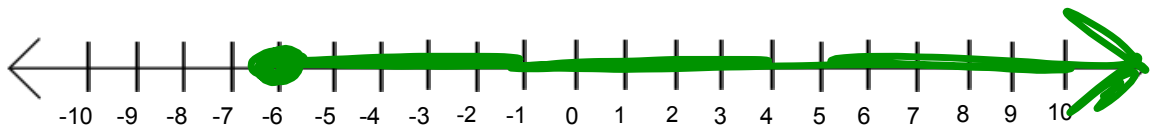
$$-3(2) \leq \left(-\frac{x}{3}\right)(-3)$$
$$-6 \geq x$$
$$x \leq -6$$



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

$$2(-3) \leq \left(\frac{x}{2}\right) 2$$

$$-6 \leq x$$
$$x \geq -6$$



January 17, 2022

