

HW: 5.3/9-21 odd, 29-33 odd

Warm up:

Solve.

$$4 - 3(2x - 5) - 2x = 9x - (4x - 1)$$

$$\underline{4} - \underline{6x} + \underline{15} - \underline{2x} = \underline{9x} - \underline{4x} + \underline{1}$$

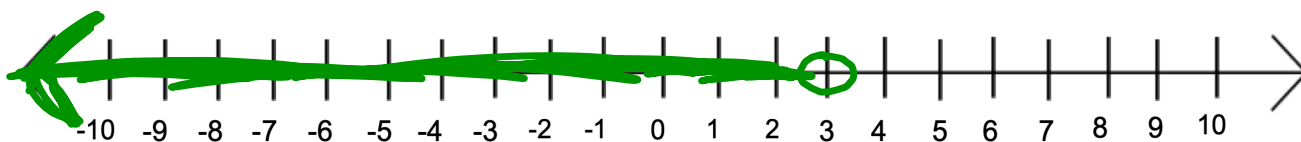
$$\begin{array}{r} -8x + 19 = 5x + 1 \\ +8x \qquad \qquad +8x \end{array}$$

$$\begin{array}{r} 19 = 13x + 1 \\ -1 \qquad \qquad -1 \end{array}$$

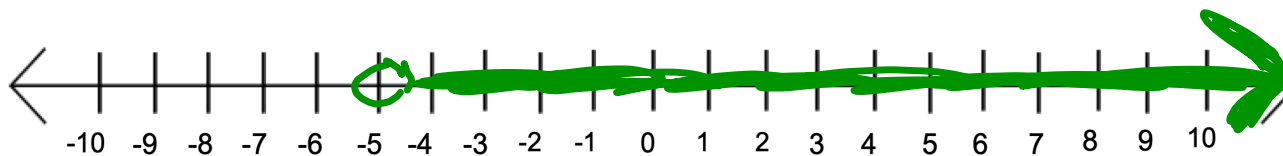
$$\begin{array}{r} 18 = 13x \\ \underline{13} \quad \underline{13} \end{array}$$

$$\frac{18}{13} = x$$

$$x < 3$$



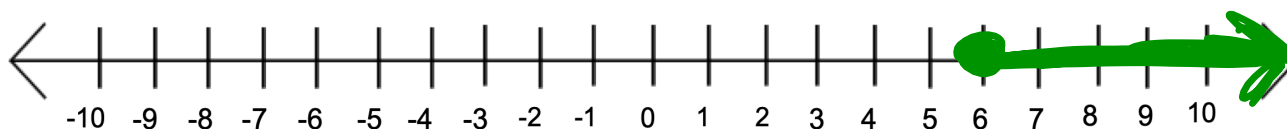
$$x > -5$$

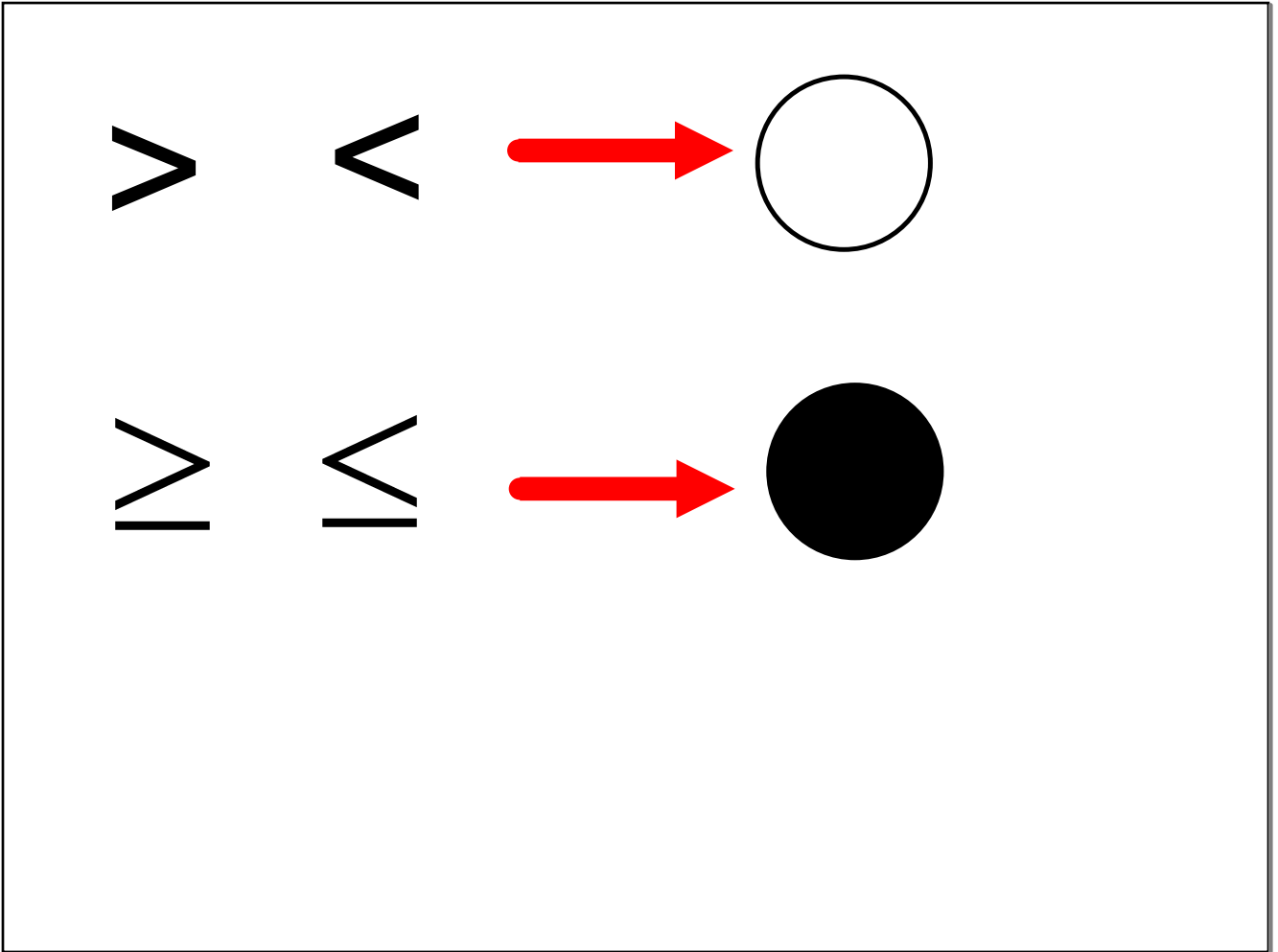


\leq less than or equal to

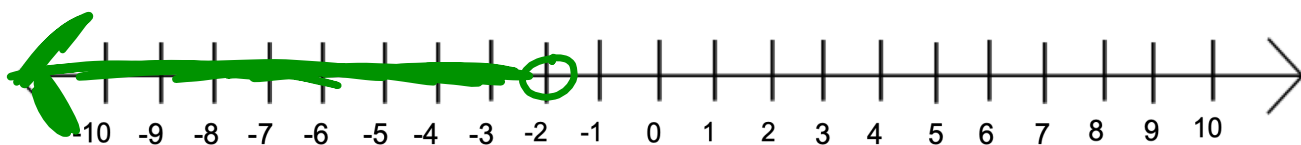
\geq greater than or equal to

$$x \geq 6$$

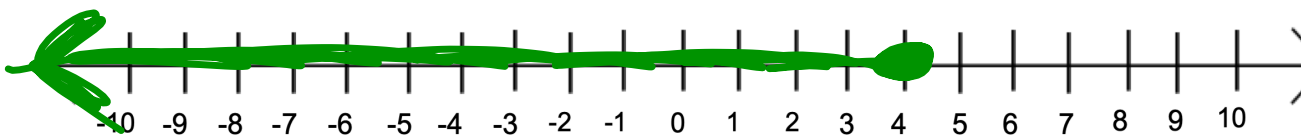




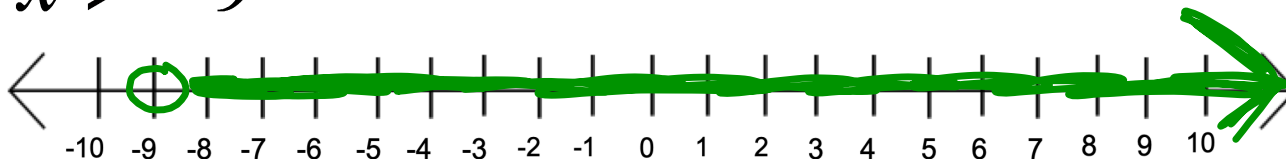
$$x < -2$$



$$x \leq 4$$



$$x > -9$$

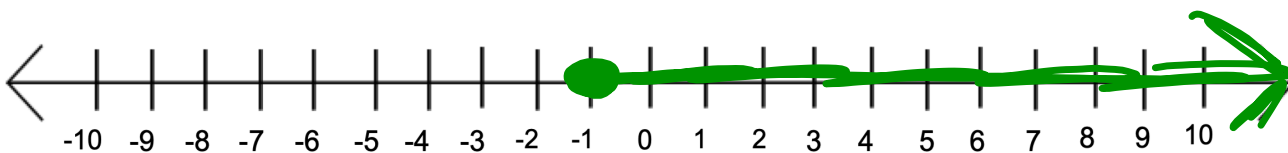


$$\begin{array}{r} -5 < 3 \\ +7 \quad +7 \\ \hline 2 < 10 \\ \hline 1 < 5 \\ -3 \quad -3 \\ \hline -2 < 2 \\ \times 6 \quad \times 6 \\ \hline -12 < 12 \end{array}$$

$$x + 5 \geq 4$$

$$-5 \quad -5$$

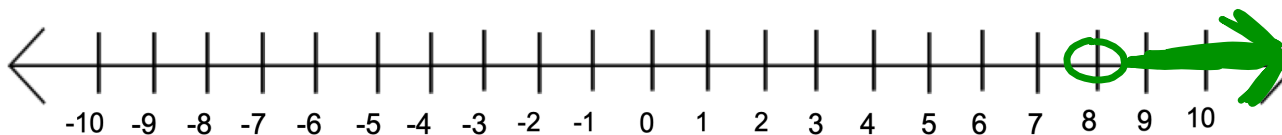
$$x \geq -1$$



$$1 < x - 7$$

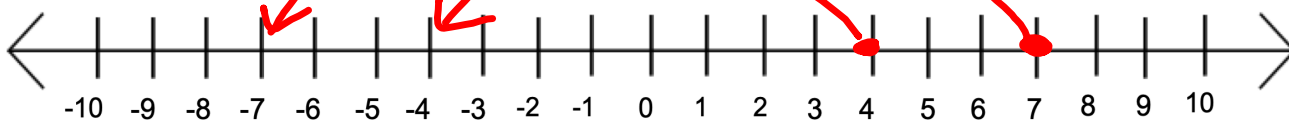
$+7$ $+7$

$$8 < x$$
$$x > 8$$



If you multiply or divide both sides of an inequality by a negative number, the direction of the symbol changes.

$$\begin{array}{l} 4 < 7 \\ \times(-1) \quad \times(-1) \\ -4 > -7 \end{array}$$



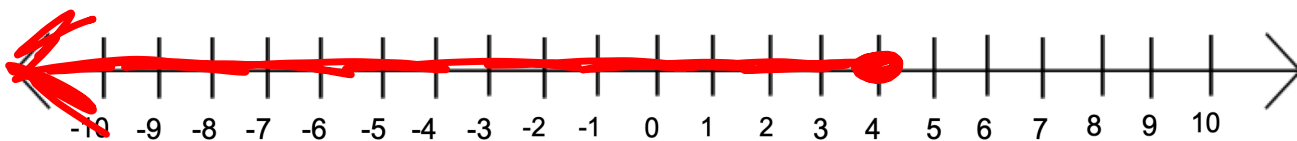
$$6 - x \geq 2$$

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

$$\begin{array}{r} -x \geq -4 \\ \hline \end{array}$$

$$\begin{array}{r} -1 \quad -1 \\ \hline \end{array}$$

$$x \leq 4$$



$$5 - a + 6(a - 2) \geq 5(a + 1)$$

$$5 - a + 6a - 12 \geq 5a + 5$$

$$5a - 7 \geq 5a + 5$$

$$\begin{array}{r} 5a \geq 5a + 12 \\ -5a \quad -5a \\ \hline 0 \geq 12 \end{array}$$

no solution



Solve and graph.

$$1) 12 - \frac{3}{2}c > 0$$

$$2) 4r - 5 < 5r + 7$$

$$3) n - \frac{5}{2} > \frac{3}{4}(n - 6)$$

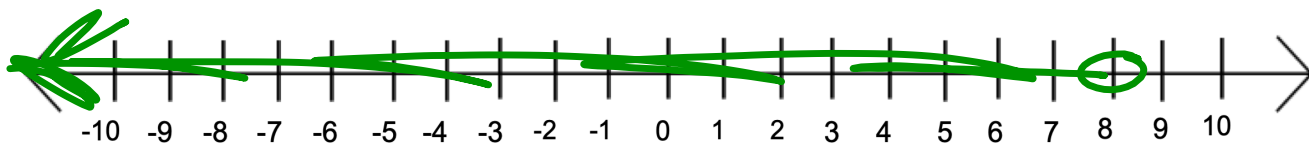
$$4) 5(5 - k) - 7(7 + k) < 0$$

$$5) 4\left(r - \frac{1}{2}\right) - 3 \leq 5(r - 1) + 4$$

$$2 \left(12 - \frac{3}{2}c \right) > 0$$

$$\begin{array}{r} 24 - 3c > 0 \\ -24 \quad -24 \\ \hline -3c > -24 \\ \hline c > 8 \end{array}$$

$$c < 8$$



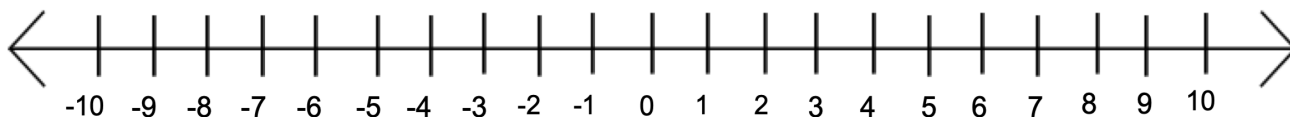
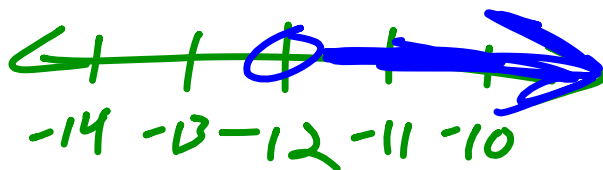
$$\frac{-r < 12}{-1 \quad -1}$$

$$r > -12$$

$$2) 4r - 5 < 5r + 7$$

$$\frac{-4r - 7 - 4r - 7}{-12 < r}$$

$$r > -12$$



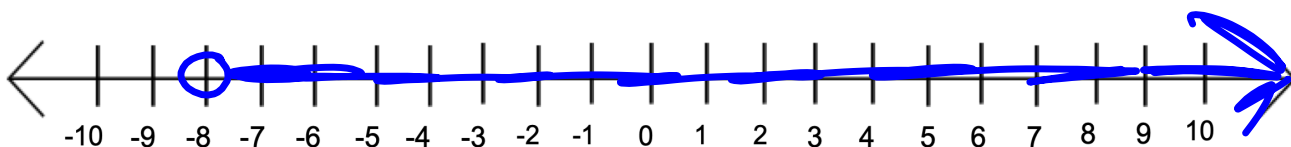
$$\frac{4}{1} \left(-\frac{5}{2} \right) 4 \left(n - \frac{5}{2} \right) > \left(\frac{3}{4} (n - 6) \right) 4$$

$$4n - 10 > 3(n - 6)$$

$$4n - 10 > 3n - 18$$

$$-3n + 10 \quad -3n + 10$$

$$n > -8$$



$$4) 5(5-k) - 7(7+k) < 0$$

$$25 - 5k - 49 - 7k < 0$$

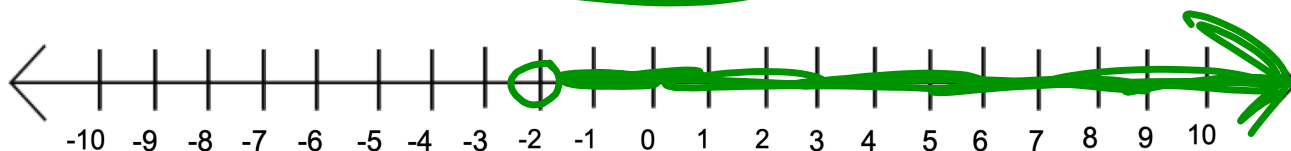
$$-12k - 24 < 0$$

$$+24 +24$$

$$-12k < 24$$

$$\frac{-12k}{-12} < \frac{24}{-12}$$

$$k > -2$$



$$5) 4\left(r - \frac{1}{2}\right) - 3 \leq 5(r - 1) + 4$$

$$4r - 2 - 3 \leq 5r - 5 + 4$$

$$4r - 5 \leq 5r - 1$$

$$\begin{array}{r} -4r + 1 \\ -4r + 1 \end{array}$$

$$-4 \leq r$$

$$r \geq -4$$

