

W-A1 Algebra 1 Week 15 $\frac{1}{3}$

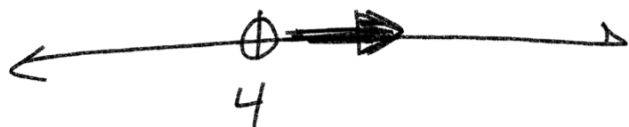
1.) $6 - 5r - 8 < -22$

$$\begin{array}{r} -5r - 2 < -22 \\ +2 \quad +2 \end{array}$$

$$\begin{array}{r} -5r < -20 \quad \text{flip!} \\ \hline -5 \quad \quad \quad -5 \end{array}$$

$> <$
 $\geq \leq$

$r > 4$



2.) $-7x + 5(-3x) \leq -5$

$$\begin{array}{r} -10x + 5 \leq -5 \\ -5 \quad -5 \end{array}$$

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

$x \geq 1$



3.) $4 - 4r \geq -10 - 6r$

$$\begin{array}{r} -4r \geq -14 - 6r \\ +6r \quad +6r \end{array}$$

$$\begin{array}{r} 2r \geq -14 \\ \hline 2 \quad \quad 2 \end{array}$$

$r \geq -7$

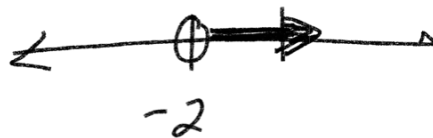


4.) $-1 + 6n > -11 + n$

$$\begin{array}{r} 6n > -10 + n \\ -n \quad -n \end{array}$$

$$\begin{array}{r} 5n > -10 \\ \hline 5 \quad \quad 5 \end{array}$$

$n > -2$

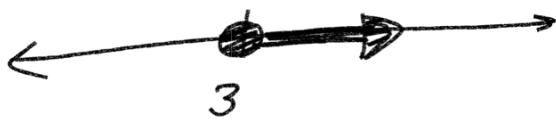


$$1.) \quad 8(1-5n) \leq -112$$

$$\left[\begin{array}{l} \oplus 8 - 40n \leq -112 \\ \ominus 8 \quad \quad -8 \end{array} \right] \quad -112 + (-8)$$

$$\frac{-40n}{-40} \leq \frac{-120}{-40}$$

$$\boxed{n \geq 3}$$



$$\frac{8(1-5n)}{8} \leq \frac{-112}{8}$$

$$\frac{1-5n}{-1} \leq \frac{-14}{-1}$$

$$\frac{-5n}{-5} \leq \frac{-15}{-5}$$

$$n \geq 3$$

$$2n - 29 \leq - (6n + 8) + 5n$$

$$2n - 29 \leq \boxed{-6n} - 8 \quad \boxed{+5n}$$

$$2n - 29 \leq -n - 8$$

$$+n \quad \quad +n$$

$$3n - 29 \leq -8$$

$$+29 \quad +29$$

$$\frac{3n}{3} \leq \frac{21}{3}$$

$$\boxed{n \leq 7}$$



Compound Inequalities

lines divergent

$$b + 9 < 3$$

-9 -9

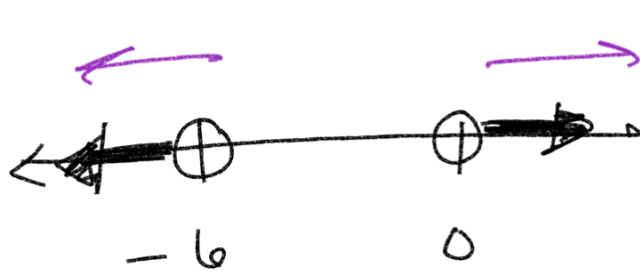
$$b < -6$$

or

$$\left(\frac{b}{3}\right) > (0)3$$

$$b > 0$$

smaller



bigger

$$m - 9 \leq -5$$

+9 +9

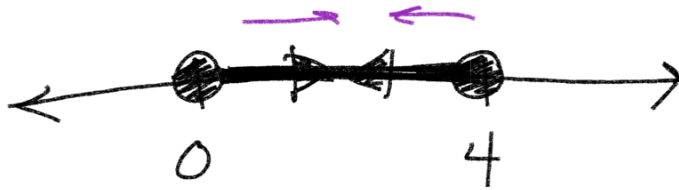
$$m \leq 4$$

and

$$7\left(\frac{m}{7}\right) \geq (0)7$$

$$m \geq 0$$

converge



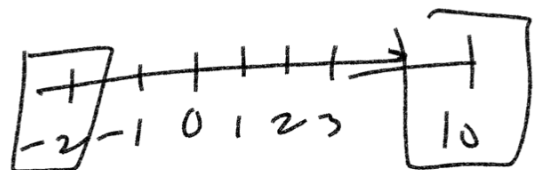
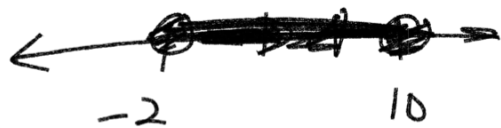
$$8 \geq x - 2 \geq -4$$

+2 +2 +2

$$10 \geq x \geq -2$$

$$10 \geq x$$

$$x \geq -2$$



$$2 \geq \overbrace{-2x + 4} \geq 10$$

-4 -4 -4

$$\frac{-2}{-2} \geq \frac{-2x}{-2} \geq \frac{6}{-2}$$

$$1 \leq x \leq -4$$