

$$1.) \quad \underbrace{6 - 5r - 8}_{6-8} < -22$$

$$6 - 8$$

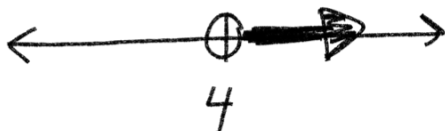
$$-5r - 2 < -22$$

$$\quad +2 \quad +2$$

$$\frac{-5r}{-5} < \frac{-20}{-5}$$

> <  
0

$$r > 4$$



> <  
- -

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

$$\quad +4r \quad +4r$$

$$4 \geq -10 - 2r$$

$$+10 \quad +10$$

$$\frac{14}{-2} \geq \frac{-2r}{-2}$$

$$-7 \leq r$$



$$2.) \quad \underbrace{-7x + 5 - 3x}_{-7x-3x} \leq -5$$

$$-7x - 3x$$

$$-10x + 5 \leq -5$$

$$\quad -5 \quad -5$$

$$\frac{-10x}{-10} \leq \frac{-10}{-10}$$

have to flip!

$$x \geq 1$$



n      constant

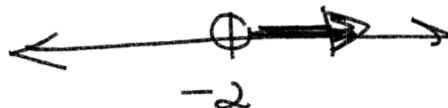
$$4.) \quad -1 + 6n > -11 + n$$

$$\quad +1 \quad +1$$

$$\frac{6n}{-n} > \frac{-10 + n}{-n}$$

$$\frac{5n}{5} > \frac{-10}{5}$$

$$n > -2$$

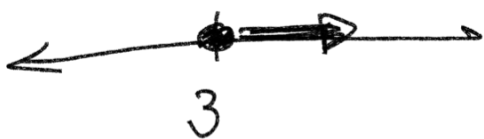


$$1.) \quad 8(1-5n) \leq -112$$

$$\begin{array}{r} 8 - 40n \leq -112 \\ -8 \qquad -8 \end{array}$$

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

$$n \geq 3$$



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

$$\begin{array}{r} 1 - 5n \leq -14 \\ -1 \qquad -1 \end{array}$$

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

$$n \geq 3$$

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

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

$$\begin{array}{r} 2n - 29 \leq -n - 8 \\ +n \qquad +n \end{array}$$

$$\begin{array}{r} 3n - 29 \leq -8 \\ +29 \quad +29 \end{array}$$

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

$$n \leq 7$$

$$n's = \#s$$

$$\begin{array}{r} 2n - 29 = -n - 8 \\ +n \qquad +n \end{array}$$

$$\begin{array}{r} 3n - 29 = -8 \\ +29 \quad +29 \end{array}$$

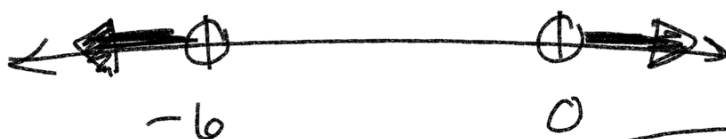
$$3n = 21$$



# Compound Inequalities

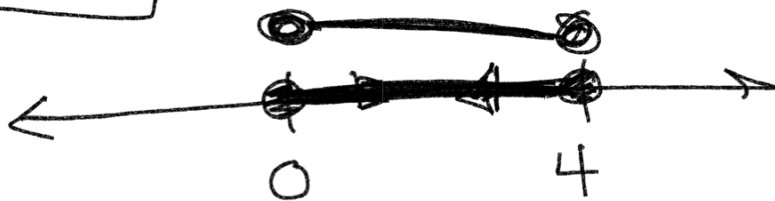
$$b + 9 < 3 \quad \boxed{\text{or}} \quad 3\left(\frac{b}{3}\right) > (0)3 \quad \text{divergent}$$

$$\begin{array}{r} -9 \quad -9 \\ b < -6 \end{array} \qquad b > 0$$



$$m - 9 \leq -5 \quad \boxed{\text{and}} \quad 7\left(\frac{m}{7}\right) \geq (0)7 \quad \text{convergent}$$

$$\begin{array}{r} +9 \quad +9 \\ m \leq 4 \end{array} \qquad m \geq 0$$

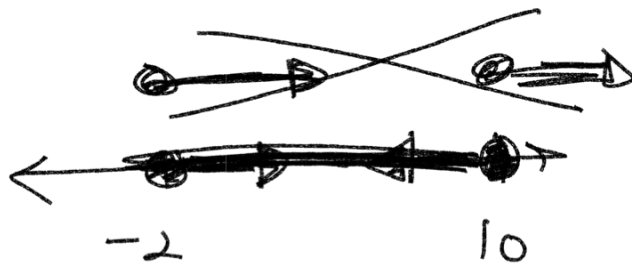


$$8 \geq x - 2 \geq -4$$

$$\begin{array}{r} +2 \quad +2 \quad +2 \end{array}$$

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

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



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

