TH-A1 Algebra 1 Week 15 1/11

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

$-5r - 2 < -22$

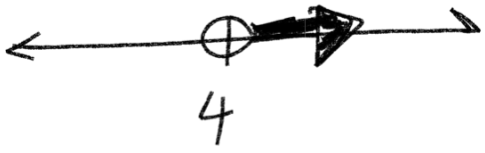
$+2 \quad +2$

$-5r < -20$

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

flip!

$r > 4$



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

$-10x + 5 \leq -5$

$-5 \quad -5$

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

flip!

$x \geq 1$

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

$+6r \quad +6r$

$4 + 2r \geq -10$

$-4 \quad -4$

$2r \geq -14$

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

$r \geq -7$

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

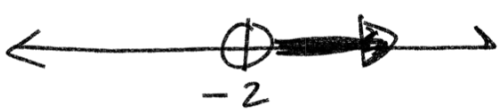
$-n \quad -n$

$-1 + 5n > -11$

$+1 \quad +1$

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

$n > -2$



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

$8 - 40n \leq -112$

$-8 \quad\quad -8$

$-40n \leq -120$

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

flip

$n \geq 3$

3

or...

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

$1 - 5n \leq -14$

$-1 \quad\quad -1$

$-5n \leq -15$

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

$n \geq 3$

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

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

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

$+n \quad\quad +n$

$3n - 29 \leq -8$

$+29 \quad\quad +29$

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

$n \leq 7$

7

Compound Inequalities

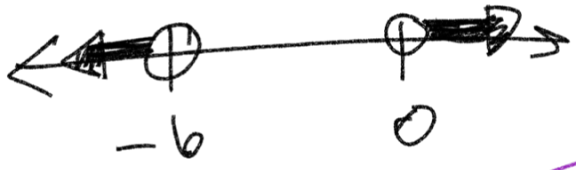
Divergent

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

$-9 \quad -9$

$b < -6$ | $b > 0$

smaller | larger

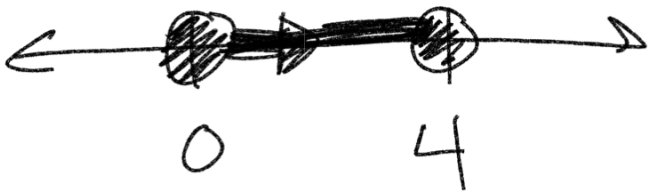


convergent

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

$+9 \quad +9$

$m \leq 4$ | $m \geq 0$



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

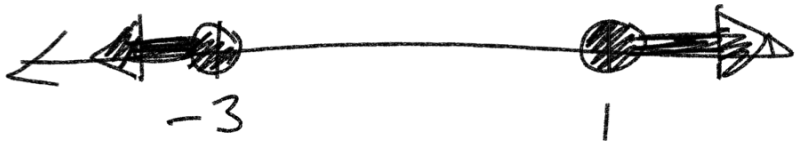
$+2 \qquad +2 \qquad +2$

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

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

$$2 \geq -2x + 4 \geq 10$$

$-4 \qquad -4 \qquad -4$

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

$$1 \leq x \leq -3$$