

$$V = \frac{\pi}{3} r^2 h$$

$$h = \frac{3V}{\pi r^2}$$

$$\frac{3}{\pi} \left(\frac{V}{r^2} \right) = \left(\frac{\pi}{3} h \right) \frac{3}{\pi}$$

$$1.) \quad S = L(1-r)$$

$$S = L - Lr$$

$$\frac{S-L}{-L} = \frac{-Lr}{-L}$$

$$r = \frac{S-L}{-L}$$

$$r = \frac{L-S}{L}$$

$$\frac{S}{L} = \frac{L(1-r)}{L}$$

$$\frac{S}{L} = 1-r$$

$$2.) \quad S = LW + WH + LH$$

$$S - LH = LW + WH$$

$$\frac{S-LH}{L+H} = \frac{W(L+H)}{L+H}$$

$$W = (-r) = \left(\frac{S}{L} - 1 \right)^{-1}$$

$$r = 1 - \frac{S}{L}$$

$$3.) \quad t \left(\frac{x+3}{t} \right) = (t^2) t$$

$$x+3 = t^3$$

x =

$$x = t^3 - 3$$

$$W = \frac{S-LH}{L+H}$$

$$4.) \quad a(x+c) = b(x-c)$$

x =

$$ax + ac = bx - bc$$

$$-ax$$

$$-ax$$

$$ac = bx - ax - bc$$

$$+bc$$

$$+bc$$

$$ac + bc = bx - ax$$

distribute

isolating terms

factor out x

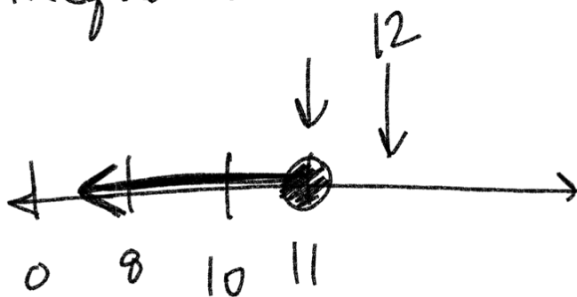
$$ac + bc = x(b-a)$$

$$b-a$$

$$b-a$$

$$x = \frac{ac+bc}{b-a}$$

Solve Inequalities



$$2t + 28 \leq 50$$

$$\begin{array}{r} -28 \\ -28 \end{array}$$

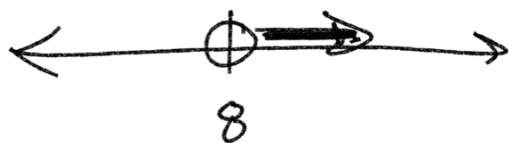
$$\frac{2t}{2} \leq \frac{22}{2}$$

$$t \leq 11$$

$>$ $<$
○

\geq \leq
●

\Rightarrow \rightarrow \geq



$$2(m+3) + 1 > 23$$

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

$$\frac{2(m+3)}{2} > \frac{22}{2}$$

$$m+3 > 11$$

$$\begin{array}{r} -3 \\ -3 \end{array}$$

$$m > 8$$

$$\frac{5(1-2m)}{5} \geq \frac{85}{5}$$

$$1-2m \geq 17$$

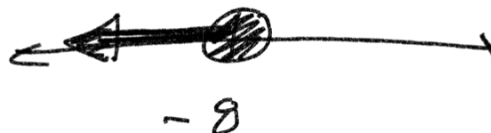
$$\begin{array}{r} -1 \\ -1 \end{array}$$

$$\frac{-2m}{-2} \geq \frac{16}{-2}$$

$>$ $<$ Less than
Left than

$$m \leq -8$$

flip inequality
when you
mult or divide
by a negative



\leq less than or equal to

$$-5 - 8(8 + 7n) > -181$$

+5

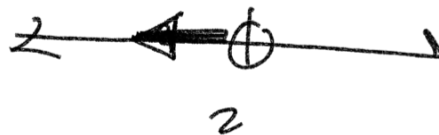
+5

$$n < 2$$

$$\frac{-8(8 + 7n)}{-8} > \frac{-176}{-8}$$

$$\frac{8 + 7n}{-8} < \frac{22}{-8}$$

$$\frac{7n}{7} < \frac{14}{7}$$



Compound Inequality

converge

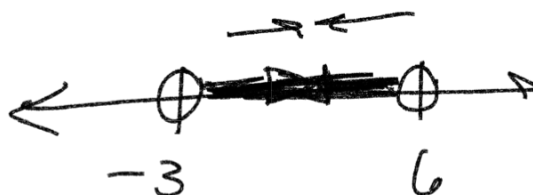
$$\frac{9x}{9} < \frac{54}{9}$$

$$x < 6$$

and

$$\frac{-4x}{-4} < \frac{12}{-4}$$

$$x > -3$$



$$\frac{16x}{16} \leq \frac{32}{16}$$

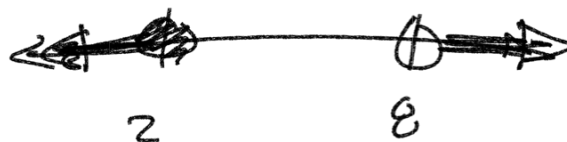
$$x \leq 2$$

or

$$\frac{-5x}{-5} < \frac{-40}{-5}$$

$$x > 8$$

divergent



$$14 > 3x - 1 \geq -10$$

+1 +1 +1

$$\frac{15}{3} > \frac{3x}{3} \geq \frac{-9}{3}$$

$$5 > x \geq -3$$

$$5 > x \quad x \geq -3$$

