W-A2 Algebra 2 9/28 Week 4

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

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

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

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

$h =$

$$\frac{24}{3} = \frac{2 \cdot \cancel{3} \cdot \boxed{4}}{\cancel{3}}$$

$$\frac{24}{3} = 2 \cdot 4$$

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

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

$$S = L - Lr$$
$$-L \quad -L$$

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

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

$r =$

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

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

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

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

2.) $S = LW + WH + LH$ $\qquad W =$

$-LH \qquad\qquad -LH$

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

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

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

3.) $t\left(\dfrac{(x+3)}{t}\right) = (t^2)\,t$ $\qquad X =$

$t^2 = t \cdot t$

$x + 3 = t^3$

$-3 \qquad -3$

$t^2 \cdot t$

$\boxed{x = t^3 - 3}$

$t \cdot t \cdot t = t^3$

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

$ax + ac = bx - bc$

$-bx \qquad -bx$

$ax - bx + ac = -bc$

$-ac \qquad -ac$

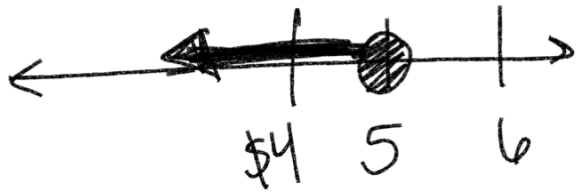
$ax - bx = -ac - bc$

$\dfrac{x(a-b)}{a-b} = \dfrac{-ac-bc}{a-b}$

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

Solve Inequalities

$$2t + 30 \le 40$$
$$\quad -30 \quad -30$$

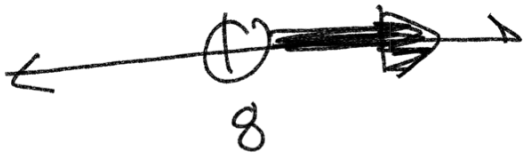


$$\frac{2t}{2} \le \frac{10}{2}$$

$$t \le 5$$

$$2(m+3) + 1 > 23$$
$$\quad -1 \quad -1$$

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



$$m+3 > 11$$
$$\quad -3 \quad -3$$

$$m > 8$$

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

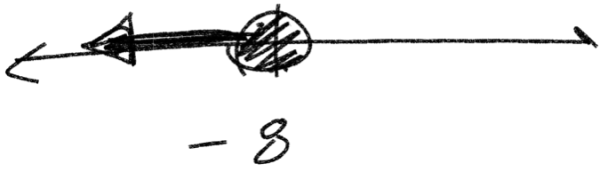
flip inequality when you mult or divide by a negative

$$1 - 2m \ge 17$$
$$-1 \qquad -1$$

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

$$m \le -8$$

$$m \le -8$$



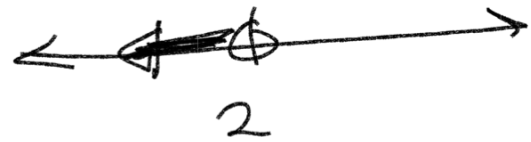
$$-5 - 8(8 + 7n) > -181$$

$$-5 - 64 - 56n > -181$$

$$-69 - 56n > -181$$
$$+69 \qquad\qquad +69$$

$$\boxed{n < 2}$$

$$\frac{-56n}{-56} > \frac{-112}{-56}$$

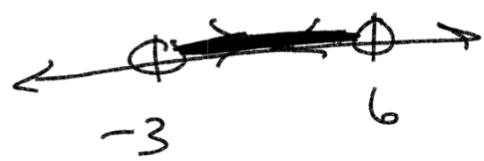


Compound Inequalities

$$\frac{9x}{9} < \frac{54}{9} \quad \text{and} \quad \frac{-4x}{-4} < \frac{12}{-4}$$

converge

$$x < 6 \qquad\qquad x > -3$$



$$\frac{16x}{16} \le \frac{32}{16} \quad \text{or} \quad \frac{-5x}{-5} < \frac{-40}{-5}$$

$$x \le 2 \qquad \text{divergent} \qquad x > 8$$

$$14 > 3x - 1 \ge -10$$
$$+1 \qquad +1 \qquad +1$$

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

$$\boxed{5 > x \ge -3}$$

$$x \ge -3$$
$$5 > x$$