Solve each inequality, graph the solution set, and check a possible solution. Record your solution set and number line on this paper, place all work and checks on additional paper.

1) $13x < 9(1-x)$

2) $15 \le 5-8m-14$

3) $b^2+3(b-1) \ge b^2+5$

4) $2(x+2)-3x \ge -1$

5) $-3(4-m) \ge 2(-14+4m)$

6) $\frac{3}{4}(x+2) < 6(x+12)$

7) $\frac{1}{2}n-\frac{1}{8} \ge \frac{3}{4}+\frac{5}{6}n$

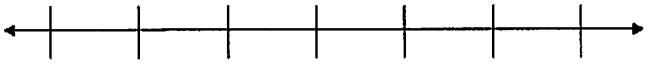
8) $-2(0.5-4s) \ge -3(4-3.5s)$

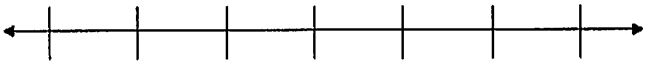
9) $5x-\frac{1}{2}(3x+8) \le -4+3x$

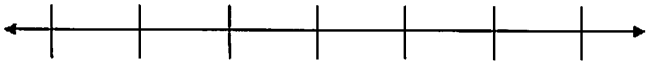
10) $5a-2(a-15) < 10$

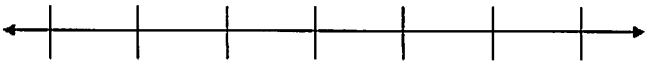
Solving Inequalities Workspace

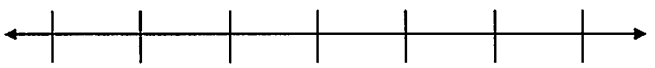
Name _____

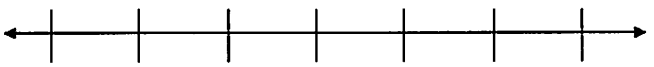


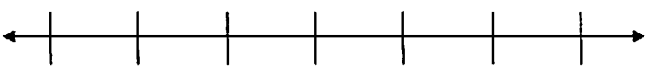


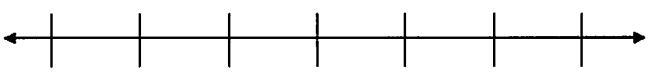


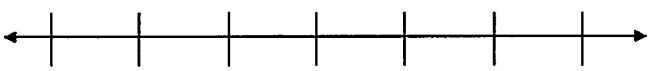


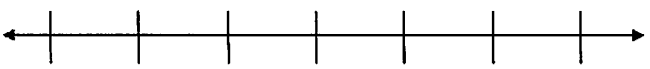


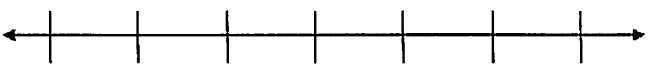












Solving Inequalities Workspace Name _____

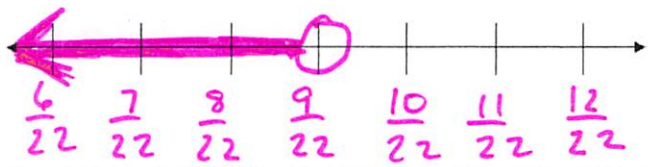
$13x < 9(1-x)$

$13x < 9 - 9x$

$+9x \quad +9x$

$\frac{22x}{22} < \frac{9}{22}$

$\boxed{x < \frac{9}{22}}$



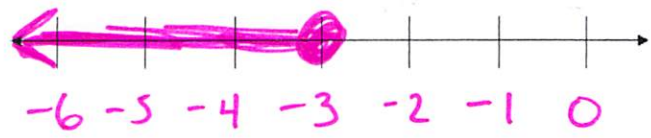
$15 \leq 5 - 8m - 14$

$15 \leq -8m - 9$

$+9 \quad +9$

$\frac{24}{-8} \leq \frac{-8m}{-8}$

$\boxed{-3 \geq m}$



$b^2 + 3(b-1) \geq b^2 + 5$

$-b^2 \qquad -b^2$

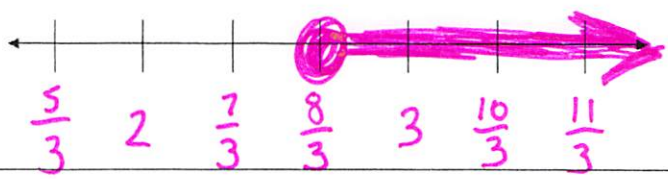
$3(b-1) \geq 5$

$3b - 3 \geq 5$

$+3 \quad +3$

$\frac{3b}{3} \geq \frac{8}{3}$

$\boxed{b \geq \frac{8}{3}}$



$2(x+2) - 3x \geq -1$

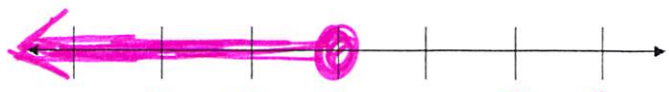
$2x + 4 - 3x \geq -1$

$-x + 4 \geq -1$

$-4 \quad -4$

$\frac{-x}{-1} \leq \frac{-5}{-1}$

$\boxed{x \leq 5}$



$$-3(4-m) \geq 2(-14+4m)$$

$$-12+3m \geq -28+8m$$

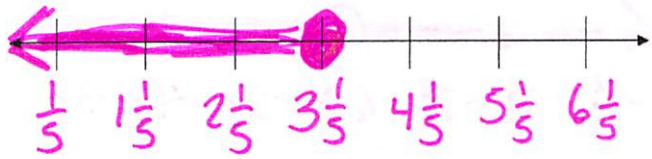
$$-3m \qquad -3m$$

$$-12 \geq -28+5m$$

$$+28 \qquad +28$$

$$\frac{16}{5} \geq \frac{5m}{5}$$

$$3\frac{1}{5} \geq m$$



$$\frac{4}{1}\left(\frac{3}{4}(x+2)\right) < \left(6(x+12)\right)\frac{4}{1}$$

$$3(x+2) < 24(x+12)$$

$$3x+6 < 24x+288$$

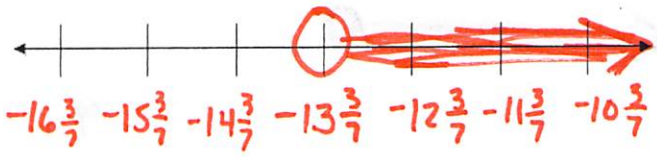
$$-6 \qquad\qquad -6$$

$$3x < 24x+282$$

$$-24x \qquad -24x$$

$$\frac{-21x}{-21} < \frac{282}{-21}$$

$$x > -13\frac{3}{7}$$



$$\frac{24}{1}\left(\frac{1}{2}n-\frac{1}{8}\right) \geq \left(\frac{3}{4}+\frac{5}{6}n\right)\frac{24}{1}$$

$$12n-3 \geq 18+20n$$

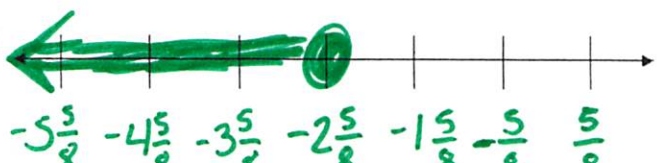
$$-12n \qquad\qquad -12n$$

$$-3 \geq 18+8n$$

$$-18 \qquad -18$$

$$\frac{-21}{8} \geq \frac{8n}{8}$$

$$-2\frac{5}{8} \geq n$$



$$-2(0.5-4s) \geq -3(4-3.5s)$$

$$-1+8s \geq -12+10.5s$$

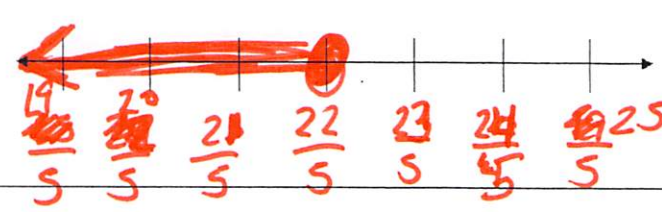
$$-8s \qquad\qquad -8s$$

$$-1 \geq -12+2.5s$$

$$+12 \qquad +12$$

$$\frac{11}{2.5} \geq \frac{2.5s}{2.5}$$

$$\frac{22}{5} \geq s$$



$5x - \frac{1}{2}(3x+8) \leq -4 + 3x$

$\frac{2}{1}\left(5x - \frac{3}{2}x - 4\right) \leq (-4 + 3x)\frac{2}{1}$

$10x - 3x - 8 \leq -8 + 6x$

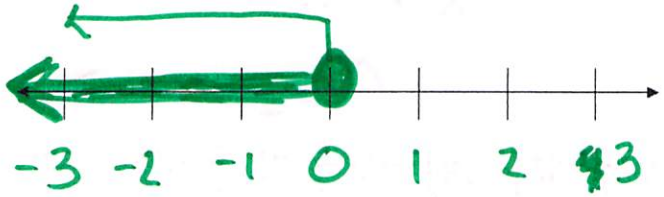
$7x - 8 \leq -8 + 6x$

$+8 \quad +8$

$7x \leq 6x$

$-6x \quad -6x$

$x \leq 0$



$5a - 2(a - 15) < 10$

$5a - 2a + 30 < 10$

$3a + 30 < 10$

$-30 \quad -30$

$\frac{3a}{3} < \frac{-20}{3}$

$a < -6\frac{2}{3}$