

NAME \_\_\_\_\_

DATE \_\_\_\_\_

SOLVE INEQUALITIES: Worksheet 1

Solve each inequality.

1)  $-8x < 40$

2)  $5y \geq -20$

3)  $-6w \leq -18$

4)  $-x > 140$

5)  $-r + 3 \leq 7$

6)  $-3w - 2 < 22$

7)  $-3(x - 2) \geq 12$

8)  $2(-2y - 1) < -38$

9)  $5(w + 2) - 8w > 19$

10)  $2(t + 9) + 3(-4t - 6) \leq -60$

KEY  
SOLVE INEQUALITIES: Worksheet 1

Solve each inequality.

1)  $-8x < 40$

$$\begin{aligned} -8x &< 40 \\ \frac{-8x}{-8} &< \frac{40}{-8} \\ x &> -5 \end{aligned}$$

2)  $5y \geq -20$

$$\begin{aligned} 5y &\geq -20 \\ \frac{5y}{5} &\geq \frac{-20}{5} \\ y &\geq -4 \end{aligned}$$

3)  $-6w \leq -18$

$$\begin{aligned} -6w &\leq -18 \\ \frac{-6w}{-6} &\leq \frac{-18}{-6} \\ w &\geq 3 \end{aligned}$$

4)  $-x > 140$

$$\begin{aligned} -x &> 140 \\ \frac{-x}{-1} &> \frac{140}{-1} \\ x &< -140 \end{aligned}$$

5)  $-r + 3 \leq 7$

$$\begin{aligned} -r + 3 &\leq 7 \\ -r + 3 - 3 &\leq 7 - 3 \\ -r &\leq 4 \\ \frac{-r}{-1} &\leq \frac{4}{-1} \\ r &\geq -4 \end{aligned}$$

6)  $-3w - 2 < 22$

$$\begin{aligned} -3w - 2 &< 22 \\ -3w - 2 + 2 &< 22 + 2 \\ -3w &< 24 \\ \frac{-3w}{-3} &< \frac{24}{-3} \\ w &> -8 \end{aligned}$$

7)  $-3(x - 2) \geq 12$

$$\begin{aligned} -3(x - 2) &\geq 12 \\ -3x + 6 &\geq 12 \\ -3x + 6 - 6 &\geq 12 - 6 \\ -3x &\geq 6 \\ \frac{-3x}{-3} &\geq \frac{6}{-3} \\ x &\leq -2 \end{aligned}$$

8)  $2(-2y - 1) < -38$

$$\begin{aligned} 2(-2y - 1) &< -38 \\ -4y - 2 &< -38 \\ -4y - 2 + 2 &< -38 + 2 \\ -4y &< -36 \\ \frac{-4y}{-4} &< \frac{-36}{-4} \\ y &> 9 \end{aligned}$$

9)  $5(w + 2) - 8w > 19$

$$\begin{aligned} 5(w + 2) - 8w &> 19 \\ 5w + 10 - 8w &> 19 \\ -3w + 10 &> 19 \\ -3w + 10 - 10 &> 19 - 10 \\ -3w &> 9 \\ \frac{-3w}{-3} &> \frac{9}{-3} \\ w &< -3 \end{aligned}$$

10)  $2(t + 9) + 3(-4t - 6) \leq -60$

$$\begin{aligned} 2(t + 9) + 3(-4t - 6) &\leq -60 \\ 2t + 18 - 12t - 18 &\leq -60 \\ -10t &\leq -60 \\ \frac{-10t}{-10} &\leq \frac{-60}{-10} \\ t &\geq 6 \end{aligned}$$