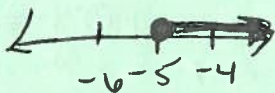


Practice 1-4

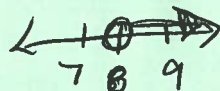
Solving Inequalities

Solve each inequality. Graph the solutions.

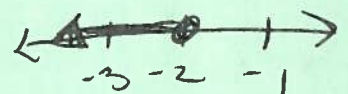
$$\begin{aligned} 1. \quad & 16 - 4t \leq 36 \\ & \underline{-16 \quad -16} \\ & -4t \leq 20 \\ & \underline{-4 \quad -4} \\ & t \geq -5 \end{aligned}$$



$$\begin{aligned} 2. \quad & 2(m+3) + 1 > 23 \\ & 2(m+3) > 22 \\ & m+3 > 11 \\ & \underline{-3 \quad -3} \\ & m > 8 \end{aligned}$$



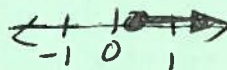
$$\begin{aligned} 3. \quad & 7 + 13(x+1) \leq 3x \\ & \underline{-7 \quad -7} \\ & 7 + 13x + 13 \leq 3x \\ & \underline{-3x \quad -3x} \\ & 10x + 20 \leq 0 \\ & 10x \leq -20 \\ & x \leq -2 \end{aligned}$$



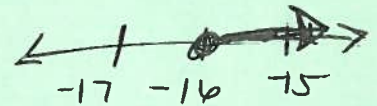
$$\begin{aligned} 4. \quad & 8(x-5) \geq 56 \\ & \underline{8 \quad 8} \\ & x-5 \geq 7 \\ & x \geq 12 \end{aligned}$$



$$\begin{aligned} 5. \quad & 6 - x \leq 7x + 8 \\ & \underline{-3 \quad -3} \quad \underline{+x \quad +x} \quad \underline{8 \quad 8} \\ & 3 \leq 8x \\ & \underline{8 \quad 8} \\ & \frac{3}{8} \leq x \\ & x \geq \frac{3}{8} \end{aligned}$$

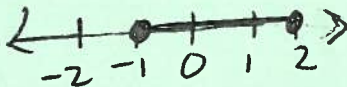


$$\begin{aligned} 6. \quad & 10 - x \geq -2(3+x) \\ & 10 - x \geq -6 - 2x \\ & \underline{-2x \quad -2x} \quad \underline{+2x \quad +2x} \\ & 10 + x \geq -6 \\ & \underline{-10 \quad -10} \\ & x \geq -16 \end{aligned}$$

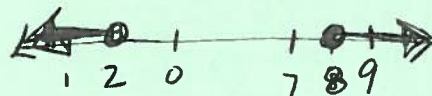


Solve each compound inequality. Graph the solutions.

$$\begin{aligned} 7. \quad & 3x - 5 \geq -8 \quad \text{and} \quad 3x - 5 \leq 1 \\ & \underline{+5 \quad +5} \quad \underline{+5 \quad +5} \\ & 3x \geq -3 \quad \quad \quad 3x \leq 6 \\ & x \geq -1 \quad \quad \quad x \leq 2 \end{aligned}$$



$$\begin{aligned} 8. \quad & 16x \leq 32 \quad \text{or} \quad -5x \leq -40 \\ & \underline{16 \quad 16} \quad \underline{-5 \quad -5} \\ & x \leq 2 \quad \quad \quad x \geq 8 \end{aligned}$$



$$\begin{aligned} 9. \quad & \frac{9x}{9} < \frac{54}{9} \quad \text{and} \quad \frac{-4x}{-4} < \frac{12}{-4} \\ & x < 6 \quad \quad \quad x > -3 \end{aligned}$$



$$\begin{aligned} 10. \quad & 6(x+2) \geq 24 \quad \text{or} \quad 5x + 10 \leq 15 \\ & \underline{6x+12 \geq 24} \quad \underline{-10 \quad -10} \\ & \underline{-12 \quad -12} \quad \quad \quad 5x \leq 5 \\ & 6x \geq 12 \quad \quad \quad x \leq 1 \\ & \underline{6 \quad 6} \\ & x \geq 2 \end{aligned}$$



Solve each compound inequality. Graph the solutions.

11. $14 > 3x - 1 \geq -10$

$$\begin{array}{r} 14 > 3x - 1 \\ +1 & +1 \\ \hline \end{array}$$

$$\begin{array}{r} 15 > 3x \\ \frac{15}{3} > \frac{3x}{3} \\ 5 > x \end{array}$$

$$5 > x$$

$$x < 5$$

$$\begin{array}{r} 3x - 1 \geq -10 \\ +1 & +1 \\ \hline \end{array}$$

$$\begin{array}{r} 3x \geq -9 \\ \frac{3x}{3} \geq \frac{-9}{3} \end{array}$$

$$x \geq -3$$



12. $\frac{2(x-1)}{2} < \frac{-4}{2}$ or $\frac{2(x-1)}{2} > \frac{4}{2}$

$$\begin{array}{r} x - 1 < -2 \\ +1 & +1 \\ \hline \end{array}$$

$$x < -1$$

$$\begin{array}{r} x - 1 > 2 \\ +1 & +1 \\ \hline \end{array}$$

$$x > 3$$

