

Solve each inequality, and graph the solution on a number line. Express your answer using interval notation as well.

$$11. \begin{array}{r} 4x+3 \geq -2x-3 \\ +2x-3 \quad +2x-3 \\ \hline \end{array}$$

$$\frac{6x}{6} \geq \frac{-6}{6}$$

$$x \geq -1$$

$$[-1, \infty)$$



$$12. \begin{array}{r} 5-7t > 8-4t \\ -8+7t \quad -8+7t \\ \hline \end{array}$$

$$\frac{-3}{3} > \frac{3t}{3}$$

$$-1 > t$$

$$(-\infty, -1)$$



$$13. \begin{array}{r} -2x+5 \geq 3 \text{ and } x-5 > -12 \\ -5 \quad -5 \quad \quad +5 \quad +5 \\ \hline \end{array}$$

$$\frac{-2x}{-2} \geq \frac{-2}{-2}$$

$$x \leq 1 \quad \& \quad x > -7$$



$$(-7, 1]$$

compound inequality

$$14. \begin{array}{r} -2x+5 \geq 3 \text{ and } x-5 > 12 \\ -5 \quad -5 \quad \quad +5 \quad +5 \\ \hline \end{array}$$

$$-2x \geq -2$$

$$x > 17$$

$$x \leq 1 \quad \& \quad x > 17$$

no solution



$$15. \begin{array}{r} \frac{2p}{2} \leq \frac{5}{2} \text{ or } 7p+1 > 36 \\ -1 \quad -1 \\ \hline \end{array}$$

$$p \leq 5/2$$

$$7p > 35$$

$$\text{or } p > 5$$



$$(-\infty, 5/2] \cup (5, \infty)$$

$$16. \begin{array}{r} 3p-5 \leq 1 \text{ or } 6 > -2p+4 \\ +5 \quad \quad -4 \\ \hline \end{array}$$

$$3p \leq 6$$

$$2 > -2p$$

$$p \leq 2 \quad \text{or} \quad -1 < p$$



$$(-\infty, \infty)$$

all real numbers

$$17. \begin{array}{r} \frac{4m}{3} + 5 > 2 \text{ and } 4 \leq -2(m-3) - 7 \\ -5 \quad -5 \\ \hline \end{array}$$

$$\frac{4m}{3} > -3$$

$$11 \leq -2(m-3)$$

$$11 \leq -2m+6$$

$$5 \leq -2m$$

$$4m > -9$$

$$m > -9/4$$

$$\& \quad -\frac{5}{2} \geq m$$



no solution