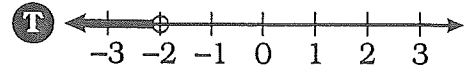
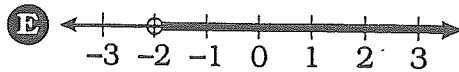
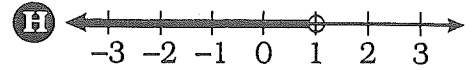
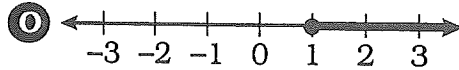
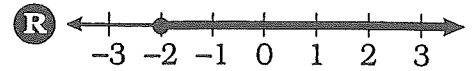
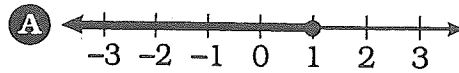


# Where Do Airline Pilots Keep Their Uniforms?

✈ For each exercise, write the letter of the answer in the box containing the exercise number.

In Exercises 1-6, match the inequality with its graph.

- H** 1  $x < 1$   
**A** 2  $x \leq 1$   
**E** 3  $x > -2$   
**R** 4  $x \geq -2$   
**T** 5  $-2 > x$   
**D** 6  $1 \leq x$



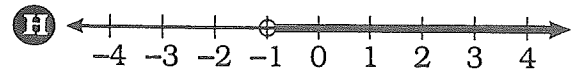
In Exercises 7-18, solve the inequality. Then graph the solution.

**I** 7  $4n + 1 < 9$   

$$\begin{array}{r} -1 \quad -1 \\ 4n < 8 \\ \hline \frac{4n}{4} < \frac{8}{4} \\ n < 2 \end{array}$$

**E** 8  $7a - 2 \geq 5$   

$$\begin{array}{r} +2 \quad +2 \\ 7a \geq 7 \\ \hline \frac{7a}{7} \geq \frac{7}{7} \\ a \geq 1 \end{array}$$

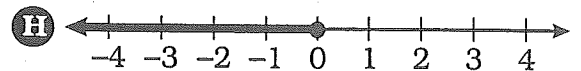
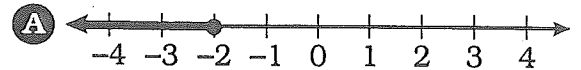


**A** 9  $3y + 10 \leq 4$   

$$\begin{array}{r} -10 \quad -10 \\ 3y \leq -6 \\ \hline \frac{3y}{3} \leq \frac{-6}{3} \\ y \leq -2 \end{array}$$

**C** 10  $8k - 3 > -27$   

$$\begin{array}{r} +3 \quad +3 \\ 8k > -24 \\ \hline \frac{8k}{8} > \frac{-24}{8} \\ k > -3 \end{array}$$

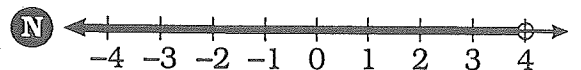
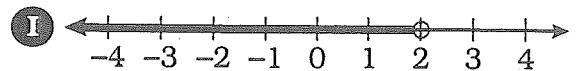


**N** 11  $\frac{x}{2} + 9 < 11$   

$$\begin{array}{r} -9 \quad -9 \\ \frac{x}{2} < 2 \\ \hline 2 \left[ \frac{x}{2} < 2 \right] \\ x < 4 \end{array}$$

**S** 12  $\frac{d}{6} - 4 \geq -5$   

$$\begin{array}{r} +4 \quad +4 \\ \frac{d}{6} \geq -1 \\ \hline 6 \left[ \frac{d}{6} \geq -1 \right] \\ d \geq -6 \end{array}$$

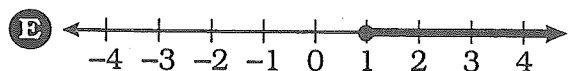
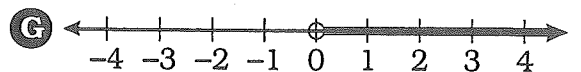


**H** 13  $\frac{u}{15} - 2 \leq -2$   

$$\begin{array}{r} +2 \quad +2 \\ \frac{u}{15} \leq 0 \\ \hline 15 \left[ \frac{u}{15} \leq 0 \right] \\ u \leq 0 \end{array}$$

**N** 14  $5p - 14 < 26$   

$$\begin{array}{r} +14 \quad +14 \\ 5p < 40 \\ \hline \frac{5p}{5} < \frac{40}{5} \\ p < 8 \end{array}$$

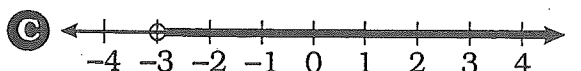
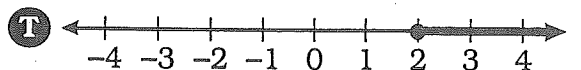


**T** 15  $18 \leq 7b + 4$   

$$\begin{array}{r} -4 \quad -4 \\ 14 \leq 7b \\ \hline \frac{14}{7} \leq \frac{7b}{7} \\ 2 \leq b \end{array}$$

**H** 16  $-9 < 12y + 3$   

$$\begin{array}{r} -3 \quad -3 \\ -12 < 12y \\ \hline \frac{-12}{12} < \frac{12y}{12} \\ -1 < y \end{array}$$

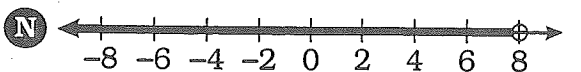
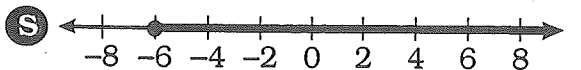
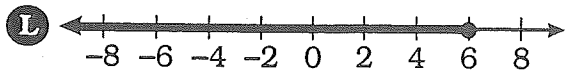


**L** 17  $-14 \geq \frac{x}{3} - 16$   

$$\begin{array}{r} +16 \quad +16 \\ 2 \geq \frac{x}{3} \\ \hline 3 \left[ 2 \geq \frac{x}{3} \right] \\ 6 \geq x \end{array}$$

**G** 18  $5 < \frac{m}{8} + 5$   

$$\begin{array}{r} -5 \quad -5 \\ 0 < \frac{m}{8} \\ \hline 8 \left[ 0 < \frac{m}{8} \right] \\ 0 < m \end{array}$$



7 11 5 13 3 10 17 6 15 1 8 12 16 2 14 18 9 4  
**I N T H E C L O T H E S H A N G A R**

## Variables and Equations

### Solving Inequalities with Variables on Both Sides

$$-10x + > 4x - 42$$

$$-10x + 10x > 4x + 10x - 42$$

$$0 > 14x - 42$$

$$42 > 14x - 42 + 42$$

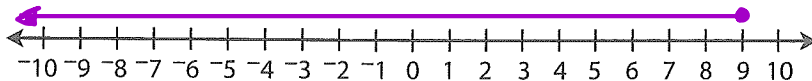
$$42 > 14x$$

$$x < 3$$

Solve each inequality and graph its solution set.

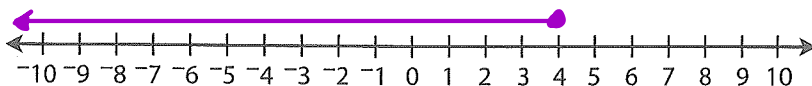
1.  $7m + 9 \leq 6(m + 3)$

$$\begin{array}{r} 7m + 9 \leq 6m + 18 \\ -6m \quad -6m \\ \hline m + 9 \leq 18 \\ -9 \quad -9 \\ \hline m \leq 9 \end{array}$$



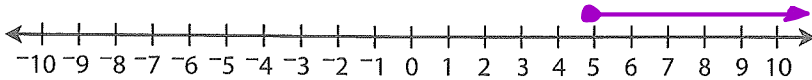
2.  $3(2x + 4) \geq 7x + 8$

$$\begin{array}{r} 6x + 12 \geq 7x + 8 \\ -6x \quad -6x \\ \hline 12 \geq x + 8 \\ -8 \quad -8 \\ \hline 4 \geq x \end{array}$$



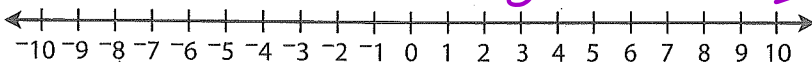
3.  $2(k + 4) \leq 3(2k - 4)$

$$\begin{array}{r} 2k + 8 \leq 6k - 12 \\ -2k \quad -2k \\ \hline 8 \leq 4k - 12 \\ +12 \quad +12 \\ \hline 20 \leq 4k \\ \frac{20}{4} \leq \frac{4k}{4} \\ 5 \leq k \end{array}$$



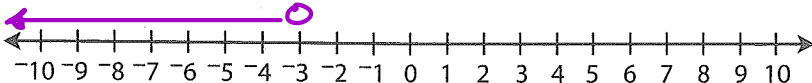
4.  $5x + (-3) > 2(3 + x)$

$$\begin{array}{r} 5x - 3 > 6 + 2x \\ -2x \quad -2x \\ \hline 3x - 3 > 6 \\ +3 \quad +3 \\ \hline 3x > 9 \\ \frac{3x}{3} > \frac{9}{3} \\ x > 3 \end{array}$$



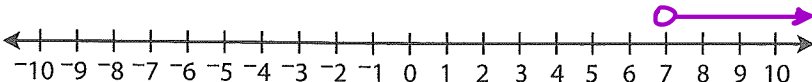
5.  $5c + 2 < 2c + (-7)$

$$\begin{array}{r} 5c + 2 < 2c - 7 \\ -2c \quad -2c \\ \hline 3c + 2 < -7 \\ -2 \quad -2 \\ \hline 3c < -9 \\ \frac{3c}{3} < \frac{-9}{3} \\ c < -3 \end{array}$$



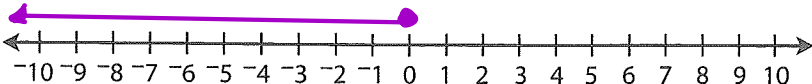
6.  $5x - 20 > 2x + 1$

$$\begin{array}{r} 5x - 20 > 2x + 1 \\ -2x \quad -2x \\ \hline 3x - 20 > 1 \\ +20 \quad +20 \\ \hline 3x > 21 \\ \frac{3x}{3} > \frac{21}{3} \\ x > 7 \end{array}$$



7.  $3(s - 4) \geq 4s - 12$

$$\begin{array}{r} 3s - 12 \geq 4s - 12 \\ -3s \quad -3s \\ \hline -12 \geq s - 12 \\ +12 \quad +12 \\ \hline 0 \geq s \end{array}$$



8.  $-9 - e > 3e + 11$

$$\begin{array}{r} -9 - e > 3e + 11 \\ +e \quad +e \\ \hline -9 > 4e + 11 \\ -11 \quad -11 \\ \hline -20 > 4e \\ \frac{-20}{4} > \frac{4e}{4} \\ -5 > e \end{array}$$

