

Use $<$, $>$, or $=$ to compare.

1. $4 ? 4$

2. $7 ? -2$

3. $-5 ? 4$

4. $4 ? -3$

5. $3 ? -6$

6. $4 ? -1$

Solve the equation. Check your solution.

1. $16 + x = 5x$

2. $4p + 10 = p - 14$

3. $4t - 17 = 5 + 6t$

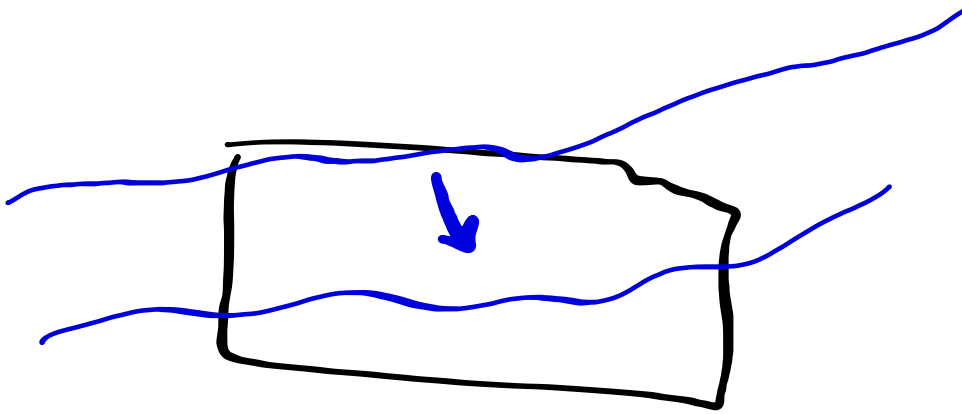
4. $-4r - 11 = 14r + 9$

5. $8 - 2x + 13x = x - 2$

6. $-w + 3 - w = 7 - 4w$

Essential Question

How can you use an inequality to describe a real-life statement?



$$w - 3.5 \leq -2$$

b. Three is less than a number n plus 5.

$$3 < n + 5$$

c. Zero is greater than or equal to twice a number x plus 1.

$$0 \geq 2x + 1$$

Write the sentence as an inequality.

1. A number b is fewer than 30.4.

$$b < 30.4$$

2. $-\frac{7}{10}$ is at least twice a number k minus 4.

$$-\frac{7}{10} \geq 2k - 4$$

Tell whether -4 is a solution of each inequality.

a. $x + 8 < -3$

$$\begin{aligned} -4 + 8 &< -3 \\ \cdot \quad & \boxed{4 < -3} \end{aligned}$$

-4 is not a solution

b. $-4.5x > -21$

$$\begin{aligned} -4.5(-4) &> -21 \\ 18 &> -21 \end{aligned}$$

Tell whether -6 is a solution of the inequality.

3. $c + 4 < -1$

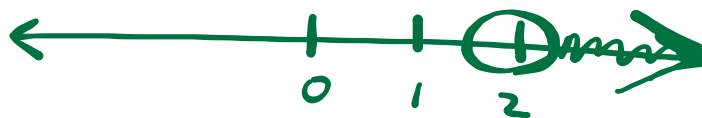
4. $10 \leq 3 - m$

5. $21 \div x \geq -3.5$

6. $4x - 25 > -2$

Graph each inequality.

a. $y \leq -3$



b. $2 < x$

$x > 2$



c. $x > 0$

Graph the inequality.

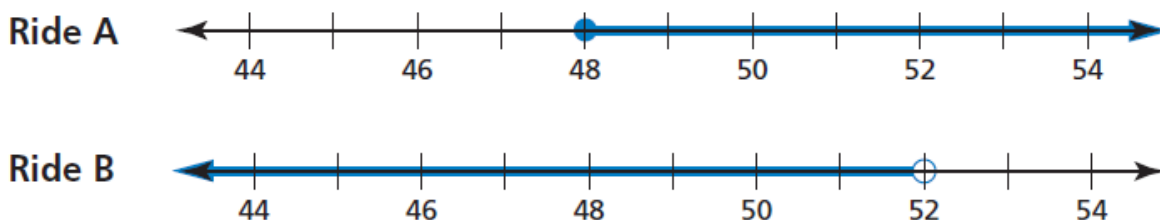
7. $b > -8$

8. $1.4 \geq g$

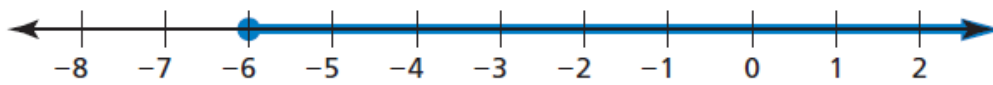
9. $r < 1 - 2$

10. $v \geq \sqrt{36}$

The graphs show the height restrictions h (in inches) for two rides at an amusement park. Write an inequality that represents the height restriction of each ride.



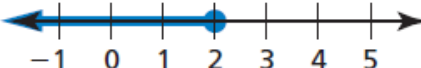
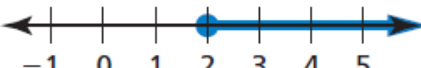


11. Write an inequality that represents the graph.



Concept Summary

Representing Linear Inequalities

Words	Algebra	Graph
x is less than 2	$x < 2$	 A number line from -1 to 5 with tick marks at every integer. An open circle is drawn at 2, and a blue arrow points to the left from this circle, passing through 1, 0, and -1.
x is greater than 2	$x > 2$	 A number line from -1 to 5 with tick marks at every integer. An open circle is drawn at 2, and a blue arrow points to the right from this circle, passing through 3, 4, and 5.
x is less than or equal to 2	$x \leq 2$	 A number line from -1 to 5 with tick marks at every integer. A closed circle is drawn at 2, and a blue arrow points to the left from this circle, passing through 1, 0, and -1.
x is greater than or equal to 2	$x \geq 2$	 A number line from -1 to 5 with tick marks at every integer. A closed circle is drawn at 2, and a blue arrow points to the right from this circle, passing through 3, 4, and 5.

Explain how to graph the inequality $x > -2$ to someone you are speaking to on the phone.