

Lesson 8-5 • Apply Day

Reinforce Understanding

Testing Solutions

I can graph the solutions of an inequality on a number line.

Worked model

A rocket club launches only when the wind speed is less than 14 miles per hour. Test and graph.

1. Write the inequality: let s = the wind speed, so $s < 14$.
2. Substitute 11: the statement $11 < 14$ is true, so 11 is a solution.
3. Substitute the boundary 14: the statement $14 < 14$ is false, so it is not a solution.
4. Graph it: an OPEN dot at 14 and an arrow pointing left toward slower speeds.

Answer: $s < 14$: open dot at 14 with an arrow left; 11 is a solution and 14 is not.

Practice

Complete each exercise. Show the reasoning that supports your answer.

1. Solve and graph the new inequality $x > 5$.

Complete each step, then write the final answer.

1. The boundary value is ____.
2. Use the symbol ____.
3. Write the inequality: ____.

Answer: _____

2. Solve and graph the new inequality $x \leq 6$.

Complete each step, then write the final answer.

1. The boundary value is ____.
2. Use the symbol ____.
3. Write the inequality: ____.

Answer: _____

3. Solve and graph the new inequality $x > 7$.

Complete each step, then write the final answer.

1. The boundary value is ____.
2. Use the symbol ____.
3. Write the inequality: ____.

Answer: _____