

Lesson 8-4 • Apply Day

Reinforce Understanding

Representing Inequalities

I can write inequalities to represent real-world situations.

Worked model

A backpack rule says a student may carry no more than 15 pounds. Show the weights that are allowed.

1. Name the variable: let w = the pounds in a student's backpack.
2. The phrase 'no more than' allows 15 itself and every weight below it.
3. That phrase matches $\leq$, so write $w \leq 15$.
4. Draw a number line near 15 and plot 15, 12, and 9 — each one is allowed.

Answer: $w \leq 15$, so any weight of 15 pounds or less is a solution.

Practice

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

1. Write an inequality: x is greater than 5.

Complete each step, then write the final answer.

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

Answer: _____

2. Write an inequality: x is at most 6.

Complete each step, then write the final answer.

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

Answer: _____

3. Write an inequality: x is greater than 7.

Complete each step, then write the final answer.

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

Answer: _____