



Writing & solving inequalities

GRADE 7 MATH

Name _____

Date _____

Work in order. Give the solution set, then test one value inside it and one outside. One skill: **writing and solving inequalities**.

WORKED EXAMPLE

Solve like an equation. Multiplying or dividing by a **negative reverses** the inequality — confirm it by testing rather than trusting memory. Adding or subtracting a negative does **not** reverse anything. Symbols with a line ($\leq$, $\geq$) include the boundary.

1. Solve $2x + 5 > 13$.

FLUENCY

Show your thinking

Answer

2. Test $x = 5$ in the original inequality.

FLUENCY

Show your thinking

Answer

3. Test $x = 4$ in the original inequality. What does this tell you about the boundary?

REASONING

Show your thinking

Answer

4. Solve $-3x < 9$.

APPLICATION

Show your thinking

Answer

5. Test $x = 0$ in $-3x < 9$.

APPLICATION

Show your thinking

Answer

6. Test $x = -4$ in $-3x < 9$.

APPLICATION

Show your thinking

Answer

7. Using your two tests, state the solution set and explain how the tests confirm the direction.

REASONING

Show your thinking

Answer

8. Solve $4x - 1 \geq 11$.

APPLICATION

Show your thinking

Answer

9. A student solves $-3x < 9$ by adding $3x$ to both sides instead of dividing. Show that route and explain why no flip was needed.

REASONING

Show your thinking

Answer