Answers and talk notes

Solve and Graph Inequalities

What your student is learning

Tonight we solve an inequality and then graph it. We get the letter alone the same way as an equation, but the answer is a range of values.

Answers

Ask your student to explain before you look.

1. **B.** x > 4. x > 4, because 7 − 3 = 4.
2. **C.** y ≤ 7. y ≤ 7, because 5 + 2 = 7.
3. **A.** n ≥ 5. n ≥ 5, because 20 ÷ 4 = 5.
4. **D.** m < 12. m < 12, because 4 × 3 = 12.
5. **B.** Closed circle at 4, shade right. Closed circle at 4, shade right, because x ≥ 4.
6. **C.** r ≥ 4. r ≥ 4, because 10 − 6 = 4, so she needs 4 feet or more.

Talk about it

What did you do to both sides? Why does the answer show many numbers, not just one?

Home mission

Stick 3 notes on the fridge as sold tickets. Say: "We need more than 53 tickets in all." How many more must we sell? Write x + 3 > 53, solve it, and test one number that works.

When they are stuck, ask

- What is being added or subtracted? Use the opposite to get x alone.
- Look at the symbol now: does it include the boundary number — open or closed circle?
- Let's substitute a number from the shaded side to check it is true.

Try not to say

- The answer to an inequality is one number, like an equation.
- Use a closed circle for every inequality.
- You don't need to check by substituting a value.