Answers and talk notes

Ratio Reasoning: Convert Measurements within the Same System

What your student is learning

Tonight we convert one measurement unit into another within the same system, like feet into inches, using a unit ratio.

Answers

Ask your student to explain before you look.

1. **B.** 1 foot = 12 inches. 1 foot = 12 inches is the correct conversion factor.
2. **C.** 48. 4 × 12 = 48, so 4 feet = 48 inches.
3. **D.** 9. 1 yard = 3 feet, so 3 yards = 3 × 3 = 9 feet.
4. **A.** 3. 48 ÷ 16 = 3, so 48 ounces = 3 pounds.
5. **A.** Multiply by 12, because inches are smaller. Multiply by 12, because inches are smaller, so there are more inches than feet.

Talk about it

Will the number of inches be bigger or smaller than the number of feet, and why?

Home mission

Find a ruler that is one foot long. Say the ride rule: riders must be at least 44 inches tall. A cousin is 3 feet tall. Can the cousin ride? Ask your student which unit changed and why they multiplied.

When they are stuck, ask

- Are we changing to a smaller unit or a bigger unit?
- Smaller unit means more pieces, so do we multiply or divide?
- What is the conversion factor between these two units?

Try not to say

- Always multiply when you convert units.
- The number stays the same, only the unit name changes.
- Just guess whether to multiply or divide.