Answers and talk notes

Volume of Rectangular Prisms

What your student is learning

Tonight we find the volume of a box even when one edge is a fraction or a decimal, like 1.5. The rule does not change: multiply length × width × height.

Answers

Ask your student to explain before you look.

1. **B.** 12. 12: the base area is 4 × 3 = 12.
2. **C.** 30 cm^3. 30 cm^3: 10 × 3 = 30.
3. **D.** 12 cubic ft. 12 cubic ft: the base area is 4 × 2 = 8, and 8 × 1.5 = 12.
4. **A.** 12 in^3. 12 in^3: the base area is 6 × 4 = 24, and 24 × 1/2 = 12.
5. **C.** 30 m^3. 30 m^3: 12 × 2.5 = 30.
6. **B.** 3 cubic ft. 3 cubic ft: the base area is 2 × 1 = 2, and 2 × 1.5 = 3.

Talk about it

What is the base area, and what do you multiply it by to get the volume?

Home mission

Find a shoebox or a snack box. Measure each edge to the nearest half unit, like 7.5. Multiply the three edges out loud. Does a half change the steps?

When they are stuck, ask

- What are the three dimensions of the box?
- Does a fraction or decimal change the rule? No — we still multiply.
- What does 0.5 (or one half) mean here?

Try not to say

- Just skip the fraction edge.
- Add the edges instead of multiplying them.
- A decimal edge makes the volume bigger.