Answers and talk notes

Represent Three-Dimensional Figures in Two Dimensions

What your student is learning

Tonight we find the surface area of a box — how much paper it takes to cover the outside. We unfold the box into a flat net and add up all six faces.

Answers

Ask your student to explain before you look.

1. **B.** 6. A rectangular box has 6 faces: top, bottom, front, back and two sides.
2. **A.** A flat pattern that folds into a solid. A flat pattern that folds into a solid is called a net.
3. **C.** 10 cm^2. 10 cm^2: 5 × 2 = 10.
4. **D.** 52 square units. 52 square units: 12 + 12 + 8 + 8 + 6 + 6 = 52.
5. **B.** 54 cm^2. 54 cm^2: one face is 3 × 3 = 9, and 6 × 9 = 54.

Talk about it

How many faces does your box have, and which faces match each other?

Home mission

Open an empty cereal box flat along its seams. Count the faces. Which faces match? Can your student fold it back and say why the box has 6 faces?

When they are stuck, ask

- How many faces does the box have? Let's find each one.
- Each face has a matching face. Did we double every pair?
- What units should the answer have — square or cubic?

Try not to say

- Just multiply the three edges together.
- A box only has 5 faces, so count five.
- You only need to count one face from each pair.