Same area. Different fence.

Years 4–6; rectangular arrays and length units

1. Rectangle A is 2 units by 12 units. Rectangle B is 4 units by 6 units. Find each area and perimeter. Label the units.

2. Draw a 3-by-8 rectangle on squared paper. Find its area and perimeter. Compare it with A and B.

3. List all different rectangles with whole-number side lengths and area 24 square units. Count a rotated rectangle only once.

Try it. Explain it. Check it.

4. A 1-by-9 rectangle and a 4-by-6 rectangle both have perimeter 20 units. Do they have the same area? Show why.

5. “If two rectangles have the same area, they have the same perimeter.” Use your results to respond.

6. A garden is 4 m by 6 m. How much fence goes around all four sides, with no gate? How much ground does it cover?

Answers and teaching notes

1. A: area 24 square units, perimeter 28 units. B: area 24, perimeter 20.

2. Area 24; perimeter 22. Same area as A/B, different perimeter from both.

3. 1×24, 2×12, 3×8, 4×6. Perimeters 50, 28, 22, 20 units respectively.

4. Areas are 9 and 24 square units. Equal perimeter does not require equal area.

5. False. A and B give a counterexample: area 24 for both, but perimeters 28 and 20.

6. Fence 20 m; ground 24 m². No extra allowance for joins or a gate is included.

What to ask next

Ask pupils to invent another counterexample. Keep rectangles and units explicit before considering composite shapes.

Original SkillFlex activity prepared with AI assistance and editorial checks. Not classroom-trialled. Adapt to your pupils; suggested years are flexible.