

Geometry Puzzles

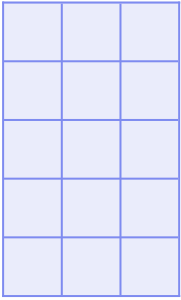
Advanced — ANSWER KEY

Cutting and joining shapes.

Think: After a cut or a join, re-trace the outside edge slowly — count every side once.

1. Answers with the thinking.

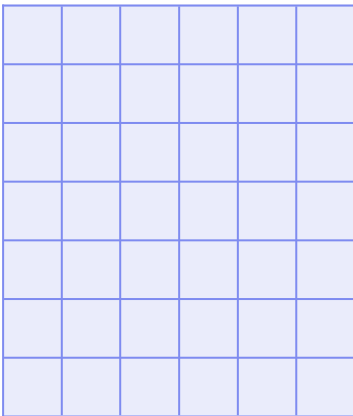
- 1) A 3×3 rectangle and a 2×3 rectangle are joined along their full 3-cm edges to make this shape. What is its PERIMETER, in cm?



Answer: 16

↳ it forms a 5×3 rectangle: $2 \times (5 + 3)$

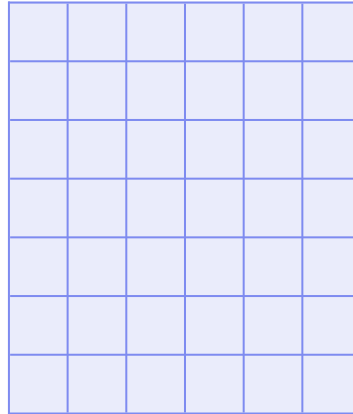
- 3) A 3×6 rectangle and a 4×6 rectangle are joined along their full 6-cm edges to make this shape. What is its PERIMETER, in cm?



Answer: 26

↳ it forms a 7×6 rectangle: $2 \times (7 + 6)$

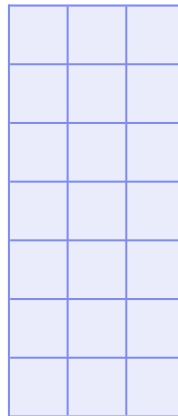
- 2) A 4×6 rectangle and a 3×6 rectangle are joined along their full 6-cm edges to make this shape. What is its PERIMETER, in cm?



Answer: 26

↳ it forms a 7×6 rectangle: $2 \times (7 + 6)$

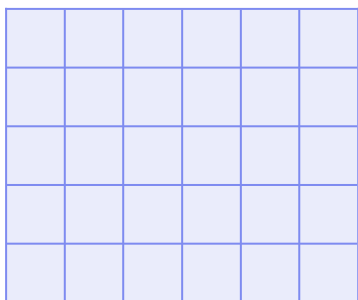
- 4) A 4×3 rectangle and a 3×3 rectangle are joined along their full 3-cm edges to make this shape. What is its PERIMETER, in cm?



Answer: 20

↳ it forms a 7×3 rectangle: $2 \times (7 + 3)$

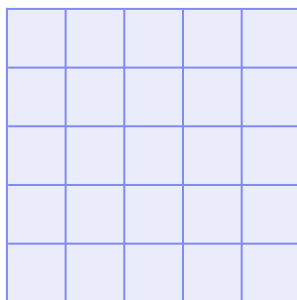
5) This 5×6 rectangle is cut into two equal pieces by one straight vertical cut. What is the PERIMETER of ONE piece, in cm?



Answer: **16**

↳ each piece is 5×3: $2 \times (5 + 3)$

6) A 3×5 rectangle and a 2×5 rectangle are joined along their full 5-cm edges to make this shape. What is its PERIMETER, in cm?



Answer: **20**

↳ it forms a 5×5 rectangle: $2 \times (5 + 5)$