Creating designs

6 questions | 10 marks

Equivalent correct methods earn the corresponding marks.

1. A six-column grid is reflected across the middle vertical line. Which column matches column 2? [1 mark]

The pairs are 1 with 6, 2 with 5, and 3 with 4.

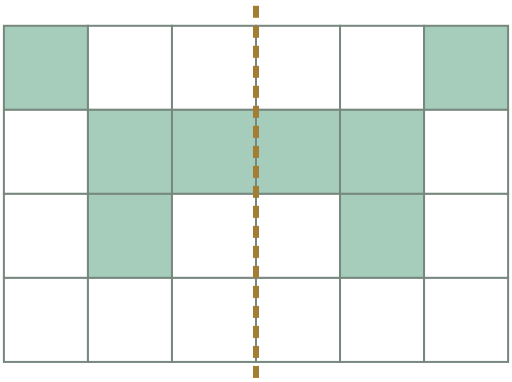
Answer: Column 5.

2. On that grid, which column matches column 3? [1 mark]

These columns sit immediately beside the mirror line.

Answer: Column 4.

3. Copy the supplied half-design and complete its reflection. [2 marks]



Match each given tile in the same row and the opposite column.

Answer: Add shaded tiles at (column 6, row 1), $(5, 2)$, $(4, 2)$ and $(5, 3)$, counting rows from the top.

4. A red dot is near the top-right corner of a rectangle. Where is its half-turn matching dot? [2 marks]

A half turn swaps opposite corners.

Answer: Near the bottom-left corner, at matching distances from the edges.

5. Create a square-tile design with a vertical mirror line. Explain how you checked it. [2 marks]

Check every row and colour, not just the outside outline.

Answer: Many answers are valid: each shaded tile must have a matching tile at equal distance on the other side.

6. Why might a shape outline be symmetrical while its coloured design is not? [2 marks]

Symmetry applies to the whole design.

Answer: The colours or decorations may fail to match across the line or after the turn.