Lesson 83

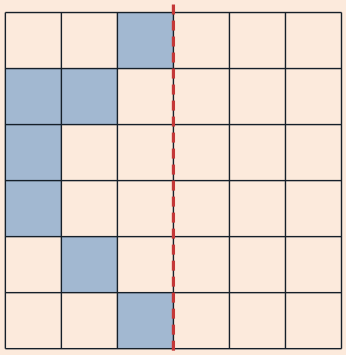
Symmetry: lines and rotational

SQUARE TILE SYMMETRY

1. A builder cuts a square tile. Fold-lines through the middles of opposite sides give **2** lines.
2. Fold-lines along the two diagonals give **2** more lines.
3. Total lines of symmetry: **4**.
4. Turning the tile, it matches every quarter-turn, so **4** times in one full turn. Order is **4**.

WARM-UP

Half of the shape is shaded. Use the dashed mirror line to shade the other half so the shape is symmetrical.



1. Shade each missing cell on the right of the mirror line.
2. How many cells are shaded when you finish? _____
3. Is the finished shape also symmetrical along a line across the middle, from left to right? _____

PRACTICE

1. Ciara cuts a rectangular wood panel for a model shelf. It is longer than it is wide. How many fold-lines does her panel have? _____
2. Tom turns a rectangular card while building a fort. It is longer than it is wide. How many times does the card look the same in one full turn? _____
3. Niamh makes an equilateral triangle flag for her den. How many fold-lines can she find on it? _____
4. The class builds a regular hexagon table top from card. How many lines of symmetry can they draw? _____
5. Sean spins a regular hexagon nut while fixing his model crane. How many times does it match in one full turn?

ALWAYS, SOMETIMES, NEVER

Always, sometimes or never true? Write A, S or N.

a. A square has 4 lines of symmetry ☐

b. An equilateral triangle has rotational order 3 ☐

c. A rectangle that is not a square has 4 lines of symmetry ☐

d. A shape with exactly 1 line of symmetry has rotational order 2 ☐

SHAPE & SPACE