Max’s Geometry Garden

Learning objective: To identify, describe, and classify 2D shapes, including identifying lines of symmetry and understanding angles.

Read each question carefully and use your knowledge of geometry to solve the puzzles. Show your working out where necessary.

Word bank: symmetry · parallel · perpendicular · acute · obtuse · quadrilateral · polygon · vertex

1. Max has found a shape with four equal sides and four right angles. Write down the name of this 2D shape. How many lines of symmetry does this shape have? (2 marks)

2. Identify which of these shapes are quadrilaterals: a regular pentagon, a parallelogram, a rhombus, and a triangle. Explain why a pentagon does not fit this category. (3 marks)

3. Look at an equilateral triangle. Are all of its angles acute, obtuse, or right angles? How do you know? (2 marks)

4. A shape has one pair of parallel sides and two lines of symmetry. Is it possible for this shape to be a rectangle? Explain your reasoning. (2 marks)

5. Max draws a hexagon. If he draws a line of symmetry exactly through the middle of the shape, how many smaller shapes does he create? (1 mark)

Draw: Draw a composite shape made by joining a square and a right-angled triangle. Label one acute angle and one obtuse angle on your drawing.

Extension challenge: Max challenges you: Can you draw a shape that has no lines of symmetry but has at least one pair of parallel sides? Explain your drawing to a partner.