

Max's Geometry Garden Challenge

Learning objective: To identify, describe, and classify 2D shapes based on their properties, including parallel and perpendicular lines.

Max the monkey is designing a symmetrical garden. He has labelled several shapes with letters. Use your knowledge of geometry to sort the shapes by their properties. For each question, look at the shape described and identify the correct letter from the garden plan below.

[Garden Plan: Shape A is a square, Shape B is a regular hexagon, Shape C is a right-angled triangle, Shape D is a parallelogram, Shape E is a rhombus, Shape F is a trapezium.]

Word bank: Parallel · Perpendicular · Vertex · Right angle · Symmetry · Polygon · Acute · Obtuse

1. Max needs to plant flowers along the sides of Shape A. How many pairs of parallel lines does a square (Shape A) have? Explain why. (2 marks)

2. Which two shapes (from A to F) contain at least one right angle? Write the letters and name the shapes. (2 marks)

3. Look at Shape B (the regular hexagon). Does it have any perpendicular lines? Why or why not? (2 marks)

4. Max wants to add a path shaped like Shape D (a parallelogram). Does Shape D have any right angles? How can you tell? (2 marks)

5. If Max buys fencing for Shape F (the trapezium) and each side is 50p per centimetre, and the total perimeter is 20cm, how much will the fencing cost in total? (2 marks)

Draw: Draw a composite shape made of one rectangle and one triangle joined together. Label all the parallel lines with arrows and mark any right angles with a small square symbol.



Extension challenge: Nova the owl suggests adding a regular octagon to the garden. Sketch a regular octagon and write down how many lines of symmetry it has compared to Shape A (the square).