

Max's Geometry Garden Challenge

Learning objective: To identify, describe, and classify 2D shapes based on their properties, including side lengths, angles, and lines of symmetry.

Max the monkey is designing a symmetrical garden! Help him finish his plan by sorting the shapes into the correct categories. For each shape listed in the questions, write down its mathematical properties (number of sides, number of vertices, and number of lines of symmetry) and decide if it is a regular or irregular polygon.

Word bank: Polygon · Vertex · Symmetry · Regular · Irregular · Parallel · Perpendicular · Angle

1. Max has a regular hexagon in his garden. How many vertices does it have, and how many lines of symmetry can you find? Explain why it is called 'regular'. (2 marks)

2. A garden path is shaped like an isosceles triangle. How many sides are equal in length, and how many lines of symmetry does it have? (2 marks)

3. Max uses a kite shape for his flowerbed. Does a kite have any parallel sides? How many lines of symmetry does a standard kite possess? (2 marks)

4. Compare a square and a rhombus. What properties do they share, and what is the main difference regarding their internal angles? (2 marks)

5. If Max creates a shape with four unequal sides and no lines of symmetry, what is the mathematical term for this type of polygon? (2 marks)

Draw: Draw a composite shape made of one rectangle and one triangle joined together. Use a ruler to ensure your lines are straight and mark all right angles with a small square symbol.



Extension challenge: Max wants to build a circular fountain in the centre of his garden. Research the definition of a circle in geometry. Why is a circle not considered a polygon? Write your answer in two sentences.