

Max's Geometric Garden Adventure

Learning objective: To identify, describe, and draw 2D shapes, including identifying lines of symmetry and parallel/perpendicular lines.

Help Max the monkey organise his garden! Read the descriptions of the shapes carefully, then use a ruler to draw them accurately in the space provided. Remember to label your shapes and check for lines of symmetry.

Max is designing a special garden for his friends. He wants to plant flowers in specific geometric patterns. He needs a square flowerbed for his sunflowers, a rectangle for his carrots, and a right-angled triangle for his mint patch. Max knows that parallel lines never meet, like the opposite sides of a rectangle, while perpendicular lines meet at a perfect 90-degree angle, like the corner of a square. He also loves shapes that have lines of symmetry, where one side is a perfect mirror image of the other.

Word bank: parallel · perpendicular · symmetry · polygon · vertices · quadrilateral

1. Draw a rectangle with a width of 4cm and a length of 6cm. Mark the two pairs of parallel lines with arrows. (2 marks)

2. Draw a right-angled triangle. How many right angles does it have? (2 marks)

3. What is the name of a quadrilateral that has four equal sides and four right angles? (1 mark)

4. Max wants to buy fencing for his square flowerbed. If each side is 3 metres long, what is the total perimeter of the square? (2 marks)

5. Explain why a circle has infinite lines of symmetry, but a scalene triangle has none. (2 marks)

Draw: Draw Max's garden plan. Include: 1. A square vegetable patch with a line of symmetry drawn through it. 2. A shape with at least one pair of perpendicular lines. 3. A path shaped like a rhombus.



Extension challenge: Max wants to create a regular hexagon. Can you calculate how many lines of symmetry a regular hexagon has? Try to draw one accurately using a ruler and protractor, or by measuring equal side lengths.