

Max the Monkey's Shape Safari

Learning objective: To identify, describe, and classify 2D and 3D shapes, and identify lines of symmetry in 2D shapes.

Help Max the Monkey solve these geometry puzzles. Read each question carefully and show your working out where necessary.

Max the Monkey is exploring the jungle to find geometric patterns. He spots a beehive that looks like a hexagonal prism, a square leaf with a clear line of symmetry, and a triangular vine growing up a tree. Max needs your help to classify these shapes and understand their properties so he can finish his jungle map.

Word bank: symmetry · vertex · parallel · perpendicular · polygon · quadrilateral · horizontal · vertical

1. Max finds a shape with 4 sides. All sides are equal in length and it has 4 right angles. What is the name of this shape, and how many lines of symmetry does it have? (2 marks)

2. Look at a regular pentagon. How many vertices does it have? Is it a regular or irregular polygon if all sides are equal length? (2 marks)

3. Max draws a rectangle. Draw a horizontal line of symmetry through it. How many pairs of parallel lines does a rectangle have? (2 marks)

4. A 3D shape has 6 square faces, 8 vertices, and 12 edges. What is the name of this 3D shape? (1 mark)

5. Explain the difference between a vertical line and a horizontal line using a triangle or a square as your example. (2 marks)

Draw: Draw an irregular hexagon and use a dashed line to show if it has any lines of symmetry. If it has none, explain why.



Extension challenge: Max has found a composite shape made of a square and a triangle joined together. Can you calculate the total number of vertices this new shape has and sketch it?