

Max's Geometry Challenge

Learning objective: To identify, describe, and classify 2D and 3D shapes, and to calculate missing angles and properties within geometric figures.

Read each question carefully. Show your working out clearly, especially when calculating angles or identifying properties of shapes.

Max the monkey has been busy collecting shapes from the jungle floor to help him solve his latest maths puzzle. Use your knowledge of geometry to help him classify his findings and calculate the missing measurements.

Word bank: isosceles · scalene · equilateral · parallel · perpendicular · vertices · reflex · obtuse · acute · congruent

1. Max finds a triangle with angles measuring 45 degrees and 65 degrees. Calculate the size of the third angle. What type of triangle is this? (2 marks)

2. A regular hexagon has a perimeter of 48cm. What is the length of one side? Show your calculation. (2 marks)

3. Identify the number of faces, edges, and vertices on a square-based pyramid. (3 marks)

4. Max draws a parallelogram with a base of 12cm and a perpendicular height of 7cm. What is the area of this parallelogram? (2 marks)

5. Explain the difference between a rhombus and a square. Mention at least two properties that they share and one property that is unique to the square. (3 marks)

Draw: Draw a net of a cube on squared paper, ensuring that all faces are connected correctly so that it could be folded into a 3D shape.



Extension challenge: Max has a budget of £20.00 to buy geometric stencils. If each stencil costs £2.40, how many can he buy, and how much change will he have left?