Max's Geometry Adventure: Shapes and Angles

Learning objective: To identify, describe, and classify 2D shapes and angles according to their properties, including lines of symmetry and angle types.

Read the clues provided by Max the monkey and use your knowledge of geometry to solve the puzzles. Write your answers clearly in the spaces provided.

Max the monkey is busy organising his collection of geometric treasures. He has found a shape with four equal sides and four right angles. He also found a triangle that has three equal sides and three equal angles. Max loves to look for symmetry in the leaves he finds, making sure that one half is a mirror image of the other. He uses his protractor to check the corners; if they are less than 90 degrees, he calls them 'sharp' little angles, and if they are more than 90 degrees, he calls them 'wide' angles.

Word bank: acute · obtuse · right angle · isosceles · equilateral · symmetry · parallel · perpendicular

1. Max has a shape with four equal sides and four right angles. What is the name of this shape? (1 mark)

2. Explain the difference between an acute angle and an obtuse angle. (2 marks)

3. If a triangle has three equal sides and three equal angles, what type of triangle is it? (1 mark)

4. Draw a shape that has at least one line of symmetry. How many lines of symmetry does your chosen shape have? (2 marks)

5. Max sees two lines that will never meet, no matter how far they are extended. What is the mathematical name for these lines? (1 mark)

Draw: Draw a composite shape made of one square and one triangle. Label all the right angles you can find within your drawing.

Extension challenge: Max has a challenge for you: Can you find a 2D shape that has more than four lines of symmetry? Draw it and show where the lines of symmetry would be.