

Max's Geometry Adventure: Angles and Shapes

Learning objective: To identify, estimate, and measure angles, and to distinguish between regular and irregular polygons.

Help Max the monkey solve these geometry puzzles. Use your knowledge of angles and properties of shapes to complete each section carefully.

Max has been exploring the jungle to find geometric patterns. He needs your help to classify the shapes he found and measure the angles he discovered on the leaves and branches.

Word bank: acute · obtuse · reflex · right angle · polygon · regular · irregular · protractor

1. Max found a triangle with angles measuring 60° , 60° , and 60° . Is this a regular or irregular polygon? Explain how you know. (2 marks)

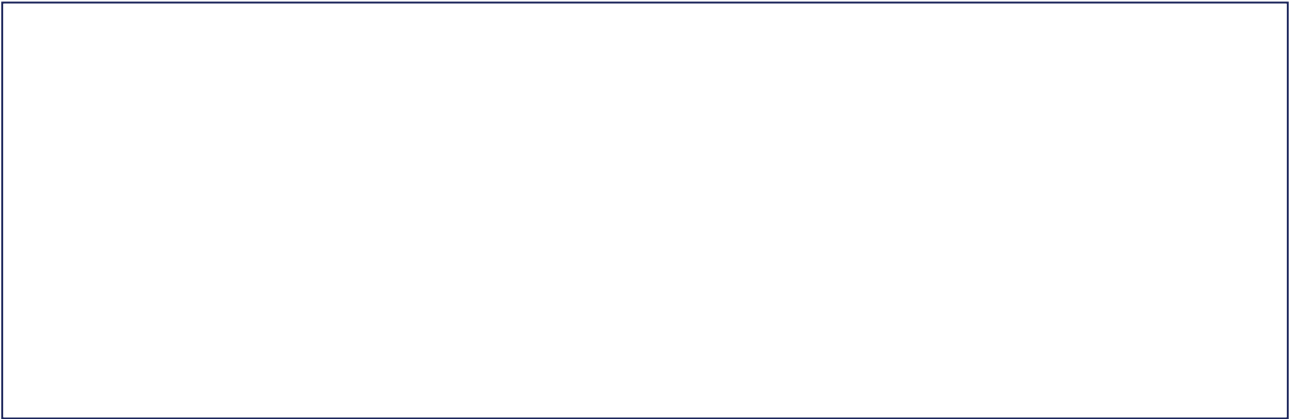
2. Look at an angle of 125° . What is the mathematical name for this type of angle? (1 mark)

3. Max has an irregular quadrilateral. If three of the angles are 90° , 80° , and 100° , calculate the size of the fourth interior angle. (2 marks)

4. Draw an acute angle and a reflex angle. Label them clearly. (2 marks)

5. A shopkeeper sells triangular flags for £2.50 each. If you buy 4 flags to make a geometric pattern, how much do they cost in total? (2 marks)

Draw: Draw a regular hexagon and an irregular pentagon. Label each shape and mark one interior angle on each.



Extension challenge: Max wants to create a pattern using regular octagons. Research how many degrees the interior angles of a regular octagon sum to, and explain if they can tile a flat surface without leaving gaps.