

Max's Magnificent Geometry Guide

Learning objective: To identify, compare, and sort 2D shapes based on their properties, including parallel and perpendicular lines.

Read Max the Monkey's guide to shapes below and then answer the questions to prove you are a geometry expert!

Hello! I'm Max, and I think the world is one big maths puzzle. Let's look at 2D shapes! A polygon is a flat shape with straight sides. If two lines go in the same direction and never touch, like train tracks, they are parallel. If two lines meet to make a perfect square corner, we call that a right angle, and the lines are perpendicular! Think of a rectangle: the top and bottom sides are parallel, while the top side and the side edge are perpendicular. Can you spot the hidden angles and lines in the world around you?

Word bank: Parallel · Perpendicular · Polygon · Vertex · Right angle · Horizontal · Vertical

1. Max has drawn a square. Explain why the two sides meeting at a corner are called 'perpendicular'. (2 marks)

2. Look at a rectangle. How many pairs of parallel sides does it have? (1 mark)

3. Which 2D shape has exactly three sides and three vertices? (1 mark)

4. If a shape has a pair of lines that will never meet no matter how long you draw them, what are those lines called? (1 mark)

5. Max buys a triangular flag for £2.50 and a square sticker for £1.25. How much does he spend in total? Show your working. (2 marks)

Draw: Draw a robot using only 2D shapes. Label one pair of parallel lines and one set of perpendicular lines on your robot.



Extension challenge: Challenge: Can you draw a hexagon and a heptagon? Write down how many vertices each one has and explain if they have any parallel lines.