

Max's Geometry Garden Challenge

Learning objective: To identify, classify, and describe 2D shapes, angles, and lines of symmetry, and to compare and order angles.

Max the monkey is helping in the garden, but he thinks the flowerbeds are full of maths puzzles! Read each question carefully and show your working out where needed.

Answer Key: 1) C, 2) True, 3) 4, 4) B, 5) False, 6) 90 degrees, 7) B, 8) Acute, 9) True, 10) 3. Greater Depth reasoning: Shapes with 4 lines of symmetry include squares and circles; shapes with 0 lines of symmetry include scalene triangles.

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

1. 1. Max is looking at a shape with four equal sides and four right angles. What is it? A) Rectangle B) Rhombus C) Square* D) Trapezium (1 mark)

2. 2. True or False: An obtuse angle is greater than a right angle but smaller than a straight line (180 degrees). (1 mark)

3. 3. How many lines of symmetry does a regular rectangle have? (1 mark)

4. 4. Which of these shapes has at least one pair of parallel lines? A) Circle B) Parallelogram* C) Kite D) Regular Pentagon (1 mark)

5. 5. True or False: A triangle with all sides of different lengths is called an equilateral triangle. (1 mark)

6. 6. What is the measurement in degrees of a perfect corner in a square? (1 mark)

7. 7. If a shape has an angle of 35 degrees, what type of angle is it? A) Obtuse B) Acute* C) Reflex D) Right (1 mark)

8. 8. Max sees two lines that cross each other to form a perfect 'T' shape. What is the mathematical name for these lines? (1 mark)

9. 9. True or False: A regular hexagon has six equal sides. (1 mark)

10. 10. How many sides does a heptagon have? (1 mark)

Draw: Draw a composite shape made of one square and one triangle. Label all the acute and obtuse angles you can see.



Extension challenge: 1. Explain why a square is a special type of rectangle. 2. Compare and contrast an equilateral triangle and a scalene triangle. 3. Justify why a circle has infinite lines of symmetry. 4. What might happen to the internal angles of a square if you pushed two opposite corners together to form a rhombus? 5. If a shape has four sides of equal length but no right angles, is it still a square? Why or why not? 6. Design a 'garden path' pattern using only regular polygons that tessellate (fit together without gaps).