

Max's Magnificent Shape Safari

Learning objective: To identify, compare, and classify 2D and 3D shapes, including identifying lines of symmetry and understanding angles in shapes.

Help Max the monkey solve these geometrical puzzles! Read each question carefully and circle the correct answer or write your response in the space provided.

Answer Key: 1. C (A square); 2. True; 3. 0; 4. B (Rhombus); 5. False (It has 8 vertices); 6. 12; 7. Obtuse; 8. A (Scalene); 9. True; 10. Perpendicular. Greater Depth Reasoning: 11. A square is a regular polygon; 12. Diagonals of a rhombus bisect at 90 degrees; 13. A circle has infinite lines of symmetry; 14. An obtuse angle is greater than 90 but less than 180 degrees.

Word bank: Polygon · Symmetry · Vertex · Parallel · Perpendicular · Acute · Obtuse · Quadrilateral

1. 1. Max is looking for a shape with four equal sides and four right angles. Is it: A) A rectangle, B) A parallelogram, C) A square, D) A trapezium? Answer: *C (1 mark)

2. 2. True or False: A regular hexagon has six lines of symmetry. (1 mark)

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

4. 4. Which of these is a quadrilateral? A) A pentagon, B) A rhombus, C) A triangle, D) A circle. Answer: *B (1 mark)

5. 5. True or False: A cube has 6 vertices. (1 mark)

6. 6. How many edges does a cuboid have? (1 mark)

7. 7. If an angle is greater than a right angle, what is it called? (1 mark)

8. 8. A triangle with no equal sides is called: A) Scalene, B) Isosceles, C) Equilateral, D) Right-angled. Answer: *A (1 mark)

9. 9. True or False: Perpendicular lines meet at a right angle (90 degrees). (1 mark)

10. 10. What type of lines are found where the two sides of a square meet? (1 mark)

Draw: Draw a composite shape made of one square and one triangle. Label the vertices of the square and mark any right angles you can see.



Extension challenge: 11. Explain why a rectangle is a quadrilateral but a square is a special type of rectangle. 12. Compare and contrast a cube and a square-based pyramid. How are their faces different? 13. Justify your answer: Can a triangle ever have two obtuse angles? Why or why not? 14. What might happen to the internal angles of a rectangle if you were to 'squash' it into a parallelogram? 15. If a shape has 8 lines of symmetry, what might that tell you about its sides? 16. Create a geometric pattern using only perpendicular lines and calculate how many right angles are formed.