

Max's Pattern Playground: A Symmetry Challenge

Learning objective: Identify, describe, and represent the position of a shape following a reflection or translation, and complete symmetric figures with respect to a specific line of symmetry.

Max the monkey is organising his fruit shop, but he needs to make sure everything is perfectly balanced! Look at the shapes below. For each item, draw the missing half to complete the symmetrical pattern, or identify if the shape has a line of symmetry. Remember, a shape is only symmetrical if both sides are identical mirror images when folded along the line.

Word bank: Symmetry · Mirror line · Reflection · Horizontal · Vertical · Diagonal · Identical

1. Max has a square-shaped sign that is divided by a vertical line. If the left side has a small circle in the top corner, where must the circle be on the right side to keep it symmetrical? Explain why. (2 marks)

2. Look at a regular pentagon. How many lines of symmetry does it have? Draw a quick sketch to show your working. (2 marks)

3. If Max cuts a circular melon in half, does the cut represent a line of symmetry? Why or why not? (2 marks)

4. True or False: A scalene triangle can have a line of symmetry. Give a reason for your answer. (2 marks)

5. Max has a rectangular price tag measuring 10cm by 5cm. How many lines of symmetry does this rectangle have? (2 marks)

Draw: Draw a symmetrical butterfly. Use a vertical dashed line down the centre to represent the mirror line. Ensure the patterns on the left wing are reflected perfectly on the right wing.



Extension challenge: Design a 'Symmetrical Tile' for Max's shop floor using a 4x4 grid. Your pattern must have at least one vertical and one horizontal line of symmetry.