Year 6 · Geometry: Flips, Slides and Turns

Name: _____ Date: _____

Hi there! This sheet is all about moving shapes around, flipping, sliding and turning them, and spotting patterns called tessellations. Grab a pencil and ruler, and let's get moving!

Warm-up

1. Name the transformation for each word: (a) flip, (b) slide, (c) turn.

2. When you slide (translate) a triangle 5 cm to the right, does its size or shape change?

3. A shape is turned a full circle (360°) around a point. Where does it end up?

4. True or false: a tessellation can have small gaps between the shapes.

Practice

5. A letter 'b' is reflected in a vertical mirror line. Which letter does it look like?

6. A square tile is at position A. It is translated 3 squares right, then translated 2 squares up. Describe its final position compared to the start.

7. Amaia is making a tessellation using regular hexagons on the floor of the classroom. Explain why hexagons tessellate but regular pentagons do not.

8. An arrow shape points up (↑). It is rotated 90° clockwise, then rotated another 90° clockwise. Which way does it point now?

9. Tane draws a flag shape at the left of his page. He first reflects it in a vertical line, then translates the reflected shape 6 cm down. Describe what has happened to the flag overall.

10. A right-angled triangle has sides 3 cm, 4 cm and 5 cm. It is reflected across a line and then translated 4 cm to the right. What are the side lengths of the final triangle, and what stays the same?

Challenge

11. On grid paper, a triangle has corners at (1,1), (1,3) and (2,1). It is translated 3 right and 1 up, then reflected in the vertical line x = 6. Give the coordinates of all three corners after BOTH steps.

12. Ropata says: 'If I rotate a shape 180° and then reflect it in a horizontal mirror line, I get the same result as a single reflection in a vertical line.' Use an up-and-right arrow (↗) to test whether he is correct.