WONDERLEARNERZ PRIMARY ACADEMY â€¢ PRACTICE & ASSESSMENT WORKSHEET

Symmetry and Symmetrical Designs: Worksheet 1

Grade 5 | Mathematics | Ch 15: Symmetry and Symmetrical Designs | Total Marks: 19 | Time: 45 Minutes

Student Name: _____ **Roll / ID No:** _____

Grade / Section: _____ **Date:** _____ **Score:** _____ / 19

Instructions: Section A (Q1-Q4): Choose the correct option (A, B, C, or D). Section B (Q5-Q9): Write your exact one-word or numerical answer. Section C & D (Q10-Q15): Write your detailed answers, corrections, and show all working steps neatly in the space provided.

Q1. How many lines of symmetry does a regular square have? [1 Mark]

( ) A. 4 lines
( ) B. 2 lines
( ) C. 1 line
( ) D. 8 lines

Q2. Which of the following capital letters has both a horizontal and a vertical line of symmetry? [1 Mark]

( ) A. H
( ) B. A
( ) C. B
( ) D. F

Q3. How many lines of symmetry does an equilateral triangle possess? [1 Mark]

( ) A. 3 lines
( ) B. 1 line
( ) C. 2 lines
( ) D. 0 lines

Q4. What type of transformation creates a mirror image across a line of symmetry? [1 Mark]

( ) A. Reflection
( ) B. Rotation
( ) C. Translation
( ) D. Enlargement

Q5. At the City Regional Airport, an artisan creates mosaic tiles. A regular hexagon tile is placed on the floor. How many different lines of symmetry can be drawn across this regular hexagon? [1 Mark]

Q6. A butterfly design is drawn with its center on a vertical mirror line. If the left wing tip is 14 cm from the mirror line, how far from the mirror line is the right wing tip? [1 Mark]

Q7. Which of these capital letters has zero lines of symmetry: M, T, S, or Y? [1 Mark]

Q8. Complete the geometric symmetry rule: A regular pentagon has [?] lines of symmetry. **[1 Mark]**

Q9. Identify the shape: A circle has [?] lines of symmetry. **[1 Mark]**

Q10. Chris says: 'Every rectangle has 4 lines of symmetry just like a square.' Identify Chris's error and state the correct number of symmetry lines for a non-square rectangle. **[1 Mark]**

Q11. A student claims that the letter 'N' has a line of symmetry down the middle diagonal. Why is this incorrect? **[1 Mark]**

Q12. Explain why an object and its reflected mirror image are congruent even though their orientations are reversed. **[2 Marks]**

Q13. Why does a circle have infinitely many lines of symmetry while a regular polygon has a finite number? **[2 Marks]**

Q14. Point A has coordinates (3, 5). If Point A is reflected across the vertical mirror line x = 6, what are the coordinates of the reflected point A'? **[2 Marks]**

Q15. A symmetrical flag design has a vertical mirror line. If the left side contains 3 blue stars, 2 red stripes, and 1 yellow circle centered on the mirror line, what is the total number of stars and stripes on the full flag? **[2 Marks]**