

Syllabus Focus: Objective 6Gg.08 — Rotational Symmetry (Maximum Order 4)

Topic: Order of Rotational Symmetry, Centre of Rotation, and Pattern Completion

Time Allowed: 30 Minutes |

Section A: Order of Rotational Symmetry in 2D Shapes

Question 1 [1 Mark]

Choose the correct definition of the **order of rotational symmetry**.

- **A:** The number of lines of symmetry a shape has.
- **B:** The number of times a shape fits onto itself during a full 360° turn.
- **C:** The total number of right angles inside a shape.

Answer: Letter _____

Question 2 (TWM.01 Specialising) [2 Marks]

Complete the table by writing the **order of rotational symmetry** for each 2D shape.

2D Shape	Order of Rotational Symmetry
Square	_____
Rectangle (non-square)	_____
Equilateral Triangle	_____
Parallelogram (non-rhombus, non-rectangle)	_____

Question 3 [2 Marks]

Write down the order of rotational symmetry for each of the following quadrilaterals:

(a) A non-square **rhombus**: _____ [1]

(b) An isosceles **trapezium**: _____ [1]

Section B: Addressing Misconceptions & Special Cases

Question 4 (TWM.02 Generalising) [2 Marks]

Classify each statement as **True** or **False**.

(a) "All triangles have an order of rotational symmetry of 3."

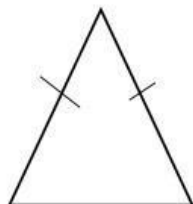
Answer: _____ [1]

(b) "Every shape has an order of rotational symmetry of at least 1."

Answer: _____ [1]

Question 5 [2 Marks]

Mia looks at an **isosceles triangle**.



Mia says: "Because this shape is a triangle, its order of rotational symmetry is 3."

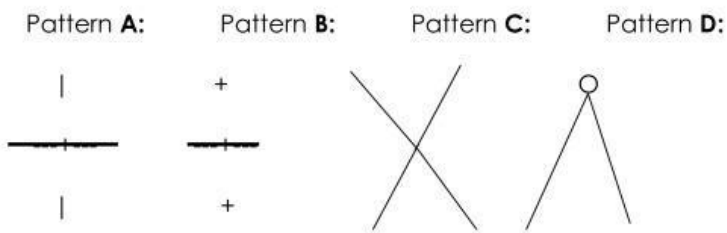
Explain why Mia is incorrect. Write down the **correct** order of rotational symmetry for an isosceles triangle.

Correct order: _____

Section C: Rotational Symmetry in Patterns and Symbols

Question 6 [2 Marks]

Look at the four logos/patterns below.



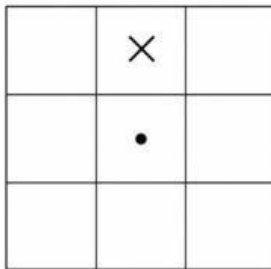
Write down the letter (**A**, **B**, **C**, or **D**) for the pattern that has:

(a) Rotational symmetry of **order 2**: Pattern _____ [1]

(b) Rotational symmetry of **order 4**: Pattern _____ [1]

Question 7 [2 Marks]

Shade **two** more small squares on the grid below so that the completed pattern has **rotational symmetry of order 4** about the center point .



Section D: Reasoning, Angles, and Grid Transformations

Question 8 [2 Marks]

A shape has rotational symmetry of **order 4**.

(a) What angle (in degrees) must you turn the shape so that it fits onto itself for the **first** time?

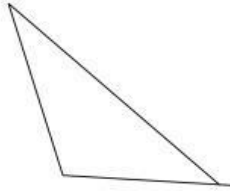
Answer: _____° [1]

(b) What angle must you turn a shape with rotational symmetry of **order 2** so that it fits onto itself for the first time?

Answer: _____° [1]

Question 9 (TWM.01 Specialising) [2 Marks]

A scalene triangle has sides of length 4 cm, 6 cm, and 8 cm.



(a) State the number of lines of symmetry this triangle has. [1]

Answer: _____

(b) State the order of rotational symmetry of this triangle. [1]

Answer: _____