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Polygons

Student Worksheet

Questions & Working Space

IGCSE Mathematics

Name: _____

Date: _____

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Note

How to use this worksheet. These questions are built *strictly* on the *Polygons* notes: naming and classifying polygons, regular vs irregular, convex vs concave, the interior angle sum $(n-2)\times 180°$, each interior angle of a regular polygon, exterior angles, the number of diagonals, symmetry of regular polygons, and algebraic angle problems.
Working space. Ruled lines are provided after each question — show *all* of your working there, and always write the formula down before substituting values. Harder questions have a teal **Hint** box; try the question first and use the hint only if you are stuck.
Checking your answers. Full step-by-step solutions, a marking scheme for the exam paper, and a quick answer key are in the separate booklet *"Polygons — Solutions & Answer Key."* Try each question honestly before you look.

1 Part I — Topic-by-Topic Exercises

1.1 Polygons, Naming and Classification

Exercise N1 *[Basic]*

Write down the name of a polygon with

(a) 7 sides (b) 9 sides (c) 12 sides

Exercise N2 *[Basic]*

How many vertices does a decagon have? Explain your reasoning in one sentence.

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Exercise N3 *[Basic]*

State, with a reason, whether each of the following is a polygon:

(a) a closed shape made of 6 straight sides that do not cross

(b) a semicircle

(c) a closed shape made of 5 straight sides, two of which cross each other

Exercise N4 *[Standard]*

Explain the difference between a regular and an irregular polygon, and give one example of each.

Exercise N5 *[Standard]*

A rhombus has four sides of equal length. Explain why a rhombus is **not** necessarily a regular polygon.

Hint

The notes require *two* conditions for a polygon to be regular. Which one might a rhombus fail?

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Preview ends here

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