

GCSE Mathematics

F/H

Angles in Polygons

Foundation | Grades 4-6

Total Marks	Time	Questions
51	51 min	20

Instructions:

- Do not use a calculator when you see: 
- Answer all questions in the spaces provided.
- Show all your working - marks are awarded for method as well as final answers.
- Cross through any work you do not want to be marked.
- Check your answers if you have time at the end.

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Edexcel-style questions**Q1** 

Grade 4

Edexcel style

Find the sum of the interior angles of a polygon with 9 sides.

Answer

teachably

[2 marks]**Q2** 

Grade 4

Edexcel style

Find the size of each interior angle of a regular nonagon (a polygon with 9 sides).

Answer

teachably

[2 marks]**Q3** 

Grade 5

Edexcel style

Find the size of each exterior angle of a regular polygon with 15 sides.

Answer

teachably

[2 marks]

Q4

Grade 5

Edexcel style

A regular polygon has an interior angle of 140° . Find its exterior angle, and hence the number of sides of the polygon.

Answer

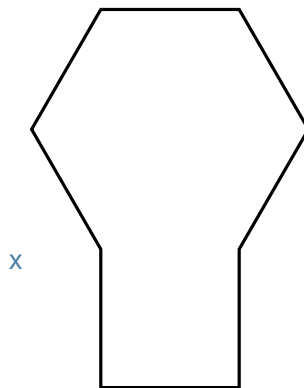
teachably

[3 marks]**Q5**

Grade 6

Edexcel style

The diagram shows a regular hexagon and a square joined along one edge. Find the size of angle x .

*Diagram NOT accurately drawn*

Answer

teachably

[3 marks]

AQA-style questions**Q6** 

Grade 4

AQA style

The five interior angles of a pentagon are 100° , 120° , 90° , x , and 110° . Find the value of x .

Answer

teachably

[3 marks]**Q7** 

Grade 4

AQA style

Find the size of each interior angle of a regular polygon with 12 sides.

Answer

teachably

[2 marks]**Q8** 

Grade 5

AQA style

A regular polygon has an exterior angle of 20° . Find the number of sides of the polygon.

Answer

teachably

[2 marks]

Q9

Grade 5

AQA style

The interior angles of a quadrilateral are $3x$, $2x$, $4x$, and x . Find the value of x , and the size of the largest angle.

Answer _____

teachably

[3 marks]**Q10**

Grade 6

AQA style

Explain, with a reason, whether regular pentagons can be used to tessellate a flat surface (with no gaps or overlaps).

Answer _____

teachably

[2 marks]

OCR-style questions**Q11** 

Grade 4

OCR style

Find the sum of the interior angles of a decagon (a polygon with 10 sides).

Answer

teachably

[2 marks]**Q12** 

Grade 5

OCR style

A regular polygon has an interior angle of 156° . Find the number of sides of the polygon.

Answer

teachably

[3 marks]**Q13** 

Grade 5

OCR style

The exterior angles of a hexagon are 50° , 70° , 65° , 55° , x , and 45° . Find the value of x .

Answer

teachably

[2 marks]

Q14

Grade 6

OCR style

The interior angle of a regular polygon is 8 times its exterior angle. Find the number of sides of the polygon.

Answer

teachably

[3 marks]**Q15**

Grade 6

OCR style

Three identical regular polygons fit together exactly around a point, with no gaps or overlaps. Find the size of each interior angle, and name the polygon.

Answer

teachably

[3 marks]

Teachably-style questions**Q16** 

Grade 4

Teachably style

The six interior angles of a hexagon are 130° , 140° , 110° , 150° , x , and 100° . Find the value of x .

Answer

teachably

[3 marks]**Q17** 

Grade 5

Teachably style

A regular polygon has an interior angle of 144° . Find the number of sides of the polygon.

Answer

teachably

[3 marks]**Q18** 

Grade 5

Teachably style

State the sum of the exterior angles of a hexagon, and the sum of the exterior angles of a decagon. What do you notice?

Answer

teachably

[2 marks]

Q19

Grade 5

Teachably style

The exterior angles of a pentagon are $2x^\circ$, $3x^\circ$, $x + 10^\circ$, $4x^\circ$, and $x + 20^\circ$. Find the value of x .

Answer _____

teachably

[3 marks]

Q20

Grade 6

Teachably style

A regular polygon has an interior angle that is 30° more than 4 times its exterior angle. Find the number of sides of the polygon.

Answer _____

teachably

[3 marks]

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