

Angles in Polygons

For Pearson Edexcel GCSE Mathematics (1MA1) • Foundation tier

Name _____

Total marks: **22**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method.

- 1** Work out the sum of the interior angles of an octagon.

..... °
(2)

(Total for Question 1 is 2 marks)

- 2** Work out the size of each interior angle of a regular decagon.
(A decagon has 10 sides.)

..... °
(2)

(Total for Question 2 is 2 marks)

- 3 Riya says,
'A regular polygon can have exterior angles of 50° '
Is Riya correct?
You must show how you get your answer.

(2)

(Total for Question 3 is 2 marks)

- 4 The diagram shows part of a regular polygon.

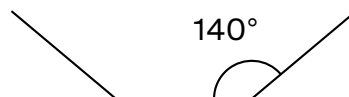


Diagram **NOT** accurately drawn

Work out the number of sides of the polygon.

.....
(2)

(Total for Question 4 is 2 marks)

- 5 Show that the sum of the interior angles of a hexagon is 720°

(2)

(Total for Question 5 is 2 marks)

- 6 Q is a regular polygon.
Each exterior angle of Q is half the size of each exterior angle of a regular hexagon.
Work out the sum of the interior angles of Q .

..... °
(3)

(Total for Question 6 is 3 marks)

- 7 The diagram shows a regular pentagon $ABCDE$ and an equilateral triangle ABP .

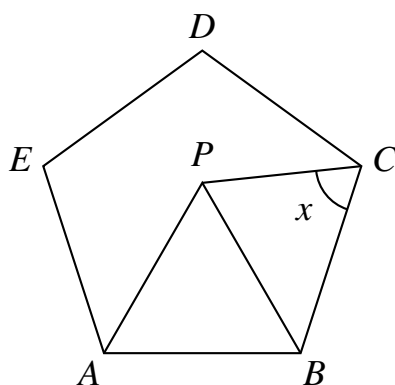


Diagram **NOT** accurately drawn

Find the size of the angle marked x .
You must show all your working.

..... °
(3)

(Total for Question 7 is 3 marks)

- 8** The angles of a hexagon are
 x $x + 10$ $2x$ $2x - 20$ 130 150
All the angles are in degrees.
Work out the value of x .

$$x = \dots\dots\dots$$

(3)

(Total for Question 8 is 3 marks)

- 9 The diagram shows a regular pentagon (shaded).
Each side of the pentagon has been extended to make a star.

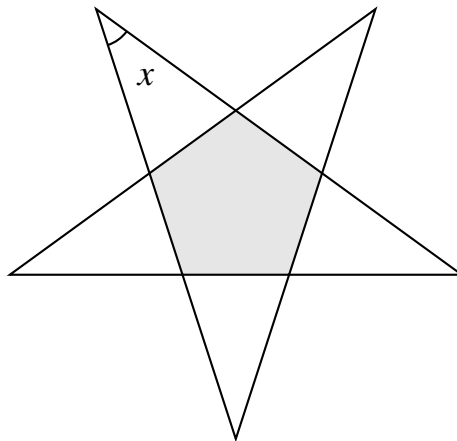


Diagram **NOT** accurately drawn

Work out the size of the angle marked x .
You must show all your working.

..... °
(3)

(Total for Question 9 is 3 marks)
