4.10 Angles in Polygons: 10-minute Pack

Calculators not allowed · about 10 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 A regular polygon has 14 sides. Calculate both the sum of its interior angles and the measure of one interior angle.

(3)

2 A regular polygon has interior angle 162 degrees. Work out n, the number of sides.

(2)

3 A regular polygon and a regular star-shaped polygon both have the same exterior angle of 40 degrees at a certain vertex. For the regular polygon, find the number of sides.

(2)

4 Find the exterior angle of a regular pentagon.

(1)

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Question 1

sum = (14-2)*180 = 12*180 = 2160	**M1**
interior = sum/14 = 2160/14 or use 180 - 360/14	**M1**
2160 degrees and 154.285... -> 154 2/7 degrees (or 154.2857 degrees) cao	**A1**

Answer: **2160 degrees; 154.285714 degrees**

Question 2

use exterior = 180 - interior = 18 then n = 360/18	**M1**
n = 20 cao	**A1**

Answer: **20**

Question 3

use n = 360/exterior = 360/40	**M1**
n = 9 (since 360/40 = 9) cao	**A1**

Answer: **9**

Question 4

72 degrees cao	**B1**

Answer: **72 degrees**

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