Angles 4 · Angles in polygons

Exam-Style Questions · Total: 20 marks · Suggested time: 25 minutes

Name: _____ Class: _____ Date: _____

Answer all questions. Show all your working. Give reasons where asked. Diagrams marked NOT TO SCALE must not be measured. The number of marks is given in brackets [ ].

1 A nonagon is a polygon with 9 sides.

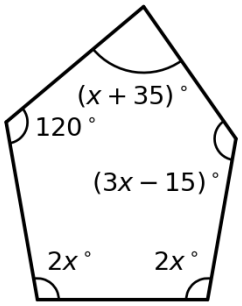
(a) Find the sum of the interior angles of a nonagon.

..... [2]

(b) Find the size of each interior angle of a regular nonagon.

..... [1]

2 The diagram shows a pentagon.



NOT TO SCALE

(a) Find the value of x.

x = ... [3]

(b) Find the size of the largest angle.

..... [1]

3 Each exterior angle of a regular polygon is 20°.

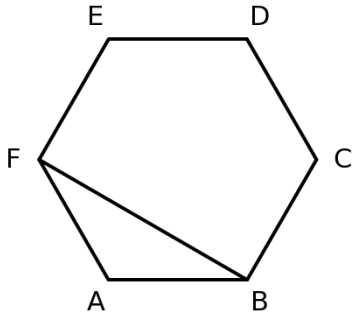
(a) Find the number of sides of the polygon.

..... [1]

(b) Find the sum of the interior angles of the polygon.

..... [2]

4 ABCDEF is a regular hexagon.



NOT TO SCALE

(a) Find the size of one interior angle of the hexagon.

..... [1]

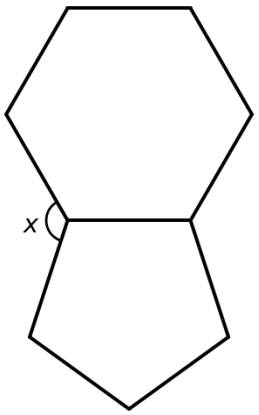
(b) Find angle ABF. Give reasons for your answer.

Angle ABF = ... [2]

(c) Show that angle FBC = 90°.

[2]

5 The diagram shows a regular hexagon and a regular pentagon with a common side.



NOT TO SCALE

(a) Find the value of x.

x = ... [3]

(b) Explain why a regular polygon cannot have an exterior angle of 25°.

[2]