

Q Angles in Polygons

- 6 Find the exterior angle of a regular polygon with 15 sides.

..... [2]

- 2 A regular polygon has 24 sides.

Find the size of each interior angle of the polygon.

..... [3]

- 7 The interior angle of a regular polygon is 140° .

Find the number of sides of this polygon.

..... [3]

- 9 The size of one exterior angle of a regular polygon is 24° .

Find the number of sides of this polygon.

..... [2]

6 A regular polygon has 30 sides.

Find the size of one exterior angle.

..... [2]

7 Find the size of one interior angle of a regular polygon with 20 sides.

..... [3]

10 A regular polygon has an interior angle of 174° .

Find the number of sides of this polygon.

..... [2]

- 9 The interior angle of a regular polygon is 150° .

Find the number of sides of this polygon.

..... [3]

- 13 Find the number of sides of a regular polygon with interior angle 162° .

..... [2]

- 8 Calculate the size of one interior angle of a regular polygon with 40 sides.

..... [2]

17 Each interior angle of a regular polygon is 178.5° .

Calculate the number of sides of this polygon.

..... [2]

8 (a) A regular polygon has 12 sides.

Work out the sum of the interior angles of the polygon.

..... [2]

(b) The interior angle of a regular polygon is x° .

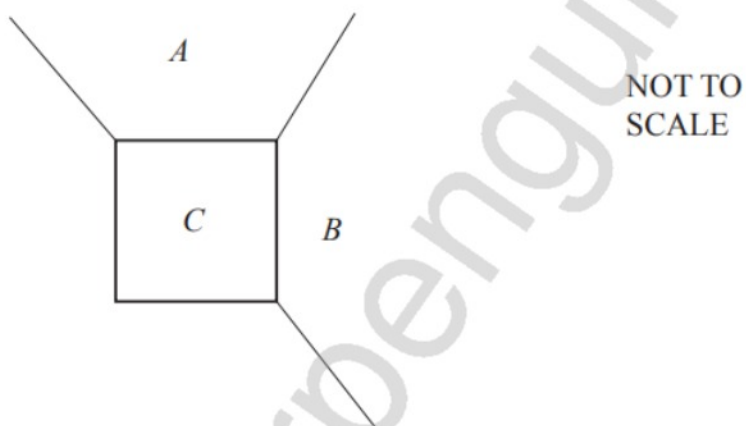
Find an expression, in terms of x , for the number of sides of this polygon.

..... [2]

- 12 In a regular polygon, the interior angle and the exterior angle are in the ratio interior : exterior = 11 : 1.
Find the number of sides of this regular polygon.

..... [3]

6



The diagram shows part of a regular hexagon, *A*, and part of a regular polygon, *B*.
C is a square.

Find the number of sides of the regular polygon, *B*.

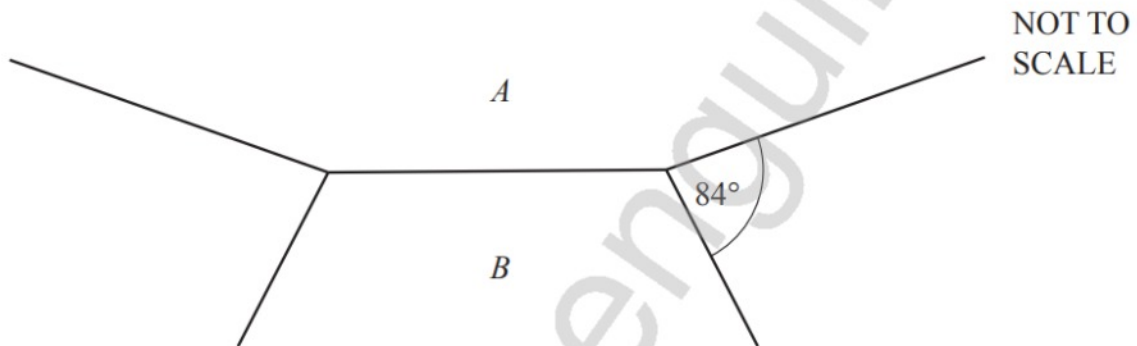
..... [4]

12 The interior angles of a pentagon are in the ratio $4 : 5 : 5 : 7 : 9$.

Find the size of the largest angle.

..... [3]

9



The diagram shows part of polygon A and part of polygon B .

A is a regular polygon with n sides.

B is a regular hexagon.

Find the value of n .

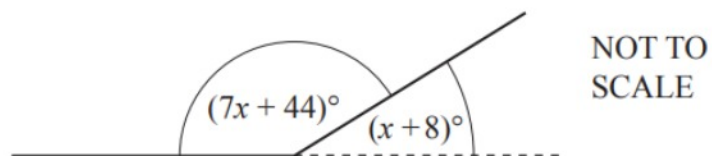
$n =$ [3]

- (c) A regular pentagon has an exterior angle, d .
A regular hexagon has an interior angle, h .

Find the fraction $\frac{d}{h}$.

Give your answer in its simplest form.

..... [4]

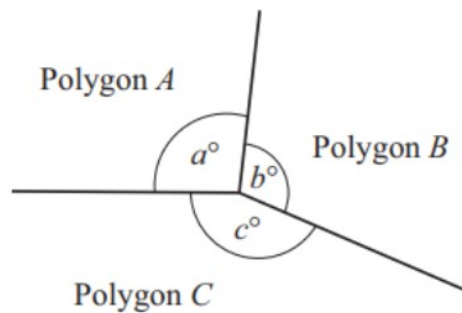


The diagram shows two sides of a regular polygon.

The interior angle of the polygon is $(7x + 44)^\circ$ and the exterior angle is $(x + 8)^\circ$.

Find the number of sides of this polygon.

..... [4]



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Three regular polygons A , B and C meet at a point.
The interior angles of the polygons are in the ratio $a : b : c = 3 : 4 : 5$.

Show that polygon C has twice the number of sides as polygon B .

[5]