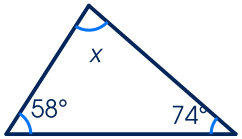
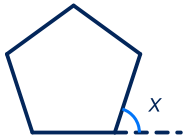
GCSE HIGHER · REVISION MAT 4

Angles and polygons

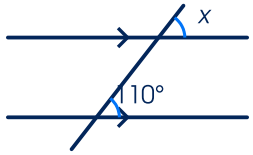
1 Find x.



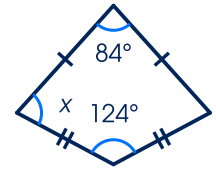
2 Find the exterior angle of a regular pentagon.



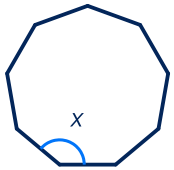
3 Find x. Give a reason.



4 Find x.

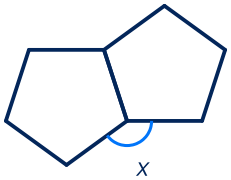


5 Show that each interior angle of a regular nonagon is 140°.



6 Two regular pentagons and one other regular polygon meet exactly at a point.

How many sides does the other polygon have?



7 Explain why the angles in any quadrilateral add up to 360°.

8 The interior angles of a polygon add up to 2160°.

How many sides does it have?

If it is regular, find each exterior angle.

Mr&Mrs MATHS

ANSWERS · REVISION MAT 4

Angles and polygons

1 180 – 58 – 74

$x = 48°$

2 **360 ÷ 5 = 72°**

3 **$x = 110°$**
(corresponding angles are equal)

4 Kite: angles at A and C equal

$2x = 360 – 124 – 84 = 152$

$x = 76°$

5 Exterior 360 ÷ 9 = 40°

180 – 40 = 140°

6 360 – 108 – 108 = 144°

Exterior 36°

10 sides

7 **A diagonal splits it into two triangles: 2 × 180 = 360°.**

8 $(n – 2) \times 180 = 2160 \Rightarrow n = 14$

14 sides; exterior angle 25.7°

Mr&Mrs MATHS