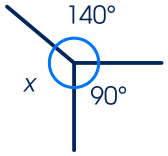
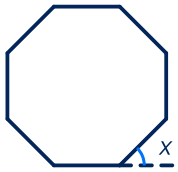
GCSE HIGHER · REVISION MAT 2

Angles and polygons

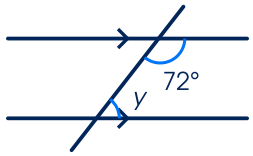
1 Find the angle x.



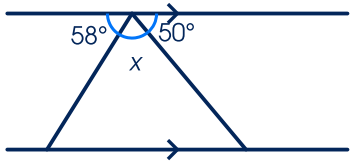
2 Find the exterior angle of a regular octagon.



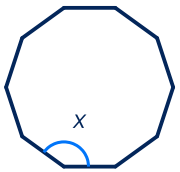
3 Find y. Give a reason.



4 Find x.

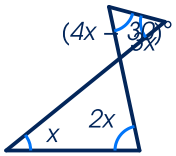


5 Show that each interior angle of a regular decagon is 144°.



6 The angles of a quadrilateral are x, $2x$, $3x$ and $(4x - 30)°$.

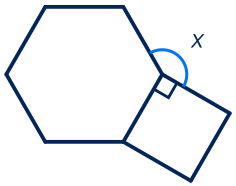
Find the angles.



7 Explain why a regular polygon cannot have an exterior angle of 50°.

8 A regular hexagon and a square share a side.

Find the angle between them at a shared vertex, outside both shapes.



Mr&Mrs MATHS

ANSWERS · REVISION MAT 2

Angles and polygons

1 360 – 140 – 90

x = 130°

2 **360 ÷ 8 = 45°**

3 **y = 180 – 72 = 108°**
(co-interior angles add to 180°)

4 Angles on a straight line at P

x = 180 – 58 – 50 = 72°

5 Exterior 360 ÷ 10 = 36°

180 – 36 = 144°

6 $10x - 30 = 360 \Rightarrow x = 39$

39°, 78°, 117°, 126°

7 **360 ÷ 50 = 7.2, which is not a whole number of sides.**

8 360 – 120 – 90

150°