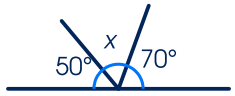
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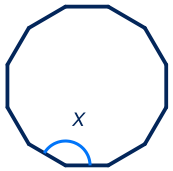
Angles and polygons

1 Three angles on a straight line are 50°, x and 70°.

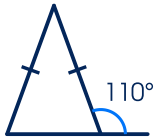
Find x.



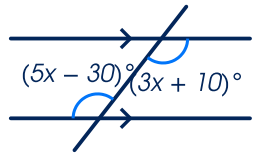
2 Find the interior angle of a regular 12-sided polygon.



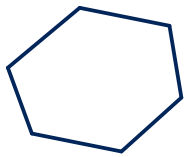
3 Find the base angles of this isosceles triangle.



4 Find x.



5 Show that the interior angles of a hexagon add up to 720°.



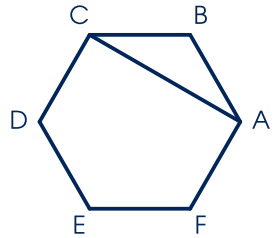
6 Each interior angle of a regular polygon is 5 times each exterior angle.

How many sides does it have?

7 Explain why three regular octagons cannot meet at a point.

8 ABCDEF is a regular hexagon.

Find angle BAC.



Mr&Mrs MATHS

ANSWERS · REVISION MAT 5

Angles and polygons

1 $x = 60°$

2 Exterior 30°

150°

3 180 − 110 = 70°

Both base angles are 70°

4 Alternate angles: $3x + 10 = 5x - 30$

$x = 20$

5 4 triangles

4 × 180 = 720°

6 $6e = 180 \Rightarrow e = 30°$

12 sides

7 **Each angle is 135°, and 3 × 135 = 405° ≠ 360°.**

8 Angle ABC = 120°

Triangle ABC is isosceles

Angle BAC = 30°

Mr&Mrs MATHS