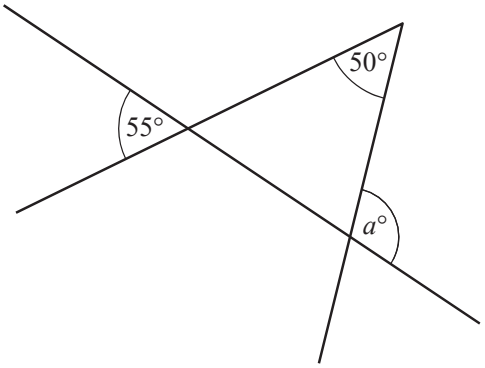
EXAM PAPERS PRACTICE

Angles in Polygons

Question Paper

Question 1

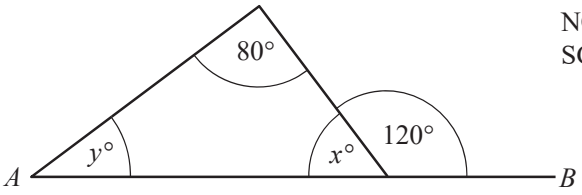


NOT TO SCALE

Use the information in the diagram to find the value of a.

[2]

Question 2



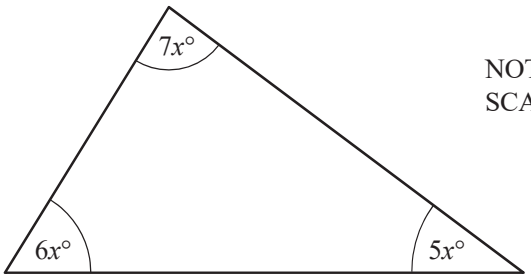
NOT TO SCALE

In the diagram, AB is a straight line.

Find the value of x and the value of y. [2]

Question 3

The three angles in a triangle are $5x°$, $6x°$ and $7x°$.



NOT TO SCALE

(a) Find the value of x. [2]

(b) Work out the size of the largest angle in the triangle. [1]

Question 4

Five angles of a hexagon are each 115°.

Calculate the size of the sixth angle. [3]

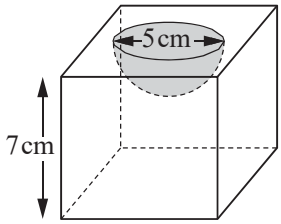
Question 5

A regular polygon has an interior angle of 172°.

Find the number of sides of this polygon. [3]

Question 6

A solid consists of a metal cube with a hemisphere cut out of it.



NOT TO SCALE

The length of a side of the cube is 7 cm.
The diameter of the hemisphere is 5 cm.

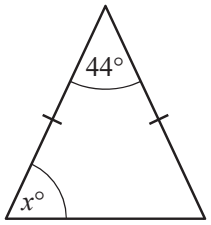
Calculate the volume of this solid.
[The volume, V, of a sphere with radius r is $V = \frac{4}{3}\pi r^3$.] [3]

Question 7

Find the sum of the interior angles of a 25-sided polygon. [2]

Question 8

(a)



NOT TO SCALE

The diagram shows an isosceles triangle.

Find the value of x. [1]

(b) The exterior angle of a regular polygon is 24°.

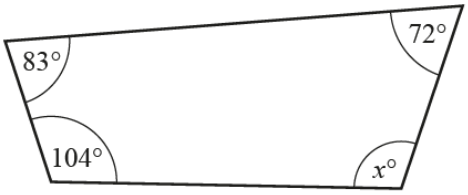
Find the number of sides of this regular polygon.

[2]

Question 9

Find the interior angle of a regular polygon with 18 sides. [3]

Question 10

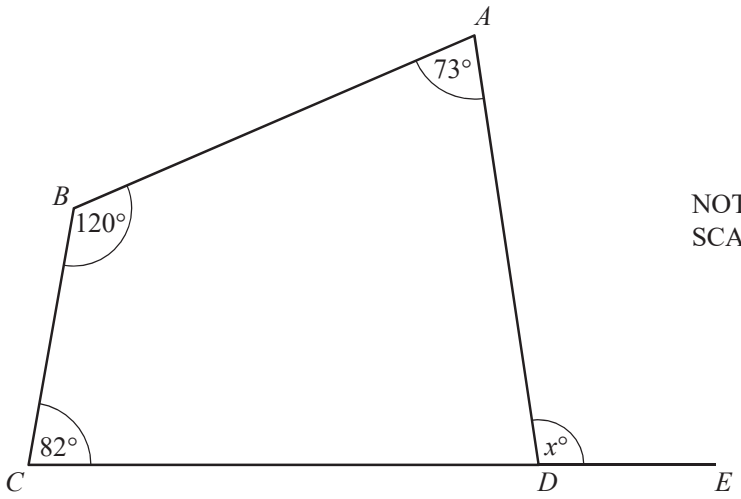


NOT TO SCALE

The diagram shows a quadrilateral.

Find the value of x. [1]

Question 11

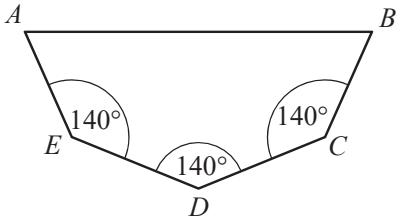


NOT TO SCALE

The diagram shows a quadrilateral $ABCD$.
CDE is a straight line.

Calculate the value of x. [2]

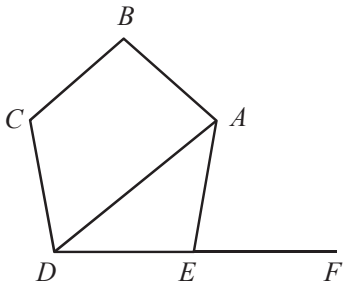
Question 12



NOT TO SCALE

The pentagon has three angles which are each 140°.
The other two interior angles are equal.
Calculate the size of one of these angles. [3]

Question 13



NOT TO SCALE

ABCDE is a regular pentagon.
DEF is a straight line.
Calculate

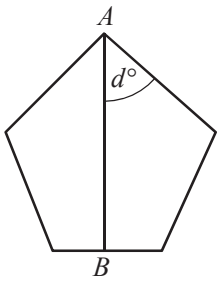
(a) angle *AEF*, [2]

(b) angle *DAE*. [1]

Question 14

The diagram shows a regular pentagon.
AB is a line of symmetry.

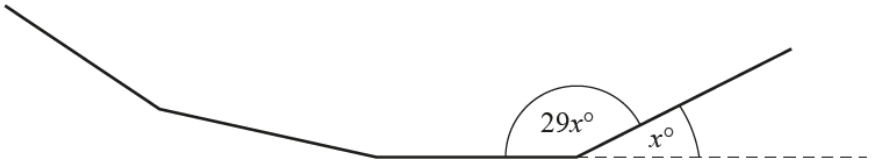
Work out the value of d.



NOT TO SCALE

[3]

Question 15



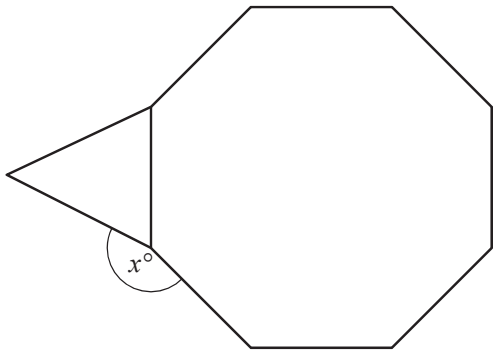
NOT TO SCALE

The diagram shows part of a regular polygon.
The exterior angle is $x°$.
The interior angle is $29x°$.

Work out the number of sides of this polygon. [3]

Question 16

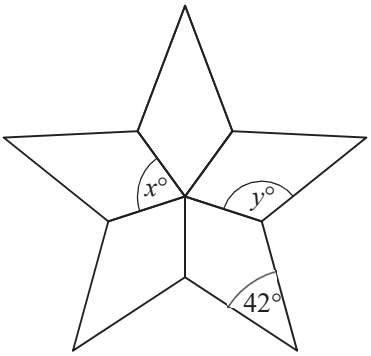
The diagram shows a regular octagon joined to an equilateral triangle.



NOT TO SCALE

Work out the value of x. [3]

Question 17



NOT TO SCALE

The diagram is made from 5 congruent kites.

Work out the value of

(a) x, [1]

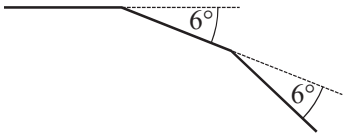
(b) y. [2]

Question 18

The exterior angle of a regular polygon is 36°.

What is the name of this polygon? [3]

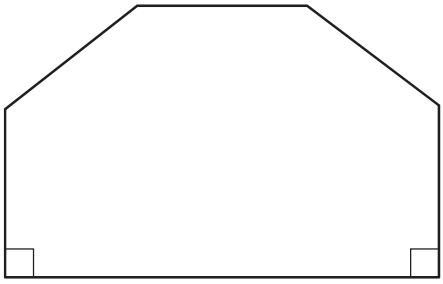
Question 19



NOT TO SCALE

The diagram shows two of the exterior angles of a regular polygon with n sides.
Calculate n. [2]

Question 20



NOT TO SCALE

The front of a house is in the shape of a hexagon with two right angles.
The other four angles are all the same size.

Calculate the size of one of these angles. [3]