

# E3.6 Angles (Circles, Quadrilaterals, Polygons and Triangles)

## Question Paper

Level	IGCSE
Subject	Maths (0580)
Exam Board	Cambridge International Examinations (CIE)
Level	Core
Topic	E3. Geometry
Sub-Topic	E3.6 Angles (Circles, Quadrilaterals, Polygons and Triangles)
Booklet	Question Paper

**Time Allowed:** 40 minutes

**Score:** /33

**Percentage:** /100

**Grade Boundaries:**

A*	A	B	C	D	E	U
>85%	75%	60%	45%	35%	25%	<25%

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1 Write down the mathematical name for

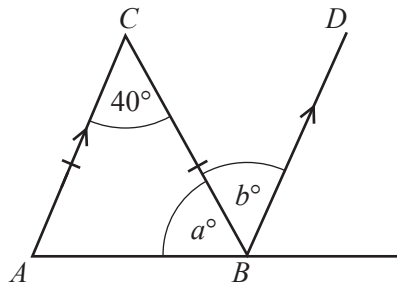
(a) an angle that is less than  $90^\circ$ ,

..... [1]

(b) a five-sided polygon.

..... [1]

2



NOT TO  
SCALE

Triangle  $ABC$  is isosceles and  $AC$  is parallel to  $BD$ .

Find the value of  $a$  and the value of  $b$ .

$a =$  .....

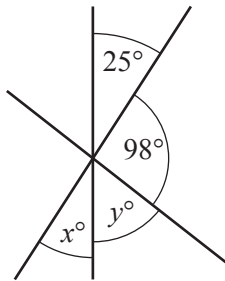
$b =$  ..... [2]

3 A regular polygon has an interior angle of  $172^\circ$ .

Find the number of sides of this polygon.

..... [3]

4 (a)



NOT TO SCALE

The diagram shows three straight lines crossing at a point.

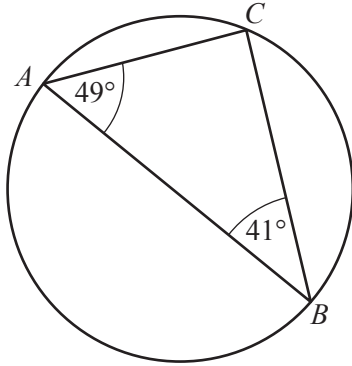
(i) Find the value of  $x$ .

$x =$  ..... [1]

(ii) Work out the value of  $y$ .

$y =$  ..... [1]

(b)



NOT TO SCALE

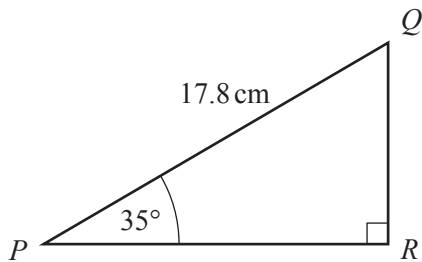
$A$ ,  $B$  and  $C$  are points on the circumference of a circle.

Explain why  $AB$  must be a diameter of the circle.

.....  
..... [2]

15

(c)



NOT TO SCALE

$PQR$  is a right-angled triangle.

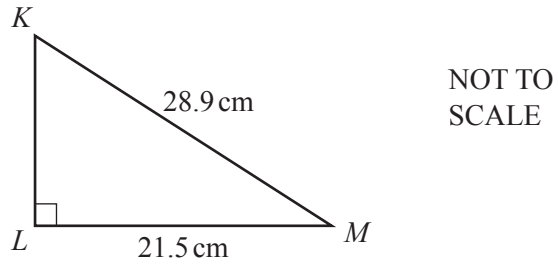
Use trigonometry to calculate  $PR$ .

$PR =$  ..... cm [2]

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(d)

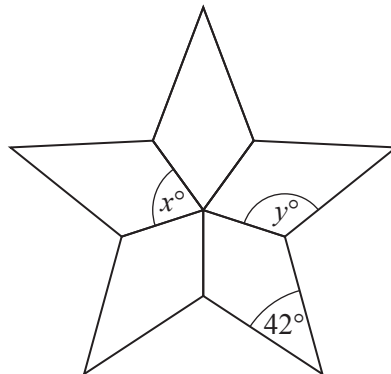


$KLM$  is a right-angled triangle.

Calculate  $KL$ .

$$KL = \dots\dots\dots\text{ cm [3]}$$

5



NOT TO SCALE

The diagram is made from 5 congruent kites.

Work out the value of

(a)  $x$ ,

$$x = \dots\dots\dots [1]$$

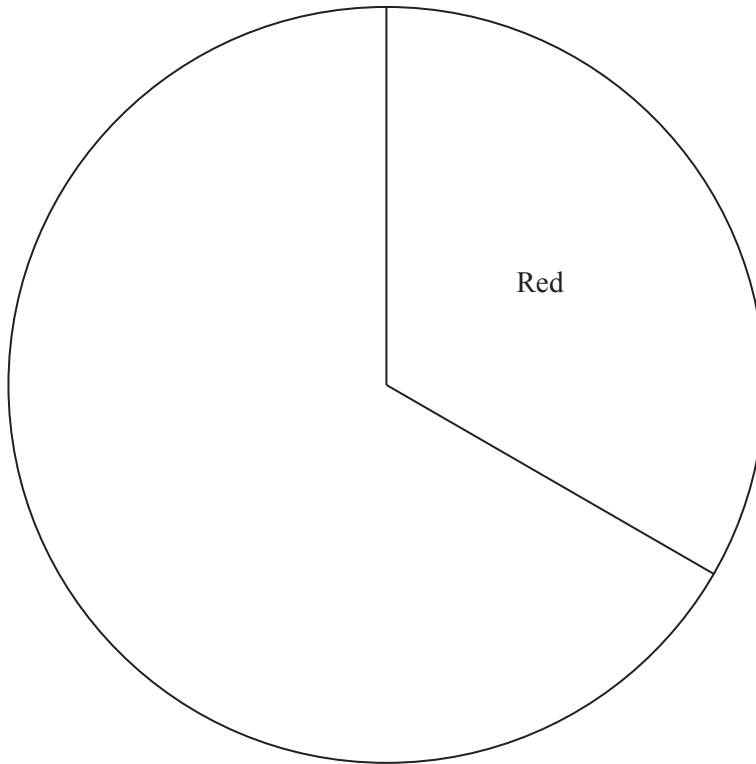
(b)  $y$ .

$$y = \dots\dots\dots [2]$$

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- 6 45 members of an athletics club were asked to choose a colour for their club vests. The choices were red, blue and green. The pie chart shows the sector for the number of members who chose red.



- (a) (i) Measure the sector angle for red.

..... [1]

- (ii) Calculate the number of members who chose red.

..... [2]

- (b) 24 members chose blue.

Calculate the sector angle for blue.

..... [2]

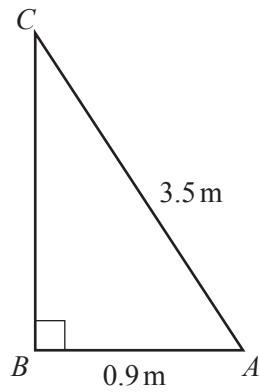
(c) Complete the pie chart.

(d) What colour should the athletics club choose for their club vests?  
Give a reason for your answer.

[1]

..... because ..... [1]

7

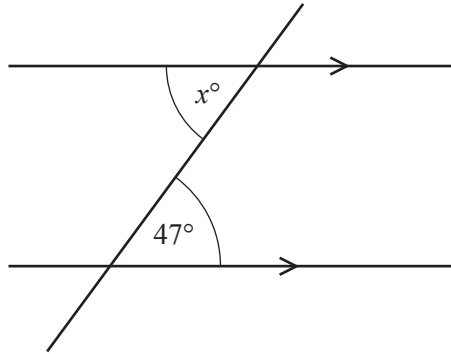


NOT TO  
SCALE

Calculate angle  $BAC$ .

Angle  $BAC$  = ..... [2]

8 (a)

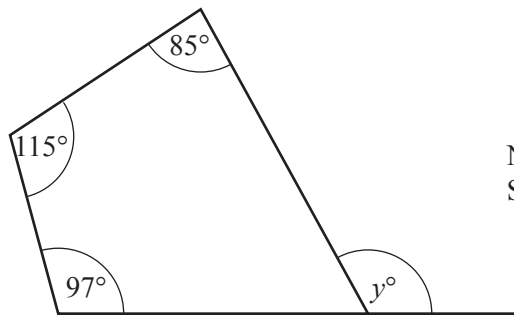


NOT TO SCALE

Find the value of  $x$ .

$x = \dots\dots\dots [1]$

(b)



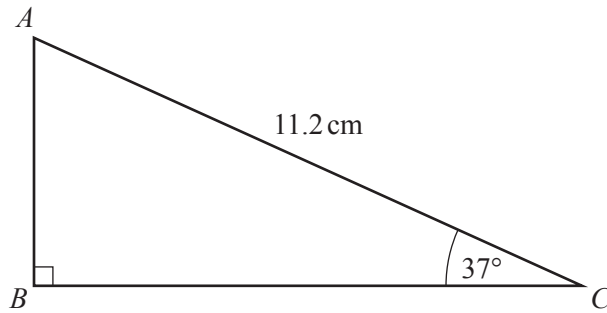
NOT TO SCALE

Find the value of  $y$ .

$y = \dots\dots\dots [2]$



9



NOT TO  
SCALE

Calculate  $AB$ .

Answer  $AB = \dots\dots\dots$  cm [2]