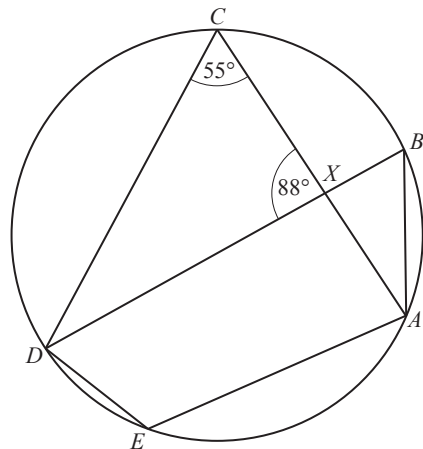


14

NOT TO
SCALE

A, B, C, D and E lie on the circle.
 AC and BD intersect at X .
Angle $ACD = 55^\circ$ and angle $CXD = 88^\circ$.

(a) Complete the statements, giving a geometrical reason in each part.

Angle $CDB = \dots\dots\dots$ because $\dots\dots\dots$

$\dots\dots\dots$

Angle $ABD = \dots\dots\dots$ because $\dots\dots\dots$

$\dots\dots\dots$

Angle $AED = \dots\dots\dots$ because $\dots\dots\dots$

$\dots\dots\dots$

[6]

(b) Triangle CXD is mathematically similar to triangle BXA .
 $DX = 8.0$ cm, $BX = 2.7$ cm and $AX = 4.0$ cm.

(i) Work out the length of CX .

$CX = \dots\dots\dots$ cm [2]

(ii) Complete the statement.

Area of triangle CXD : area of triangle $BXA = \dots\dots\dots : \dots\dots\dots$ [1]

15 (a) Write 66 000 in standard form.

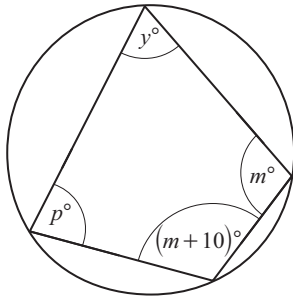
$\dots\dots\dots$ [1]

(b) Work out $(3.7 \times 10^8) + (3.7 \times 10^7)$.

Give your answer in standard form.

$\dots\dots\dots$ [2]

21



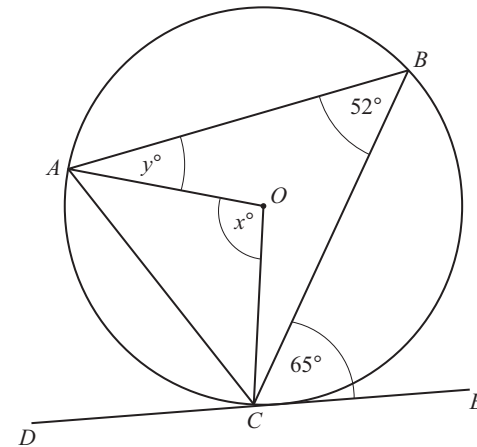
NOT TO
SCALE

The diagram shows a cyclic quadrilateral.
The ratio $p : m = 2 : 3$.

Find the value of y .

$y =$ [4]

12



NOT TO
SCALE

A, B and C lie on a circle centre O .
 DE is a tangent to the circle at C .
Angle $ABC = 52^\circ$ and angle $BCE = 65^\circ$.

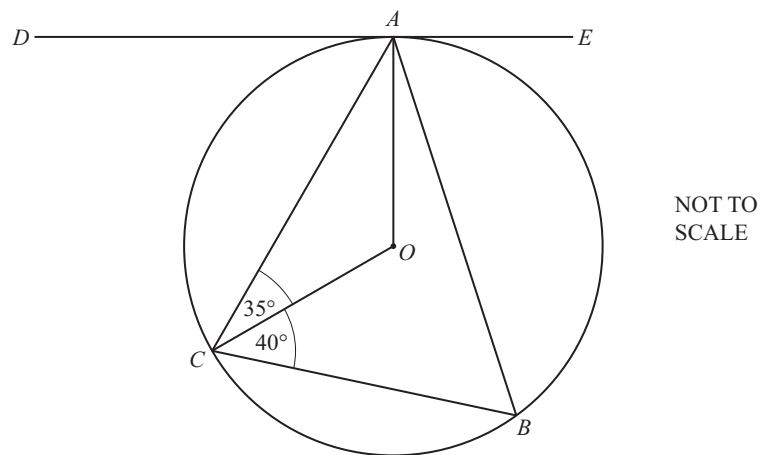
- (a) Find the value of x .
Give a geometrical reason for your answer.

$x =$ because [2]

- (b) Find the value of y .

$y =$ [2]

10



A , B and C are three points on a circle, centre O .
 DE is a tangent to the circle at A .
Angle $ACO = 35^\circ$ and angle $BCO = 40^\circ$.

Find

(a) angle AOC

Angle $AOC = \dots\dots\dots$ [1]

(b) angle ABC

Angle $ABC = \dots\dots\dots$ [1]

(c) angle DAC

Angle $DAC = \dots\dots\dots$ [1]

(d) angle OAB .

Angle $OAB = \dots\dots\dots$ [1]