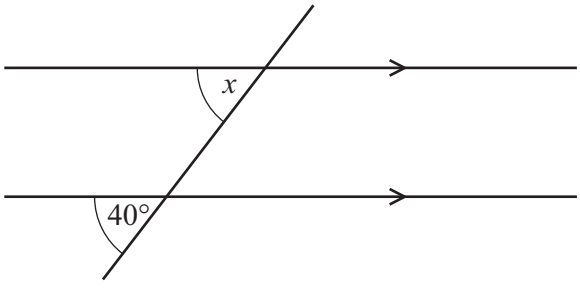
Name:

Section:

Angles Worksheet

1



NOT TO SCALE

The diagram shows a pair of parallel lines and a straight line.

Complete the statement with the correct geometrical reason.

$x = 40°$ because the angles are ..... [1]

[Total: 1]

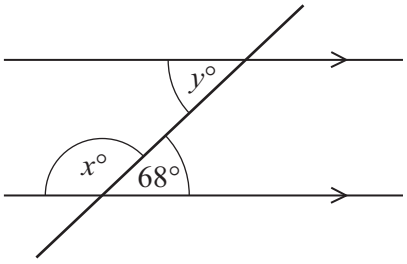
2 Each exterior angle of a regular polygon is 30°.

Work out the number of sides the polygon has.

Answer ..... [2]

[Total: 2]

3



NOT TO SCALE

The diagram shows two parallel lines and a straight line crossing them.

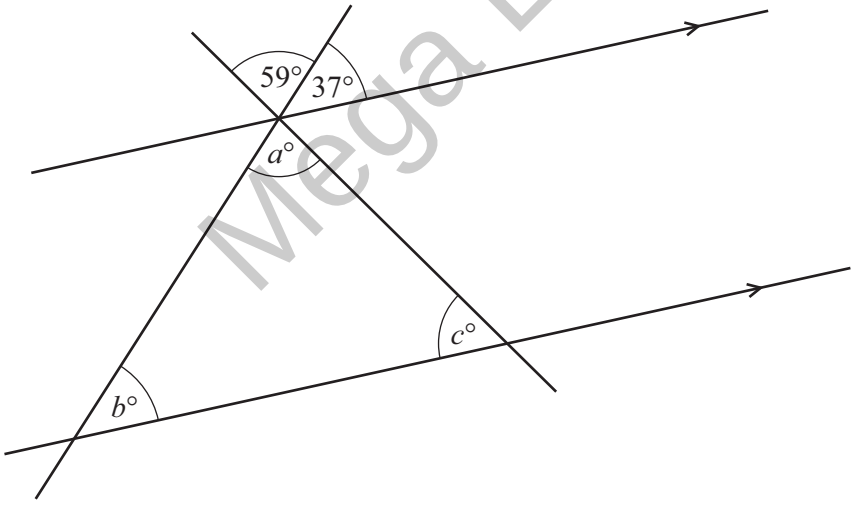
Find the value of x and the value of y.

x = ...

y = ... [2]

[Total: 2]

4



NOT TO SCALE

The diagram shows two parallel lines intersected by two straight lines.

Find the values of a, b and c.

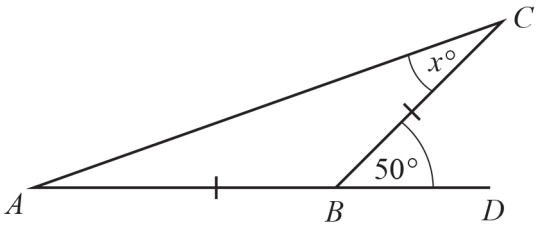
a = ...

b = ...

c = ... [3]

[Total: 3]

5



NOT TO SCALE

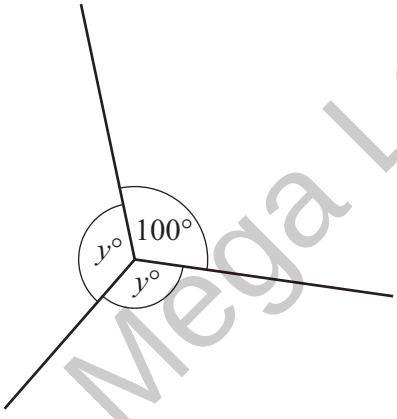
$AB = BC$ and ABD is a straight line.

Find the value of x.

x = ... [2]

[Total: 2]

6



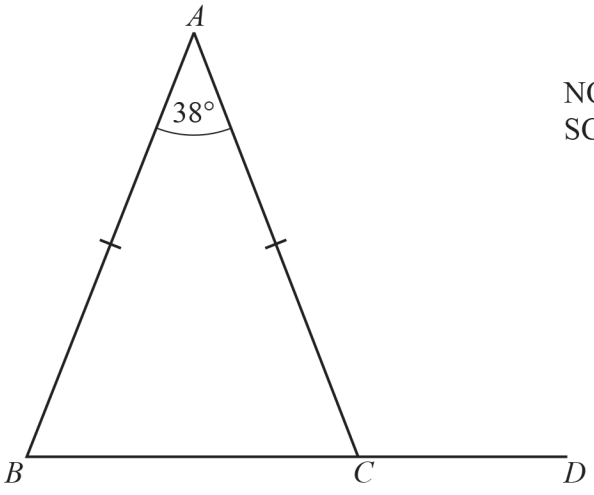
NOT TO SCALE

Find the value of y.

y = ... [2]

[Total: 2]

7



NOT TO SCALE

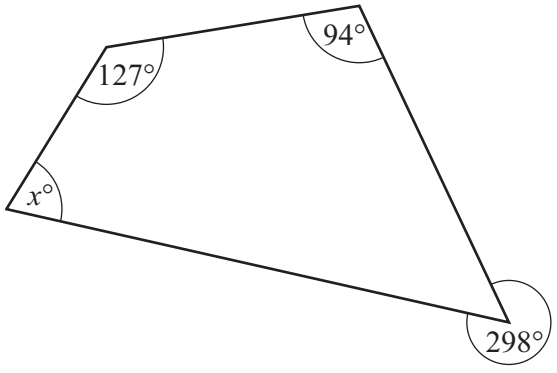
In the triangle ABC, $AB = AC$ and angle $BAC = 38°$.
BCD is a straight line.

Work out angle ACD.

Angle ACD = ... [3]

[Total: 3]

8



NOT TO SCALE

Work out the value of x.
Write down the two geometrical properties needed to find x.

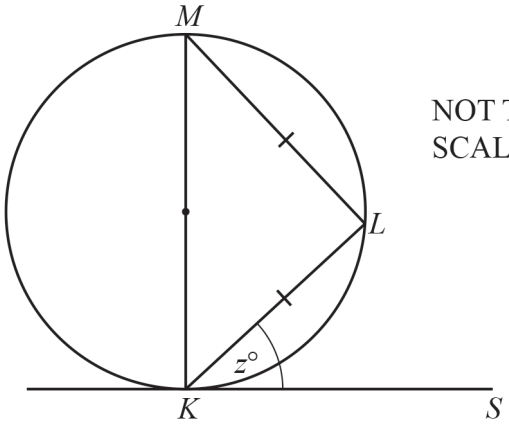
1 .....

2 .....

x = ... [4]

[Total: 4]

9



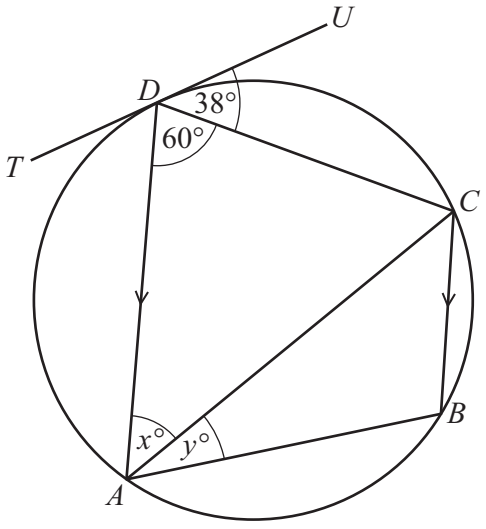
K, *L* and *M* are points on the circle.
KS is a tangent to the circle at *K*.
KM is a diameter and triangle *KLM* is isosceles.

Find the value of z.

z = ... [2]

[Total: 2]

10



NOT TO SCALE

A, *B*, *C* and *D* are points on a circle.
TU is a tangent to the circle at *D*.
DA is parallel to *CB*.

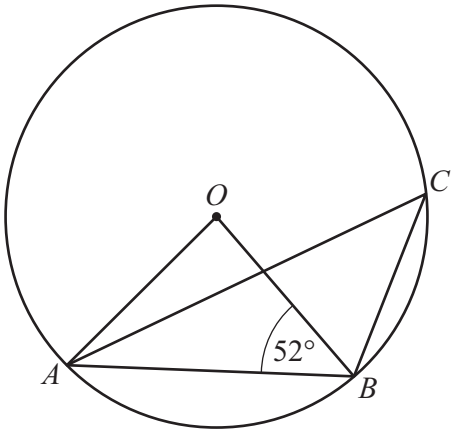
Find the value of *x* and the value of *y*.

x = ...

y = ... [3]

[Total: 3]

11



NOT TO SCALE

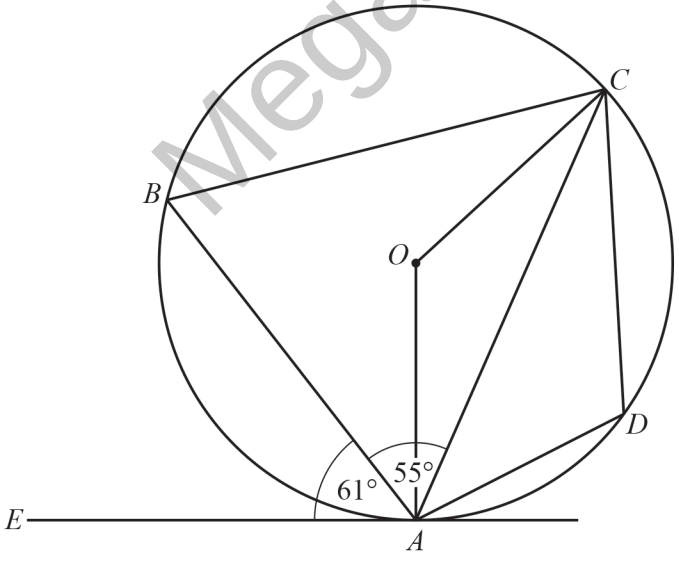
A, *B* and *C* lie on a circle, centre *O*.
Angle *OBA* = 52°.

Calculate angle *ACB*.

Angle *ACB* = ... [2]

[Total: 2]

12



NOT TO SCALE

In the diagram, *A*, *B*, *C* and *D* lie on the circle, centre *O*.
EA is a tangent to the circle at *A*.
Angle *EAB* = 61° and angle *BAC* = 55°.

(a) Find angle *BAO*.

Angle *BAO* = ... [1]

(b) Find angle *AOC*.

Angle *AOC* = ... [2]

(c) Find angle *ABC*.

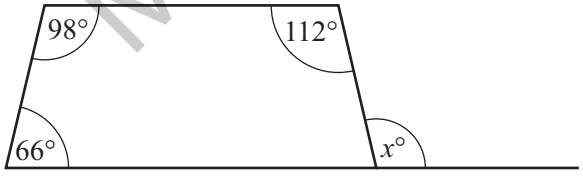
Angle *ABC* = ... [1]

(d) Find angle *CDA*.

Angle *CDA* = ... [1]

[Total: 5]

13 The diagram shows a quadrilateral with one side extended.



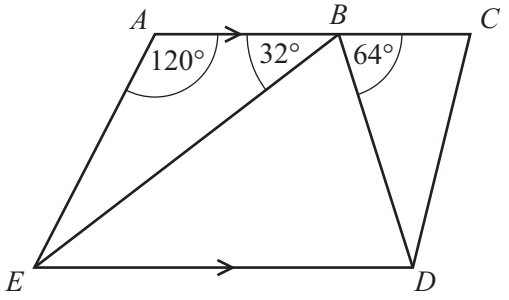
NOT TO SCALE

Find the value of *x*.

Answer x = ... [2]

[Total: 2]

14



NOT TO SCALE

The diagram shows quadrilateral *ACDE*.
AC is parallel to *ED* and *B* is a point on *AC*.
Angle *EAB* = 120°, angle *ABE* = 32° and angle *CBD* = 64°.

(a) Work out angle *EBD*.

Answer(a) Angle *EBD* = ... [1]

(b) Work out angle *AEB*.

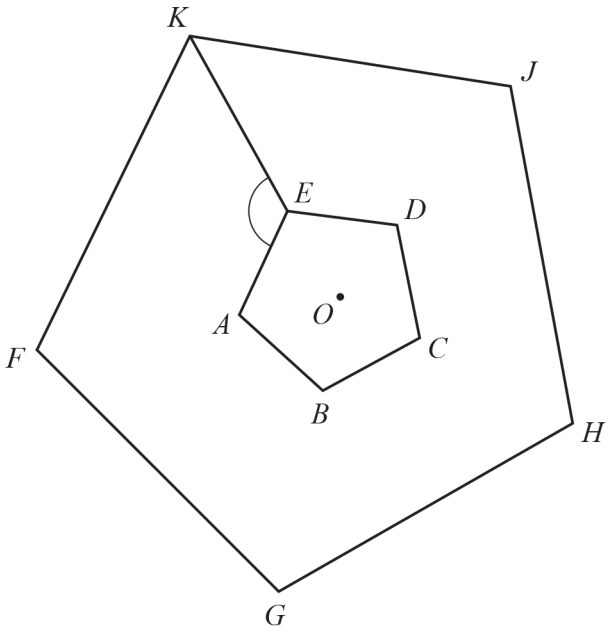
Answer(b) Angle *AEB* = ... [1]

(c) Complete this statement.

Angle *BED* = angle *ABE* because they are ..... angles. [1]

[Total: 3]

15



NOT TO SCALE

The diagram shows two regular pentagons.
Pentagon *FGHJK* is an enlargement of pentagon *ABCDE*, centre *O*.

Find angle *AEK*.

Angle *AEK* = ... [4]

[Total: 4]