Geometry – 2024 O Level Math D 4024

1. June/2024/Paper_ 4024/11/No.1

G	R	A	N	T

From this word write down the letters which have

(a) a line of symmetry

..... [1]

(b) rotational symmetry.

..... [1]

2. June/2024/Paper_ 4024/11/No.4

(a) ABC is a triangle with $AC = 5\,\text{cm}$ and $BC = 10\,\text{cm}$.

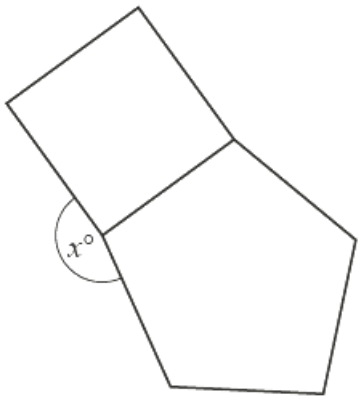
Using a ruler and compasses only, construct triangle ABC.
AB has been drawn for you.

[2]

(b) Measure angle BAC.

Angle BAC = ... [1]

3. June/2024/Paper_ 4024/11/No.7



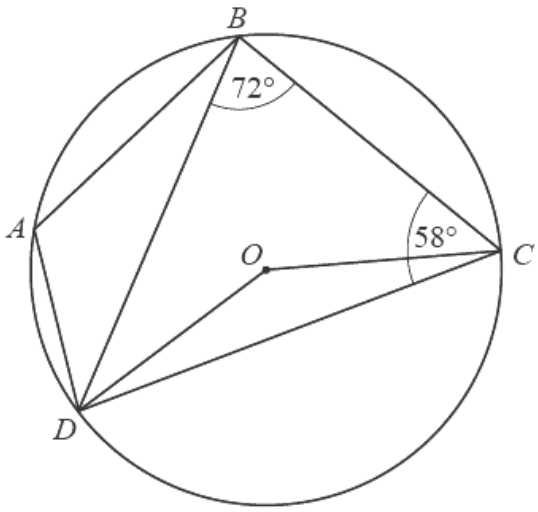
NOT TO
SCALE

A square and a regular pentagon are joined along one edge as shown in the diagram.

Calculate the value of x.

$x =$ ..... [3]

4. June/2024/Paper_ 4024/11/No.16



NOT TO SCALE

A, B, C and D are points on the circumference of a circle centre O.
Angle $BCD = 58°$ and angle $DBC = 72°$.

(a) Complete the statement below.

Angle DAB = ... because .....

..... [2]

(b) **(i)** Find angle DOC.

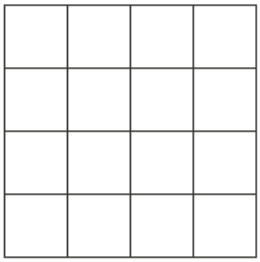
Angle DOC = ... [1]

(ii) Find angle BCO.

Angle BCO = ... [2]

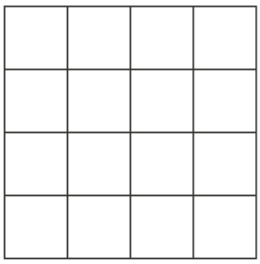
5. June/2024/Paper_ 4024/12/No.2

(a) Shade **one** more small square so the diagram has one line of symmetry.



[1]

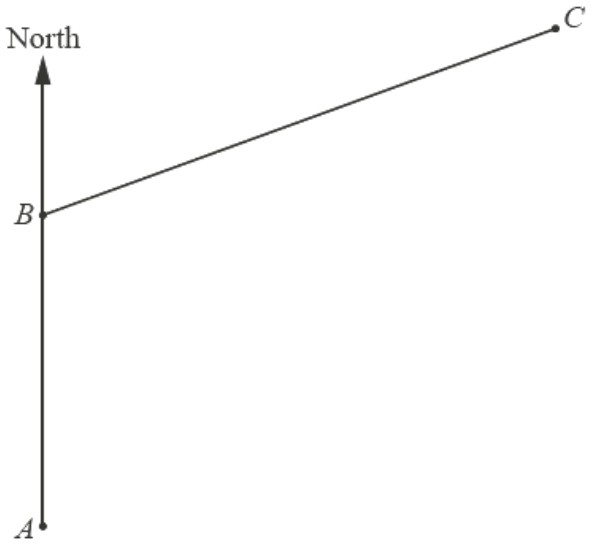
(b) Shade **one** more small square so the diagram has rotational symmetry of order 2.



[1]

6. June/2024/Paper_ 4024/12/No.10

The scale drawing shows part of a field, $ABCD$.
The scale is 1 cm to 50 m.



Scale: 1 cm to 50 m

(a) Measure the bearing of C from B.

..... [1]

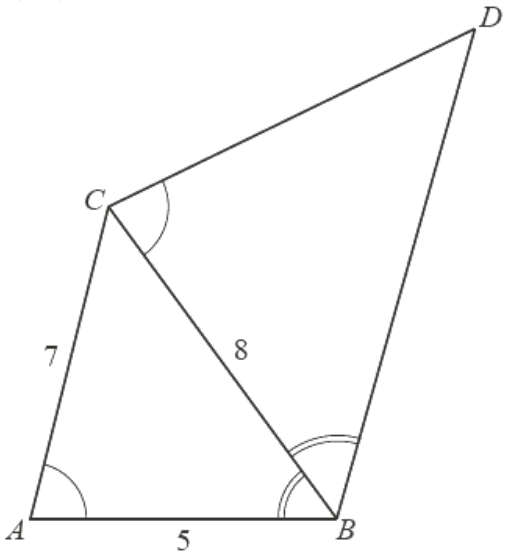
(b) D is 250 m from C and 300 m from A.

Use a ruler and compasses only to complete the scale drawing of the field $ABCD$. [2]

(c) There is a path across the field.
The path is equidistant from AB and BC.

Use a straight edge and compasses only to construct the path. [2]

7. June/2024/Paper_ 4024/12/No.15



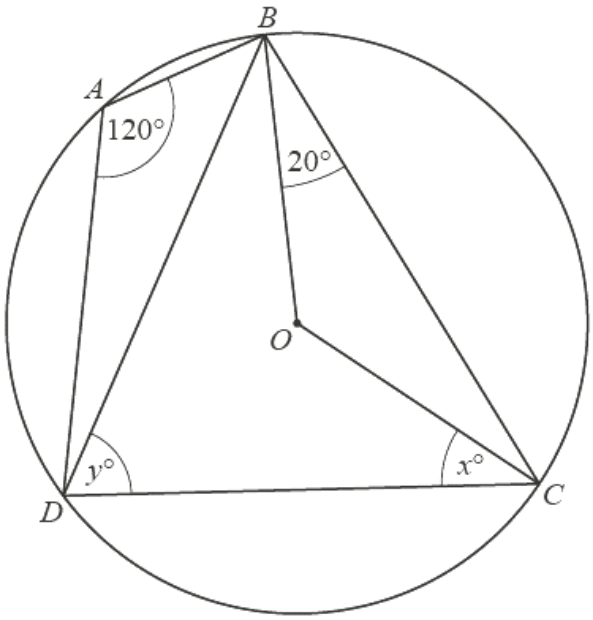
NOT TO SCALE

Triangle ABC is mathematically similar to triangle CBD.
$AB = 5\text{cm}$, $AC = 7\text{cm}$ and $BC = 8\text{cm}$.

Calculate BD.

$BD =$ ..... cm [2]

8. June/2024/Paper_ 4024/12/No.17



NOT TO SCALE

A, B, C and D are points on a circle, centre O.
Angle $BAD = 120°$ and angle $OBC = 20°$.

(a) Find the value of x.

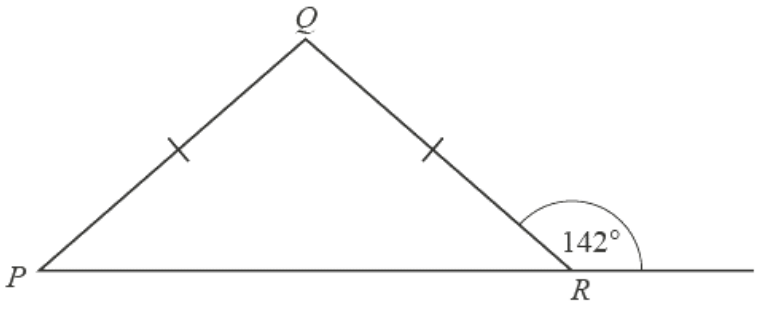
$x =$ ..... [2]

(b) Find the value of y.

$y =$ ..... [2]

9. June/2024/Paper_ 4024/21/No.3

(a)



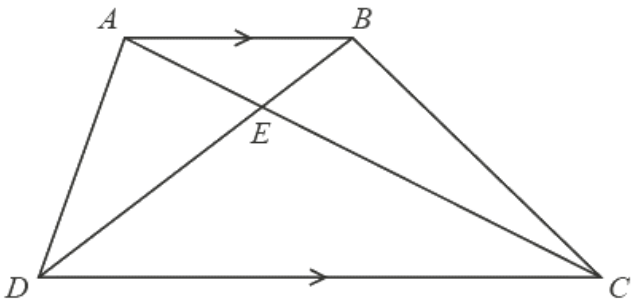
NOT TO SCALE

Triangle PQR is isosceles with $PQ = QR$.
The exterior angle of the triangle at R is 142°.

Calculate angle PQR.

Angle PQR = ... [2]

(b)



NOT TO SCALE

The diagonals of trapezium $ABCD$ meet at E.

Show that triangle ABE is similar to triangle CDE.
Give a reason for each statement you make.

.....

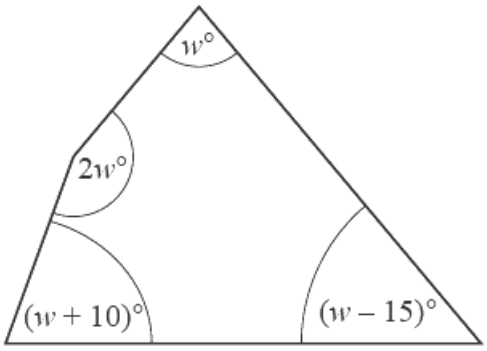
.....

.....

..... [3]

10. June/2024/Paper_ 4024/21/No.10(b)

(b)



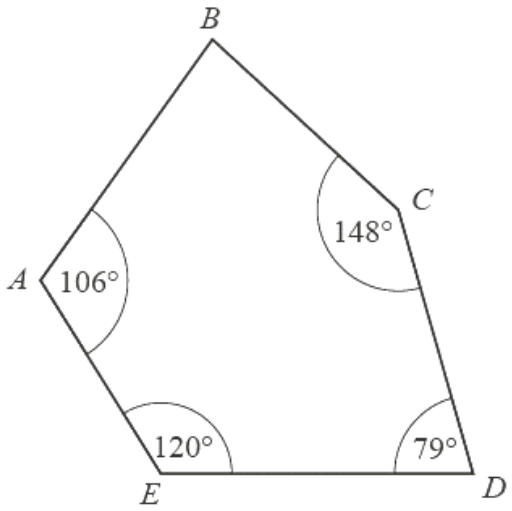
NOT TO SCALE

The diagram shows a quadrilateral.

Form an equation in w and solve it to find the size of the **largest** angle in the quadrilateral.

Largest angle = ... [4]

11. June/2024/Paper_ 4024/22/No.10



NOT TO SCALE

The diagram shows a pentagon.

(a) Calculate the interior angle B.

..... [2]

(b) In the pentagon, $AE = 8\,\text{cm}$ and $AD = 15\,\text{cm}$.

Calculate the length ED.
Show your working and give your answer correct to 1 decimal place.

$ED =$ ..... cm [5]