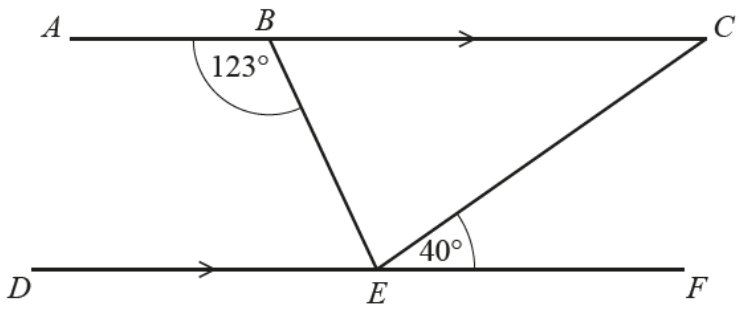
Angles – 2020 O Level Math D

1. Nov/2020/Paper_11/No.11



NOT TO SCALE

In the diagram, ABC and DEF are parallel lines.
$A\hat{B}E = 123°$ and $C\hat{E}F = 40°$.

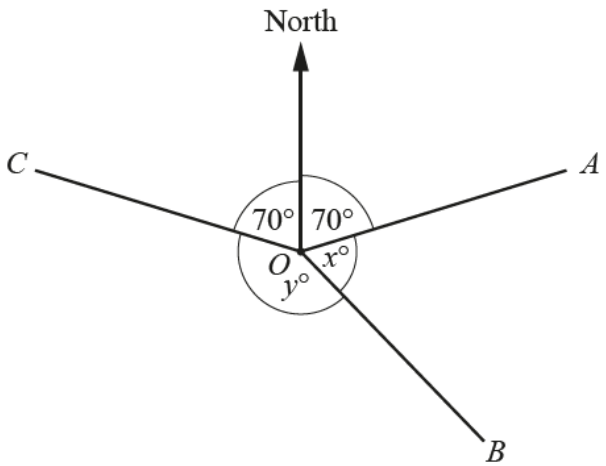
(a) Calculate $D\hat{E}B$.

$D\hat{E}B =$ ..... [1]

(b) Calculate $B\hat{E}C$.

$B\hat{E}C =$ ..... [1]

2. Nov/2020/Paper_11/No.13



NOT TO SCALE

In the diagram, OC and OA each make an angle of 70° with the North line.
$A\hat{O}B = x°$ and $B\hat{O}C = y°$.

(a) $x : y = 3 : 7$.

Find the value of x.

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

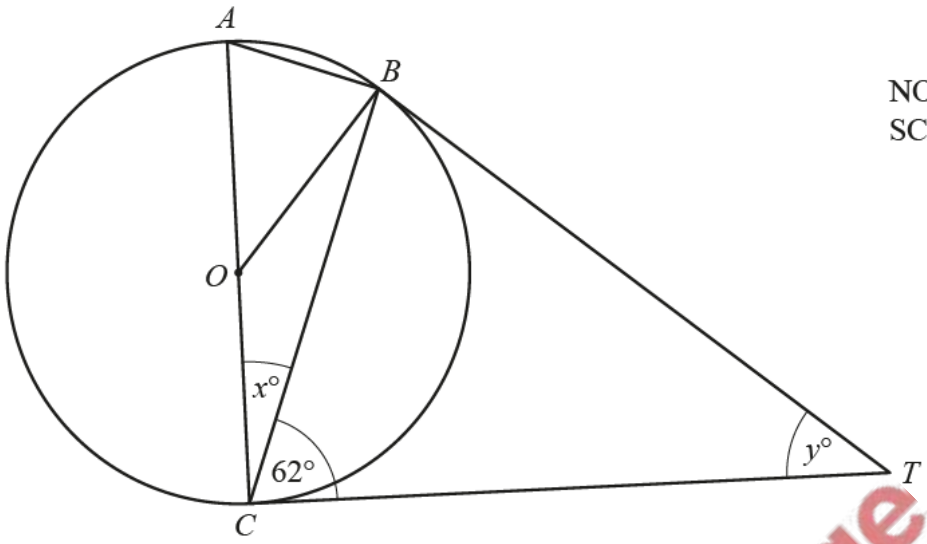
(b) Find the bearing of C from O.

..... [1]

(c) Find the bearing of O from A.

..... [1]

3. Nov/2020/Paper_11/No.17



NOT TO SCALE

In the diagram, AC is a diameter of the circle centre O.
The tangents from T touch the circle at B and C.
$B\hat{C}T = 62°$.

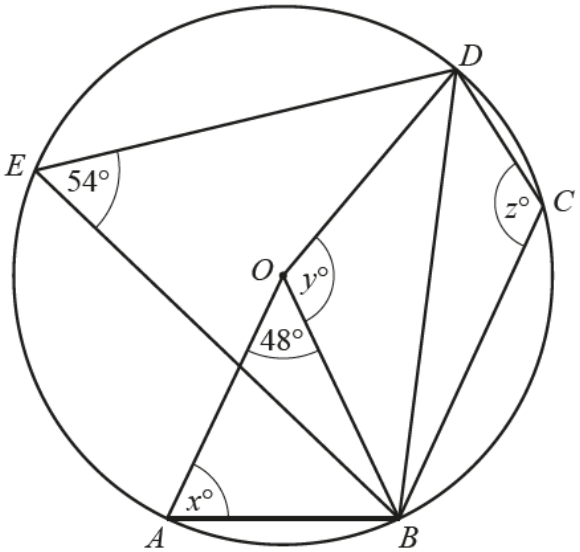
(a) Find x.

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

(b) Find y.

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

4. Nov/2020/Paper_12/No.22



NOT TO SCALE

In the diagram, A, B, C, D and E lie on the circle, centre O.
$A\hat{O}B = 48°$, $D\hat{E}B = 54°$.

(a) Find x.

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

(b) Find y.

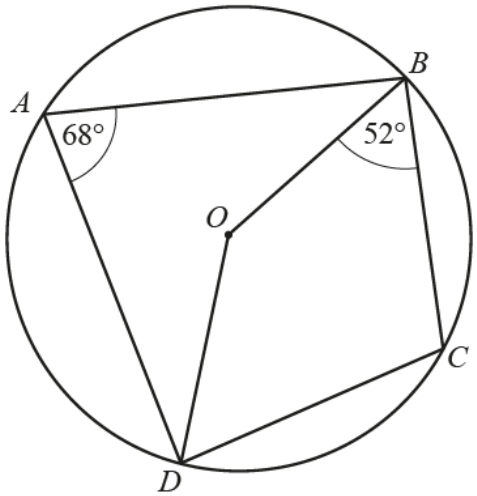
$y =$ ..... [1]

(c) Find z.

$z =$ ..... [1]

5. Nov/2020/Paper_21/No.7

(a)



NOT TO SCALE

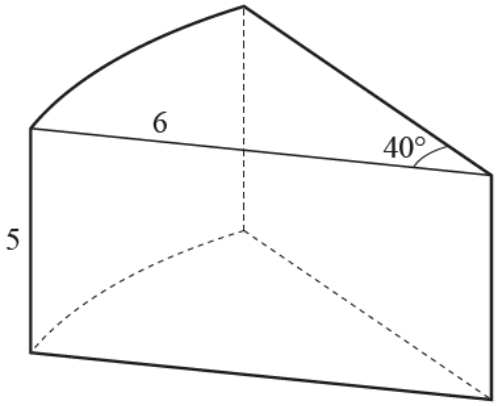
A, B, C and D are points on the circle, centre O.
$B\hat{A}D = 68°$ and $C\hat{B}O = 52°$.

Find $C\hat{D}O$.

$C\hat{D}O =$ ..... [3]

(b)

Solid A



The cross-section of solid A is the sector of a circle of radius 6 cm and angle 40°.
The height of solid A is 5 cm.

(i) Calculate the total surface area of solid A.

..... cm^2 [4]

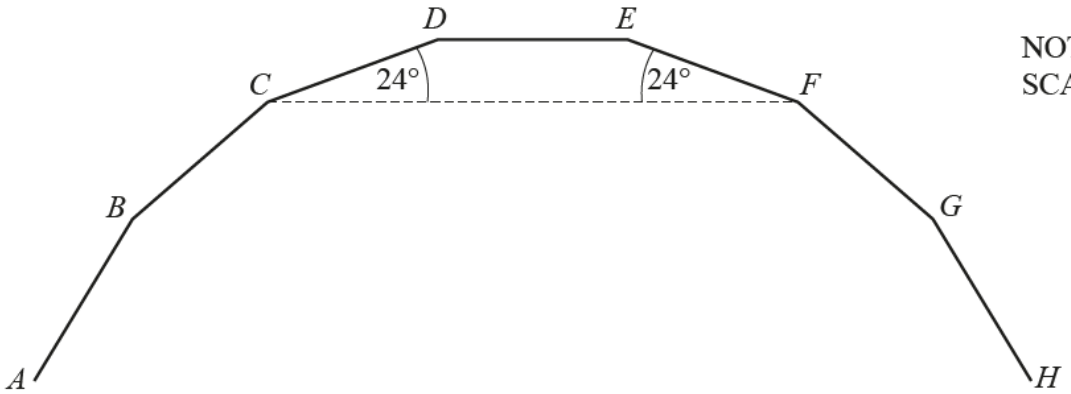
(ii) Solid B is mathematically similar to solid A.
The ratio volume of solid A : volume of solid $B = 27 : 1$.

Calculate the surface area of solid B.

..... cm^2 [2]

6. Nov/2020/Paper_22/No.7a

(a)



NOT TO SCALE

The diagram shows part of an n-sided regular polygon $ABCDEFGH\ldots$
$D\hat{C}F = E\hat{F}C = 24°$.

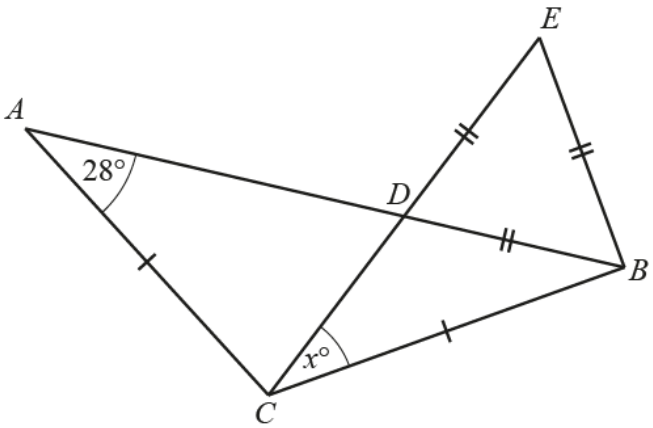
(i) Find the value of n.

$n =$ ..... [2]

(ii) Find $H\hat{F}G$.

$H\hat{F}G =$ ..... [2]

7. June/2020/Paper_11/No.5



NOT TO SCALE

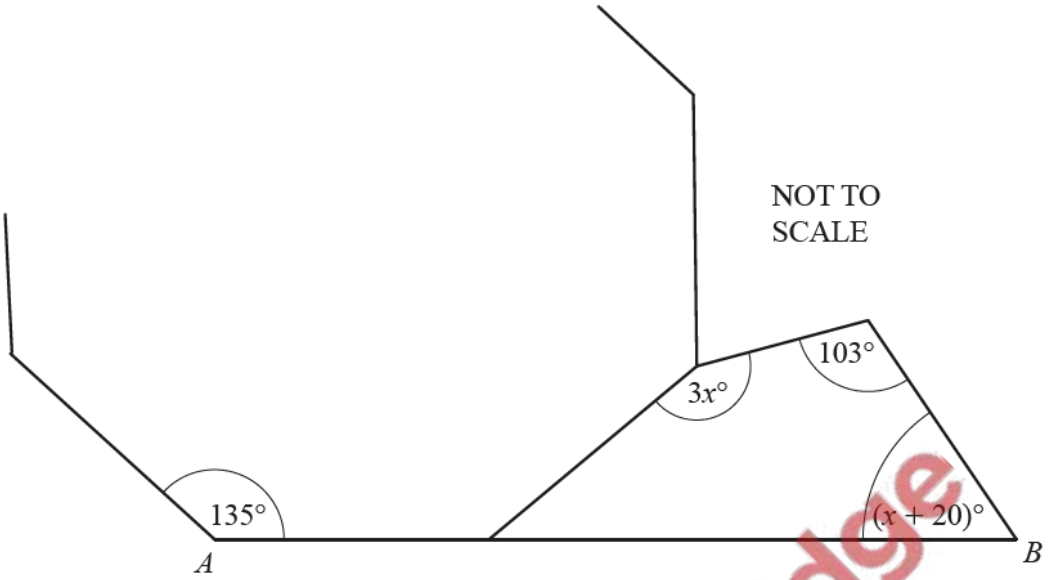
The diagram shows an isosceles triangle ABC and an equilateral triangle BDE.
D is the intersection of AB and CE.
Angle $BAC = 28°$.

Calculate x.

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

8. June/2020/Paper_21/No.7

(a)

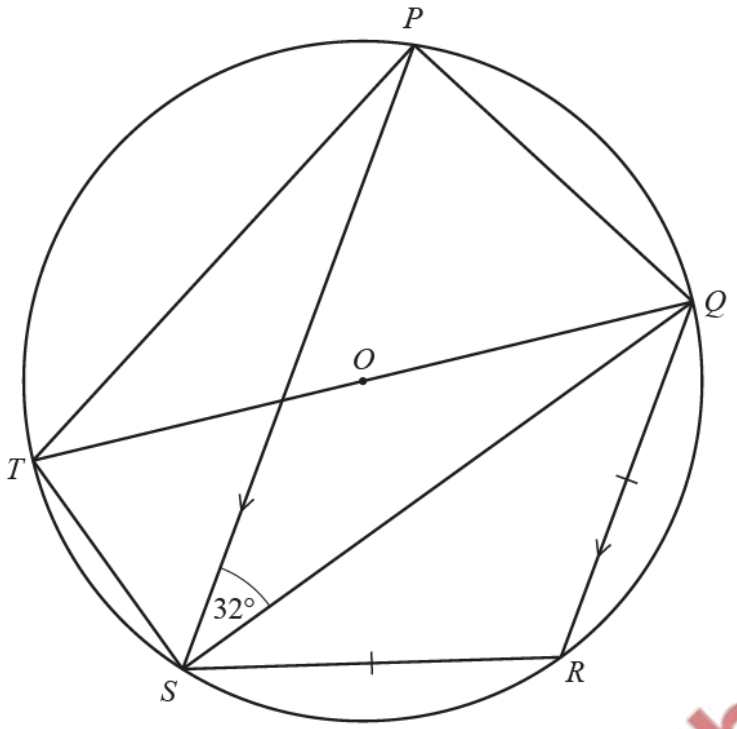


The diagram shows a quadrilateral and part of a regular octagon.
AB is a straight line.

Form an equation in x and solve it to find x.

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

(b)



NOT TO SCALE

P, Q, R, S and T are points on the circumference of a circle, centre O.
$P\hat{S}Q = 32°$ and O lies on TQ.
PS is parallel to QR and $QR = RS$.

(i) Find $P\hat{Q}T$.
Give a reason for each step of your working.

.....

.....

.....

$P\hat{Q}T =$ ..... [3]

(ii) Find $Q\hat{R}S$.

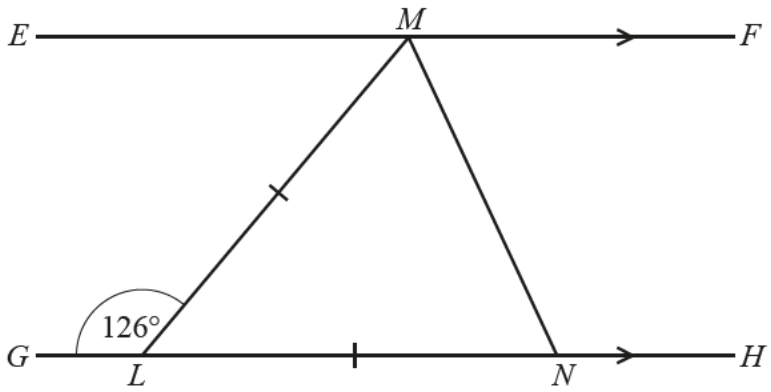
$Q\hat{R}S =$ ..... [2]

(iii) Find $T\hat{Q}S$.

$T\hat{Q}S =$ ..... [1]

9. June/2020/Paper_22/No.9

(a)



NOT TO SCALE

EMF and *GLNH* are parallel lines.
$LM = LN$ and $G\hat{L}M = 126°$.

Find $F\hat{M}N$.
Give a reason for each step of your working.

.....

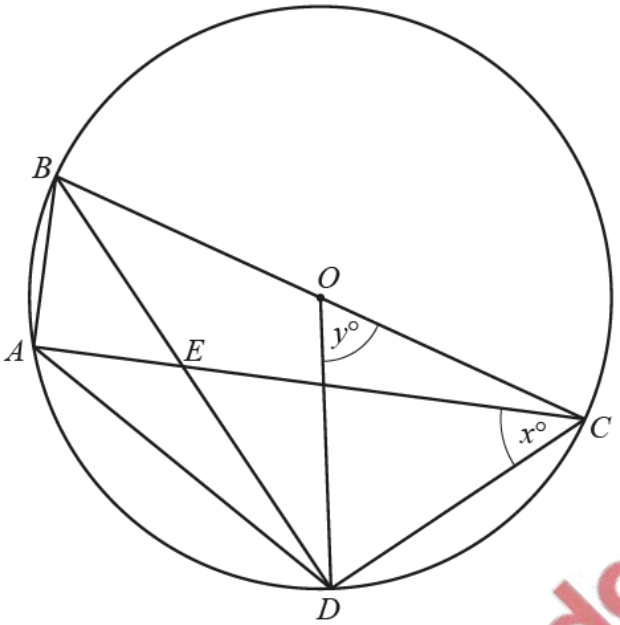
.....

.....

.....

$F\hat{M}N =$ ..... [4]

(b)



NOT TO SCALE

A, B, C and D are points on the circumference of a circle, centre O.
BD and AC intersect at E and BC is a diameter of the circle.
$A\hat{C}D = x°$ and $D\hat{O}C = y°$.

Find an expression, in terms of x and/or y, for

(i) $D\hat{B}C$,

$D\hat{B}C =$ ..... [1]

(ii) $A\hat{B}D$,

$A\hat{B}D =$ ..... [1]

(iii) $A\hat{E}D$,

$A\hat{E}D =$ ..... [2]

(iv) $B\hat{D}A$.

$B\hat{D}A =$ ..... [1]