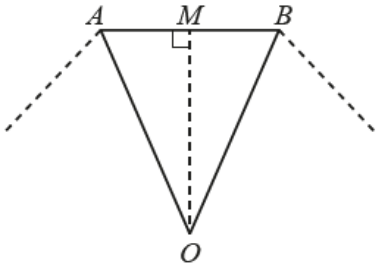
Trigonometry – 2021 IGCSE 0444

1. June/ 2022/Paper_41/No.5

(a) *ABCDEFGH* is a regular octagon with sides of length 6 cm.
The diagram shows part of the octagon.
O is the center of the octagon and *M* is the midpoint of *AB*.



NOT TO SCALE

(i) **(a)** Show that angle *OAM* is 67.5°.

[2]

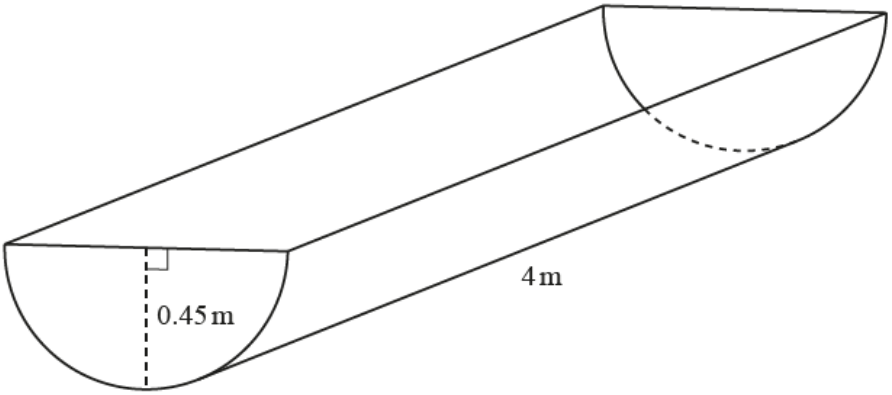
(b) Calculate the area of the octagon.

..... cm^2 [4]

(ii) Find the area of the circle that passes through the vertices of the octagon.

..... cm^2 [3]

(b)



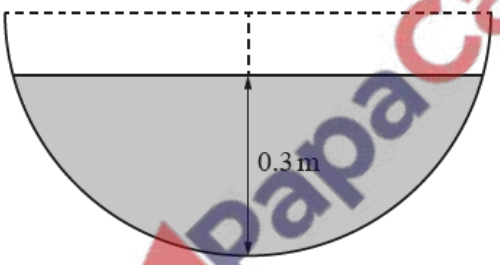
NOT TO SCALE

The diagram shows a horizontal container for water with a uniform cross-section.
The cross-section is a semicircle.
The radius of the semicircle is 0.45 m and the length of the container is 4 m.

(i) Calculate the volume of the container.

..... m^3 [2]

(ii)



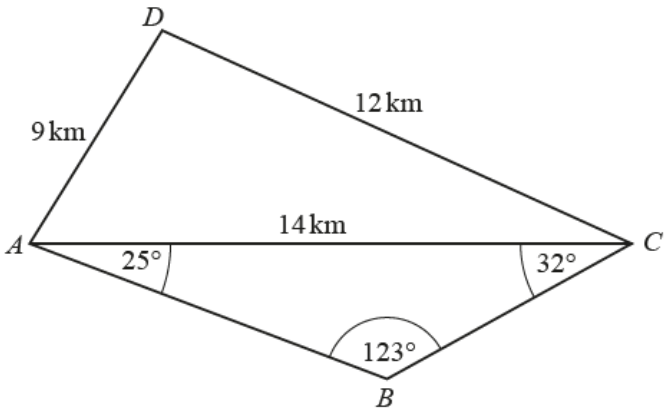
NOT TO SCALE

The greatest depth of the water in the container is 0.3 m.
The diagram shows the cross-section.

Calculate the number of liters of water in the container.
Give your answer correct to the nearest integer.

..... liters [6]

2. June/ 2022/Paper_41/No.7



NOT TO SCALE

(a) Calculate angle ACD.

Angle ACD = ... [4]

(b) Show that $BC = 7.05$ km, correct to 2 decimal places.

[3]

(c) Calculate the shortest distance from B to AC.

..... km [3]

(d) Calculate the length of the straight line BD.

BD = ... km [4]

(e) C is due east of A.

Find the bearing of D from C.

..... [2]