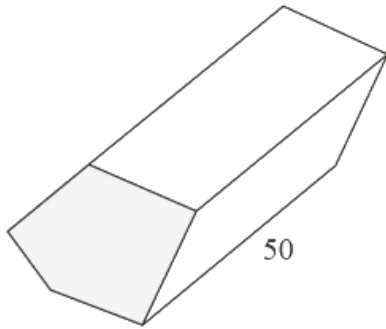
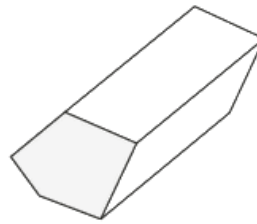


Mensuration – 2024 O Level Math D 4024

1. June/2024/Paper_4024/11/No.21

Prism A Prism B NOT TO
SCALE

Prism A and prism B are mathematically similar.
In the diagram, the cross-sections of the prisms are shaded.

The volume of prism A is 5000 cm^3 .
The length of prism A is 50 cm .

The area of the cross-section of prism B is 16 cm^2 .

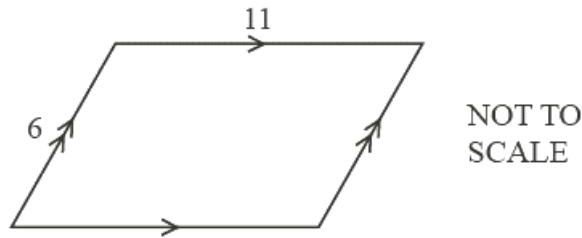
Calculate the length of prism B .

..... cm [4]

2. June/2024/Paper_4024/12/No.5

In this question all dimensions are given in centimetres.

(a)

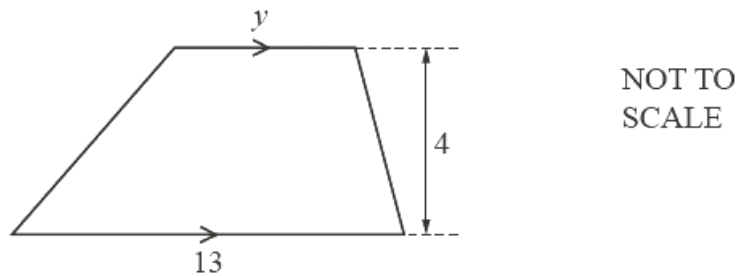


The diagram shows a parallelogram.

Find the perimeter of the parallelogram.

..... cm [1]

(b)



The diagram shows a trapezium.
The area of the trapezium is 36 cm^2 .

Find the value of y .

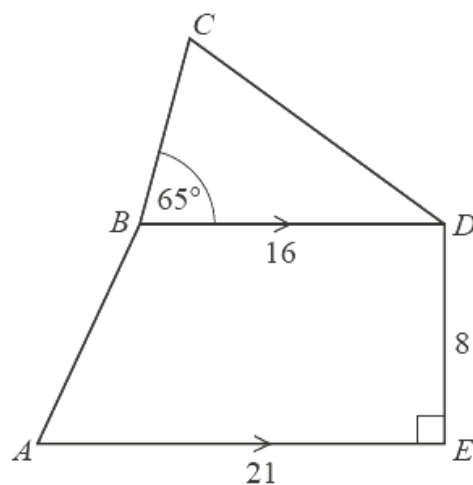
$y =$ [2]

3. June/2024/Paper_4024/21/No.7(a, b)
- (a) A cuboid has dimensions 5 cm by 12 cm by h cm.
The volume of the cuboid is 480 cm^3 .

Calculate the value of h .

$$h = \dots\dots\dots [2]$$

(b)

NOT TO
SCALE

$ABCDE$ is a pentagon.

AE is parallel to BD .

$AE = 21$ cm, $BD = 16$ cm and $DE = 8$ cm.

Angle $DEA = 90^\circ$ and angle $CBD = 65^\circ$.

(i) Calculate angle BAE .

Angle $BAE = \dots\dots\dots$ [3]

- (ii) The area of pentagon $ABCDE$ is 200 cm^2 .

Calculate the length of BC .

$BC = \dots\dots\dots \text{ cm [5]}$

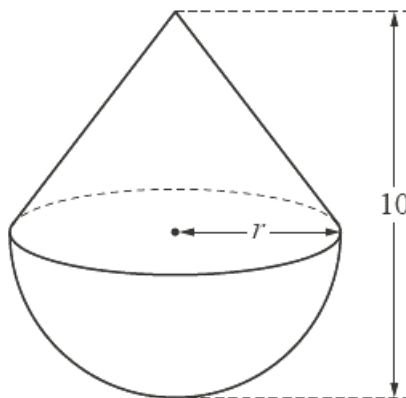
4. June/2024/Paper_4024/22/No.8

(a) [Volume of a cone = $\frac{1}{3}\pi r^2 h$]

[Volume of a sphere = $\frac{4}{3}\pi r^3$]

[Curved surface area of cone = $\pi r l$]

[Surface area of a sphere = $4\pi r^2$]



A solid is formed by placing a cone on top of a hemisphere.
 The cone and the hemisphere each have radius r cm.
 The height of the solid is 10 cm.
 The curved surface area of the hemisphere is 145 cm^2 .

(i) Show that $r = 4.80$, correct to 2 decimal places.

[3]

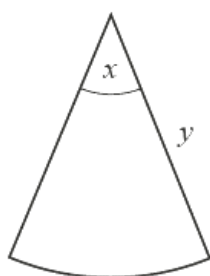
(ii) Calculate the volume of the solid.

..... cm^3 [4]

(iii) Calculate the curved surface area of the cone.

..... cm^2 [4]

(b)



Sector *A*



Sector *B*

NOT TO
SCALE

The diagram shows two sectors of circles.
Sector *A* has angle x and radius y .

The angle of sector *B* is 20% smaller than the angle of sector *A*.
The radius of sector *B* is 20% longer than the radius of sector *A*.

Calculate the area of sector *B* as a percentage of the area of sector *A*.

..... % [4]