1. June/2022/Paper_11/No.4

Two cubes have a total volume of $152\,cm^3$.
One cube has an edge of length 5 cm.

(a) Calculate the length of the edge of the other cube.

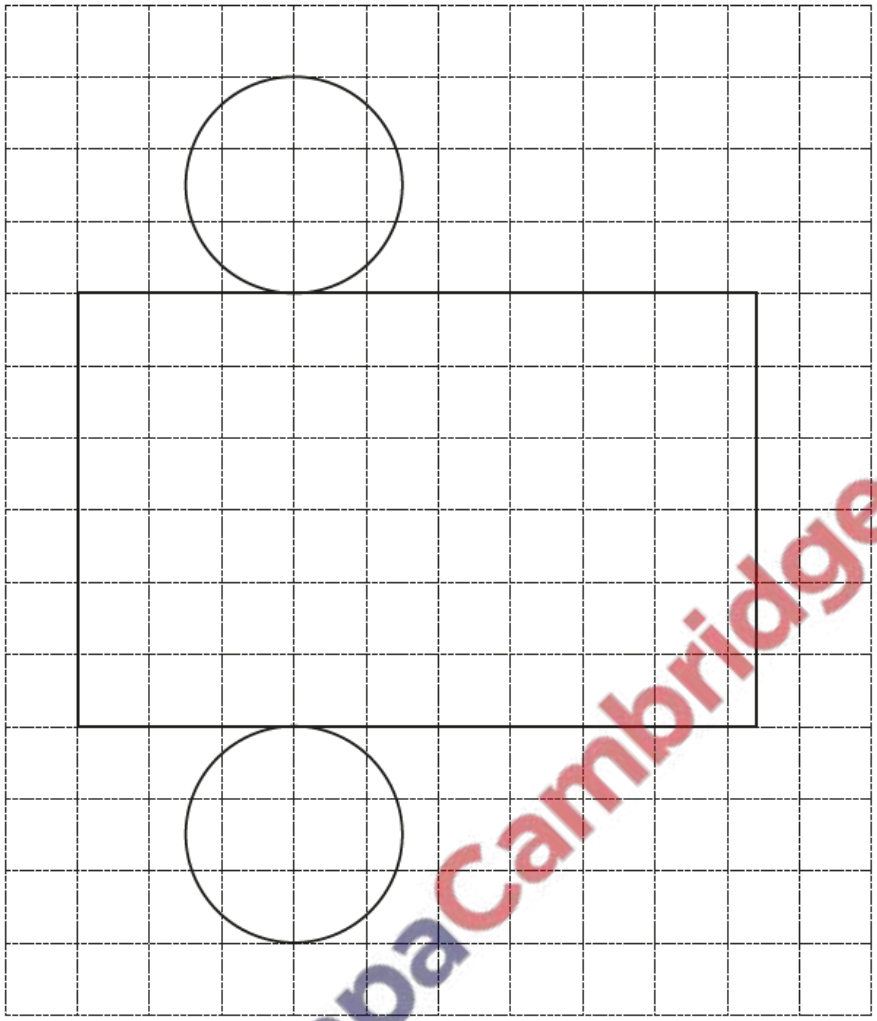
..... cm [2]

(b) Work out the **total** length of all of the edges of the larger cube.

..... cm [1]

2. June/2022/Paper_11/No.5

The diagram shows the net of a solid drawn on a 1 cm grid.



Name the solid formed by this net and describe fully the dimensions of this solid.

Name of solid .....

Dimensions ..... [3]

3. June/2022/Paper_11/No.9

Write these lengths in order of size, starting with the smallest.

32 000 cm 3300 mm 3.1 km 34 m

....., ..., ..., ... [2]

smallest

4. June/2022/Paper_11/No.11

(a) 100 adults were asked the colour of their car.
The results are shown in the table.

Colour of car	Red	Black	Blue	Silver
Frequency	36	11	23	30

Write down the relative frequency that one of these cars is blue.

..... [1]

(b) A different group of 1200 adults were asked the colour of their car.
The relative frequency of one of these adults owning a white car is 0.3 .

Find the number of these adults who own a white car.

..... [1]

5. June/2022/Paper_12/No.7

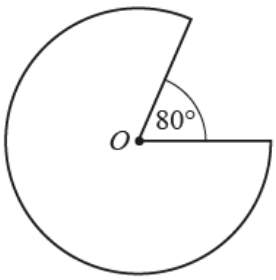
NOT TO SCALE

The area of the rectangle is $9\,cm^2$.
The area of the triangle is $85\,mm^2$.

Calculate the shaded area.
Give your answer in cm^2.

..... cm^2 [2]

6. June/2022/Paper_12/No.23



NOT TO SCALE

The diagram shows the major sector of a circle with centre O and radius 3 cm.

Calculate the area of this sector.
Give your answer in the form $k\pi$, where k is an integer.

..... cm^2 [2]

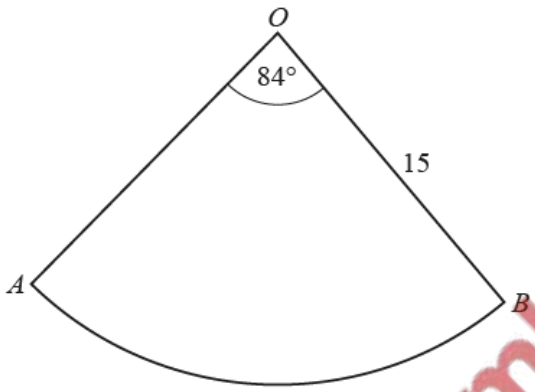
7. June/2022/Paper_21/No.4

(a) A cuboid has dimensions x cm by x cm by 10 cm.
The volume of the cuboid is 62.5 cm^3.

Find the value of x.

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

(b)



NOT TO SCALE

A piece of card, AOB, is a sector of a circle, centre O, with angle 84° and radius 15 cm.

(i) Show that the arc length of the sector is 7π cm.

[1]

(ii) OA is joined to OB to form the curved surface of a cone.

Calculate the radius of the cone.

..... cm [2]

(iii) Find the height of the cone.

..... cm [2]

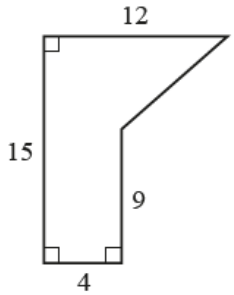
(c) An empty barrel, in the shape of a cylinder, has radius 20 cm and height 80 cm.
The barrel is filled with water at a rate of 5500 cm^3/minute.

Calculate the time taken to completely fill the barrel.
Give your answer in minutes and seconds, correct to the nearest second.

..... minutes ..... seconds [3]

8. June/2022/Paper_22/No.4

(a)



NOT TO SCALE

The diagram shows a pentagon.
All the lengths are in centimetres.

(i) Calculate the area of the pentagon.

..... cm^2 [2]

(ii) Find the perimeter of the pentagon.

..... cm [3]

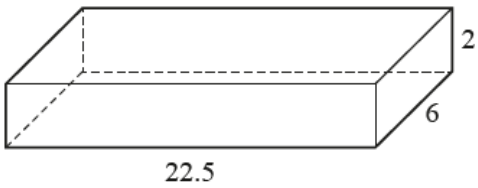
(b) **[Volume of a sphere $= \frac{4}{3}\pi r^3$]**

A sphere has a volume of $2572\,cm^3$.

Find the radius of the sphere.

..... cm [3]

(c)



A cuboid has dimensions 2 cm by 6 cm by 22.5 cm.

(i) Calculate the surface area of the cuboid.

..... cm^2 [3]

(ii) A cube of edge x cm has the same surface area as the cuboid.

Form an equation in x and solve it to find the length of the edge of the cube.
Show your working.

..... cm [3]