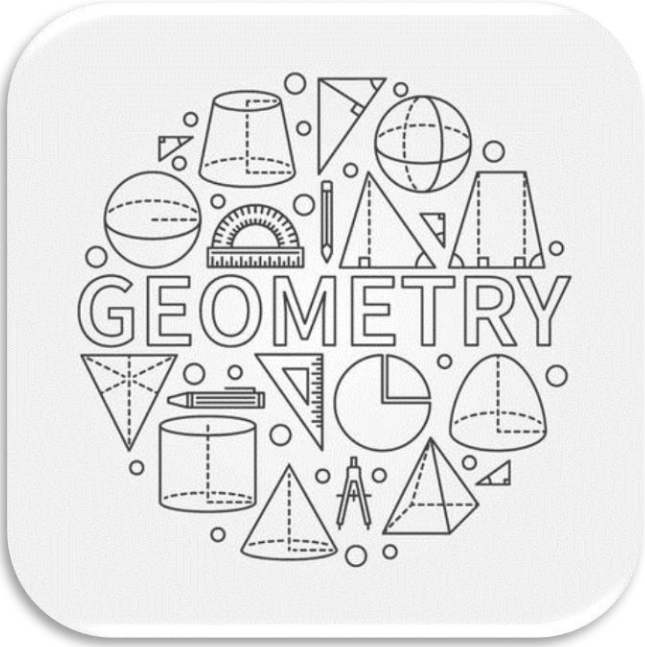
SuperNovaSchool®
LEARN TO BE DISTINCT



Past paper Questions

Grade 7

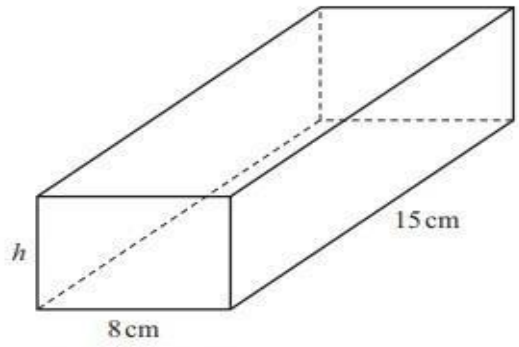
Name:

Section:

Past Paper Questions

Q1.

The diagram shows a cuboid.



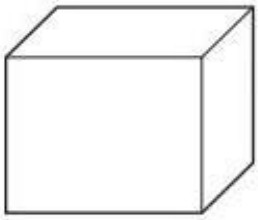
NOT TO SCALE

The volume of this cuboid is 720 cm^3.
The width is 8 cm and the length is 15 cm.

Calculate h, the height of the cuboid.

Answer h = ... cm [2]

Q2.



NOT TO SCALE

Each edge of this cube is 6.7 cm long.

Work out

(a) the volume,

Answer(a) ..... cm^3 [2]

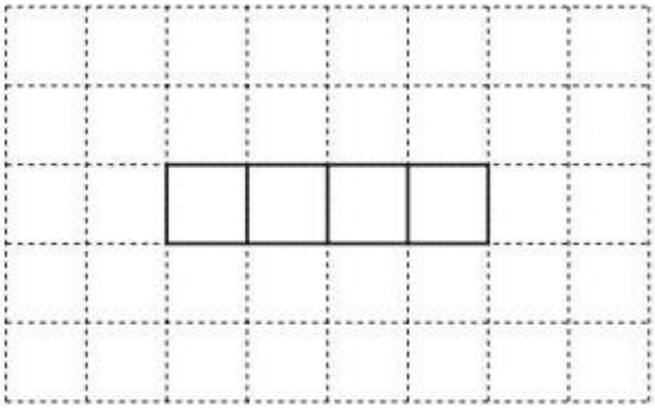
(b) the surface area.

Answer(b) ..... cm^2 [2]

Q3.

Four faces of a cube are drawn on the grid.

Complete the net of this cube.



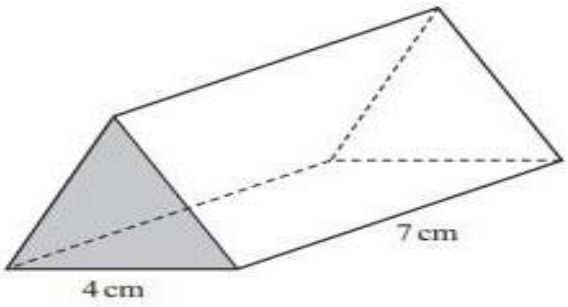
[1]

Q4. A cylinder has radius 6 cm and height 15 cm.

(a) Calculate the volume of the cylinder.

Answer(a) ..... cm^3 [2]

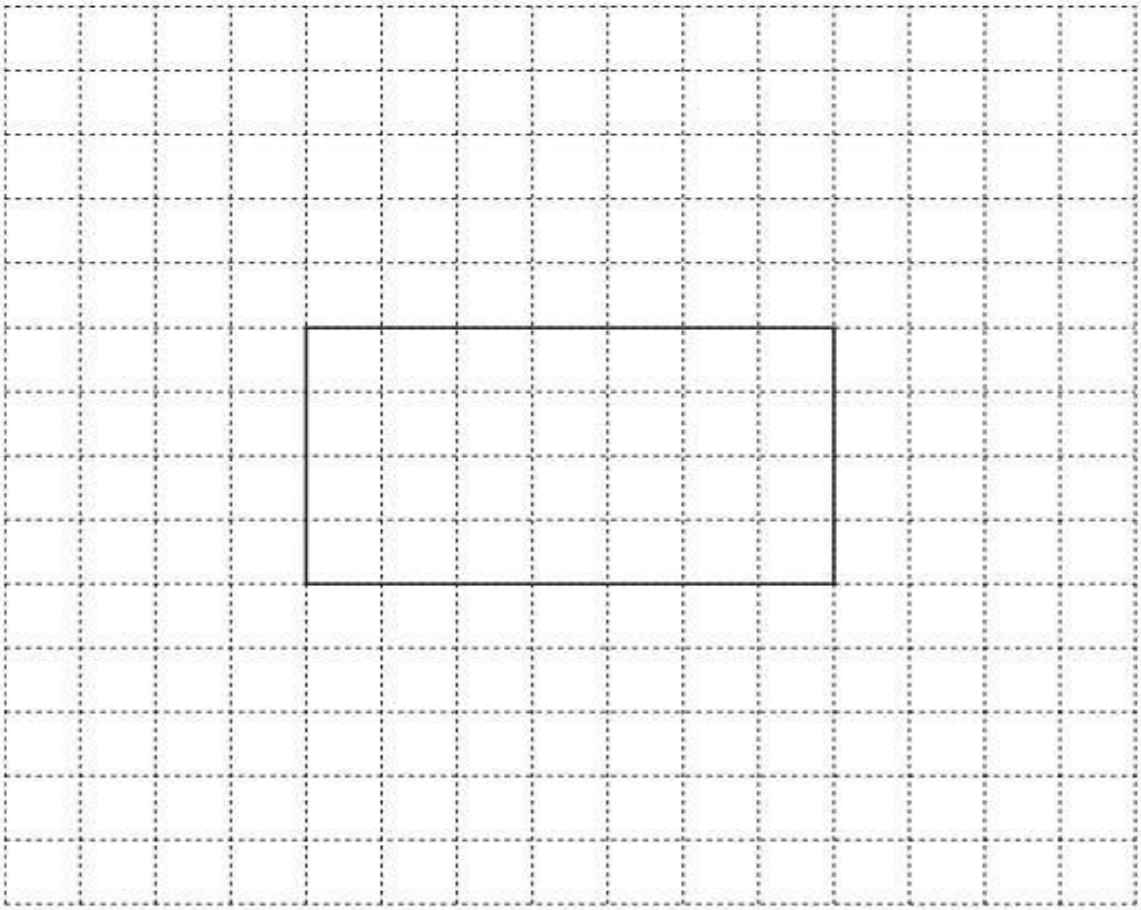
Q5.



NOT TO SCALE

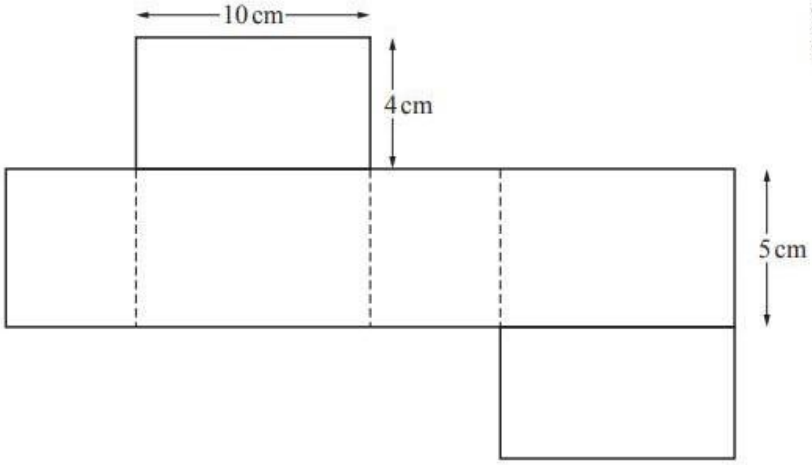
The diagram shows a prism.
The cross section is an equilateral triangle.

On the grid, draw an accurate net of the prism.
The base is drawn for you.



[3]

Q6.



NOT TO SCALE

The diagram shows the net of a cuboid.

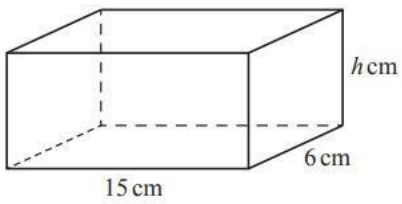
(a) Work out the surface area of this cuboid.

..... cm^2 [2]

(b) Work out the volume of this cuboid.

..... cm^3 [2]

Q7.



NOT TO SCALE

The total surface area of this cuboid is 369 cm^2.

Work out the value of h.

h = ... [4]

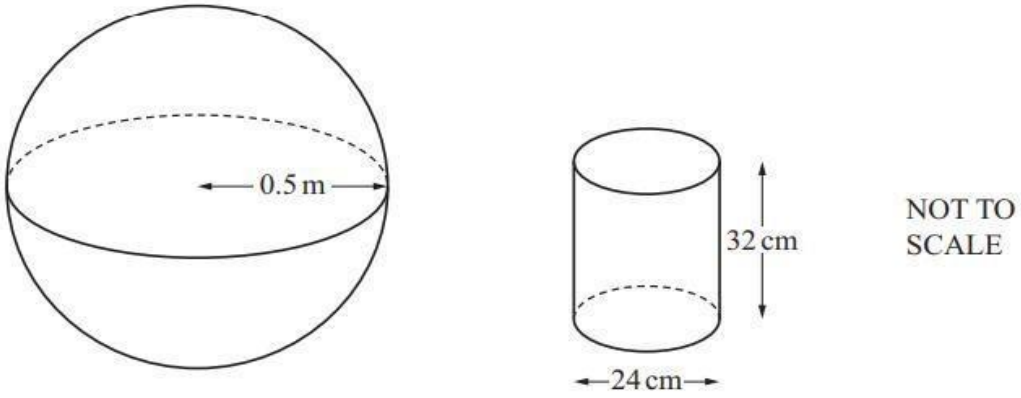
Q8.

The base of a cuboid measures 10 cm by 7 cm.
The volume of the cuboid is 280 cm^3.

Calculate the height of the cuboid.

..... cm [2]

Q9.



The diagram shows a spherical tank with radius 0.5 m and a cylindrical jug with diameter 24 cm and height 32 cm.
The tank is full of water.

Calculate how many times the jug can be completely filled with water from the tank
[The volume, V, of a sphere with radius r is $\frac{4}{3}\pi r^3$.]

Q10.

The surface area of a cube is 73.5 cm^2.

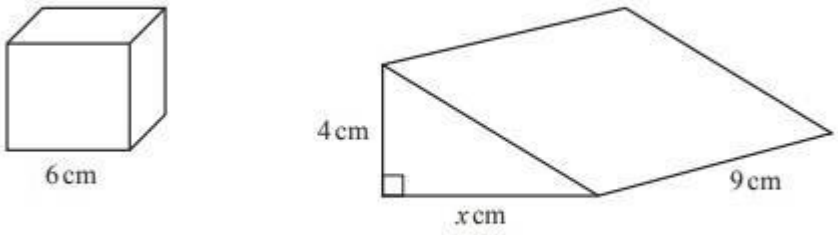
Find the length of one side of the cube.

..... cm [2]

Q11.

The diagram shows two solids: a cube and a right-angled triangular prism.

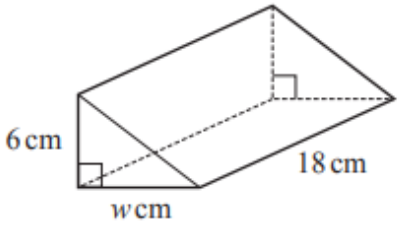
NOT TO SCALE



Both solids have the same volume.

Calculate the value of x.

Q12.



NOT TO SCALE

The right-angled triangular prism has height 6 cm, width w cm and length 18 cm.
The volume of the prism is 810 cm^3.

Find the value of w.

Q13.

Miguel has a closed box of pens.
The box is in the shape of a cuboid measuring 20 cm by 12 cm by 7 cm.

Calculate the surface area of the box.

..... cm^2 [3]

Q14.

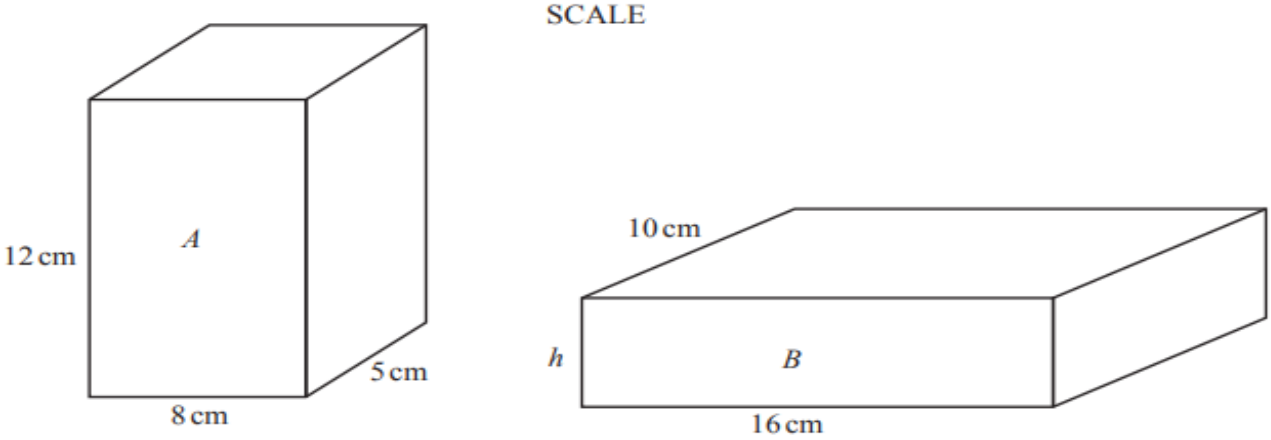
A plant pot is a cylinder with radius 15 cm and height 24 cm.

Calculate the volume of the pot.

..... cm^3 [2]

Q15.

NOT TO SCALE



The diagram shows cuboid A and cuboid B.
Cuboid A has the same volume as cuboid B.

Calculate the height, h, of cuboid B.

h = ... cm [3]

Q16.

The volume of a cuboid is $180\,cm^3$.
The base is a square of side length 6 cm.

Calculate the height of this cuboid.

..... cm [2]

Q17.

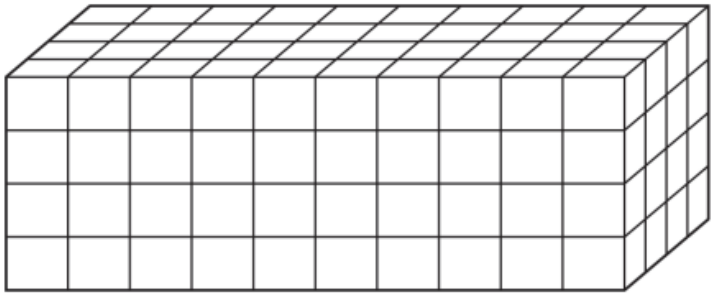
A cylinder has a radius of 6 cm and a height of 17 cm.

Show that the volume of this cylinder is $1923\,cm^3$, correct to 4 significant figures.

[2]

Q18.

The diagram shows a solid cuboid made of identical cubes.



NOT TO SCALE

Work out the number of cubes in the cuboid.

..... [1]

Q19.

A cuboid has a square base.
The volume of this cuboid is 867 cm^3 and its height is 12 cm.

Calculate the length of one side of the square base.

.....cm [3]

Q20.

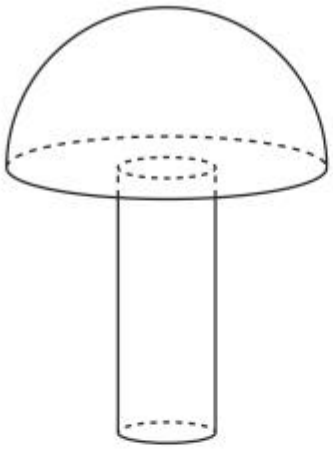
A solid hemisphere has volume $230\,\text{cm}^3$.

(a) Calculate the radius of the hemisphere.

[The volume, V, of a sphere with radius r is $V = \frac{4}{3}\pi r^3$.]

..... cm [3]

(b) A solid cylinder with radius 1.6 cm is attached to the hemisphere to make a toy.



NOT TO SCALE

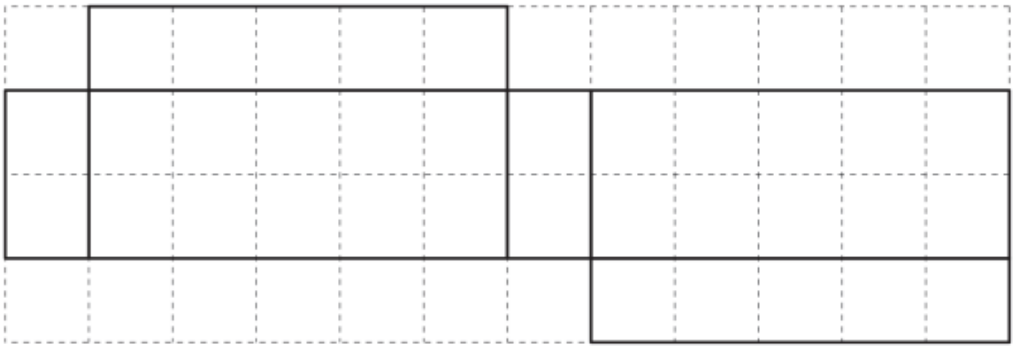
The total volume of the toy is $300\,\text{cm}^3$.

(i) Calculate the height of the cylinder.

..... cm [3]

Q21.

The diagram shows the net of a solid on a 1 cm^2 grid.



(a) Write down the mathematical name for the solid.

..... [1]

(b) Work out the volume of the solid.

..... cm^3 [2]

Q22.

A solid metal cube of side 20 cm is melted down and made into 40 solid spheres, each of radius r cm.

Find the value of r.

[The volume, V, of a sphere with radius r is $V = \frac{4}{3}\pi r^3$.]

r = ... [3]

Q23.

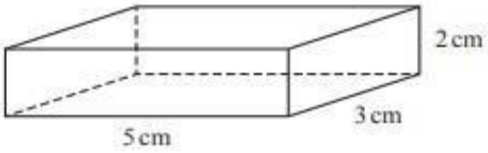
A cylinder with radius 6 cm and height h cm has the same volume as a sphere with radius 4.5 cm.

Find the value of h.

[The volume, V, of a sphere with radius r is $V = \frac{4}{3}\pi r^3$.]

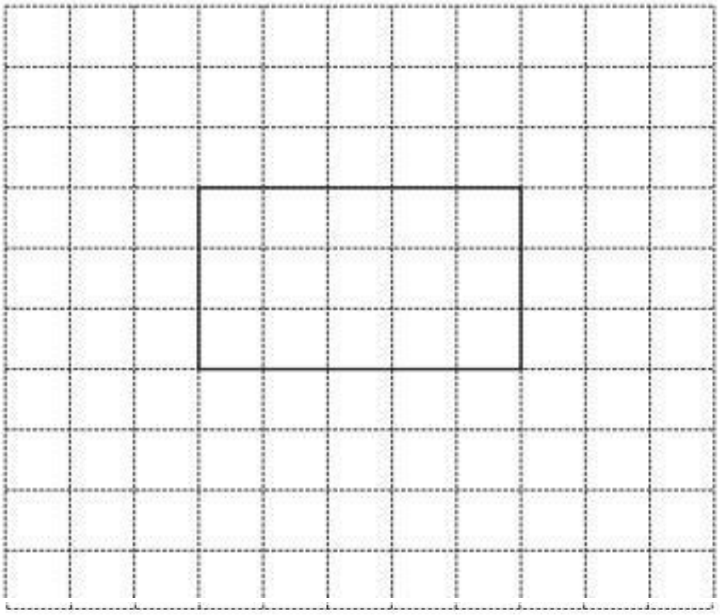
$h =$ ..... [3]

Q24. **(a)** The diagram shows a cuboid.



NOT TO SCALE

(i) On the 1cm^2 grid, complete the net of the cuboid.
One face has been drawn for you.



[3]

(ii) Calculate the surface area of the cuboid.

..... cm^2 [2]