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| Surname | |
| Other Names | |
| Candidate's Signature | |

GCSE 9 - 1 Questions

Nets, Plans and Surface Area

Calculator Allowed

INSTRUCTIONS TO CANDIDATES

Write your name in the space provided.

Write your answers in the spaces provided in this question paper.

Answer ALL questions.

Any working should be clearly shown in the spaces provided since marks may be awarded for partially correct solutions.

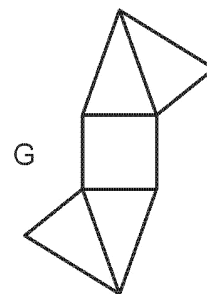
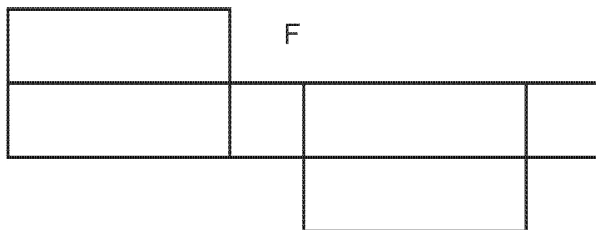
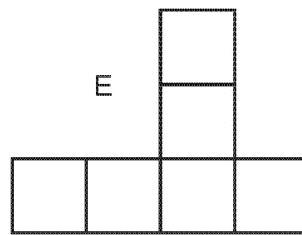
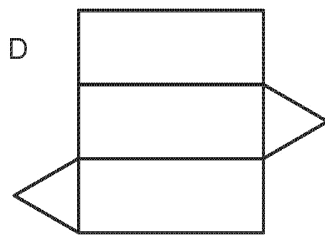
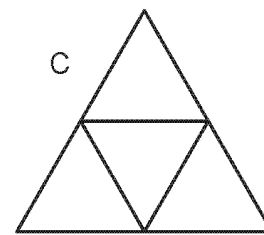
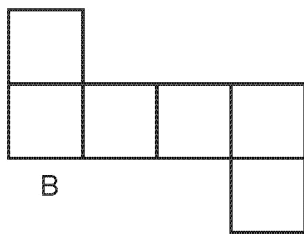
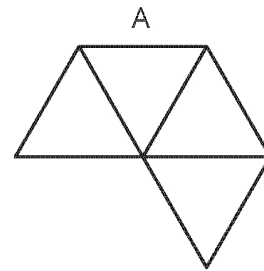
You should have a ruler, compass and protractor where required.

Total Marks :

1) Complete the table below to match each 3-dimensional shape with its correct net. One has been done for you.

[4]

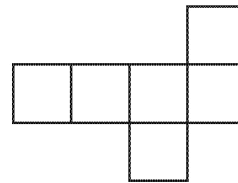
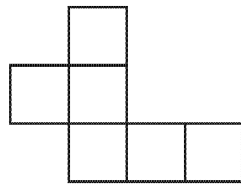
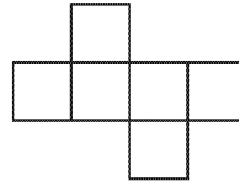
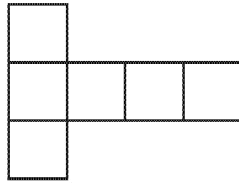
| 3-dimensional shape | Net |
|----------------------|-----|
| cube | B |
| cuboid | |
| triangular prism | |
| square-based pyramid | |
| tetrahedron | |



2) A jewellery shop wishes to create boxes, in the shape of cubes, to use for packaging gifts.

- (a) Which one of the following patterns **cannot** be used to form a box in the shape of a cube?
Circle your answer.

[1]



- (b) The jewellery shop wants to cover all the sides of a box with paper.
The box is a cube with sides 7 cm.

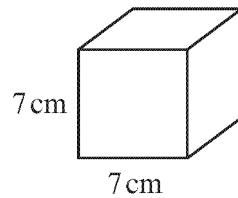


Diagram not drawn to scale

What is the total area of all the faces of this box?
State the units of your answer.

.....

.....

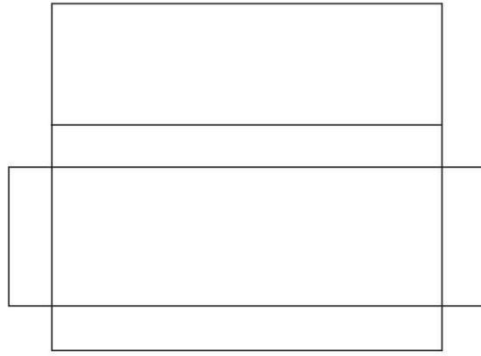
.....

.....

.....

[4]

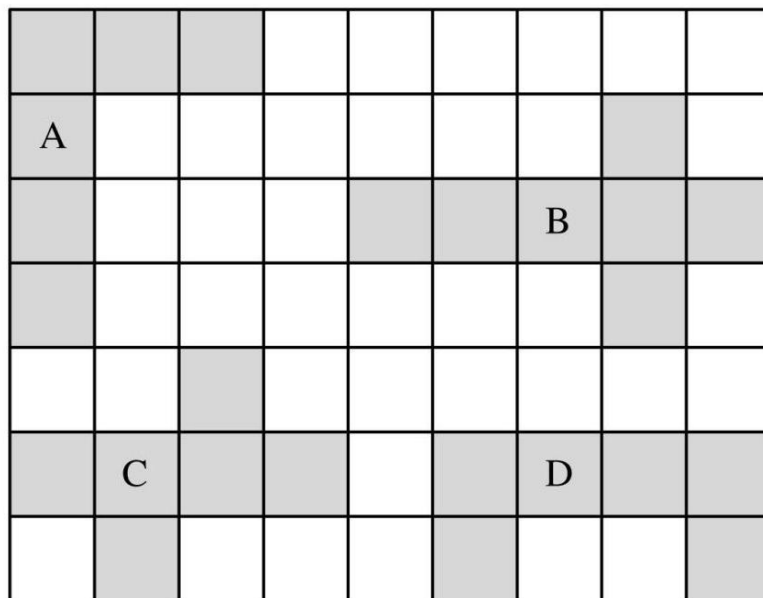
3)



This is a net of which solid?

Answer _____ [1]

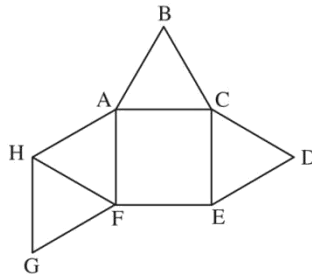
4)



Which of the shaded shapes is a net of a cube?

Answer shape _____ [1]

5)



ABCDEFGH is the net shown of a 3-D shape. The net is folded to form the 3-D shape.

When folded,

(a) which side joins FG,

Answer _____ [1]

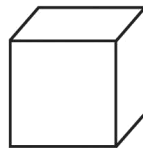
(b) which side joins GH,

Answer _____ [1]

(c) which point meets B and D?

Answer _____ [1]

6)

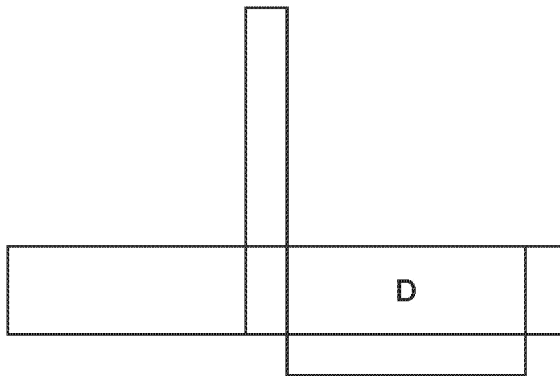
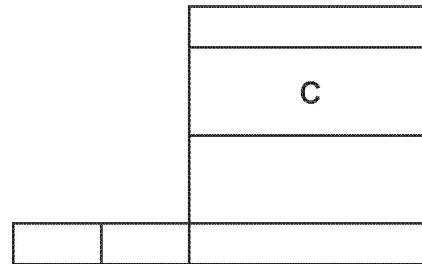
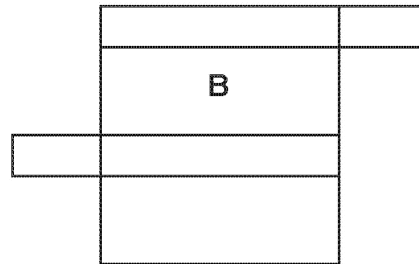
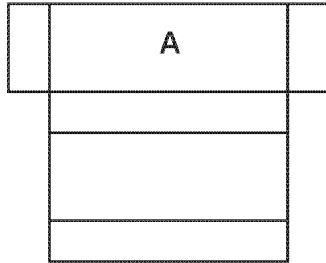


The surface area of a cube is 486 cm^2 . Calculate the length of the edge of the cube.

Answer _____ cm [2]

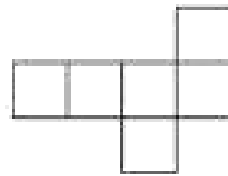
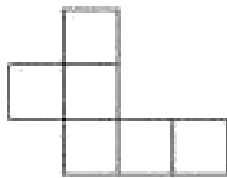
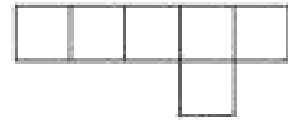
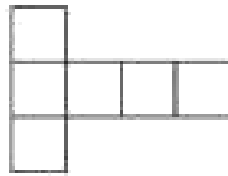
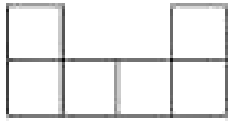
7) Circle the possible **nets** below that could be used to form a cuboid box.

[2]

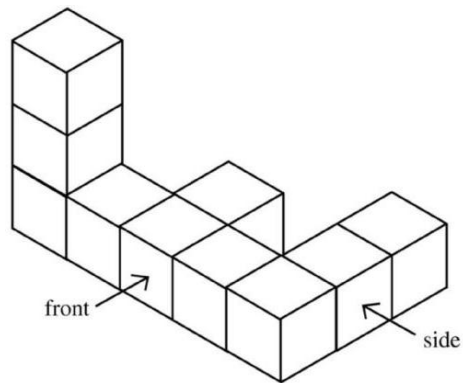


8) Circle the possible **nets** below that could be used to form a cube.

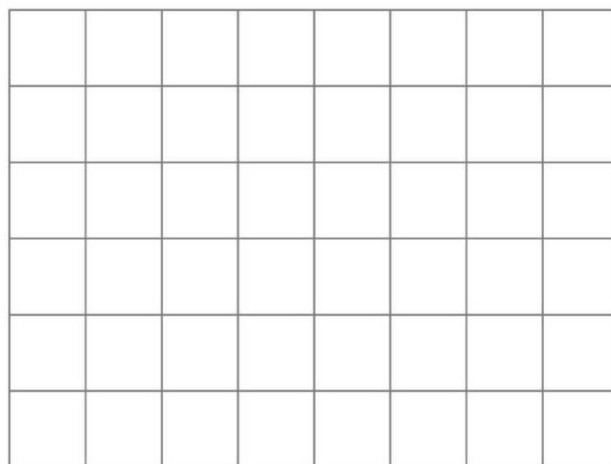
[2]



9)



The solid shown is made up of 1 cm cubes. On the grid below, draw the **plan** of the solid.

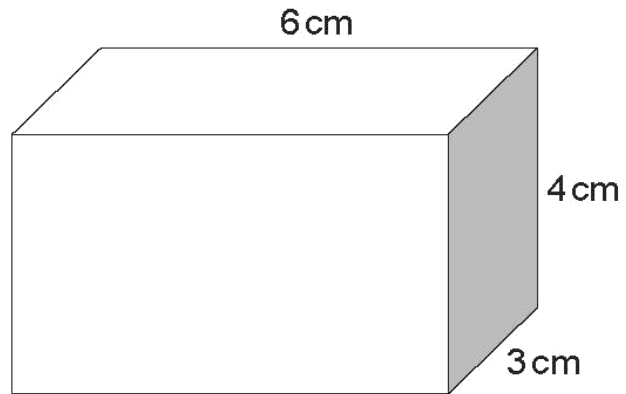


side

front

[2]

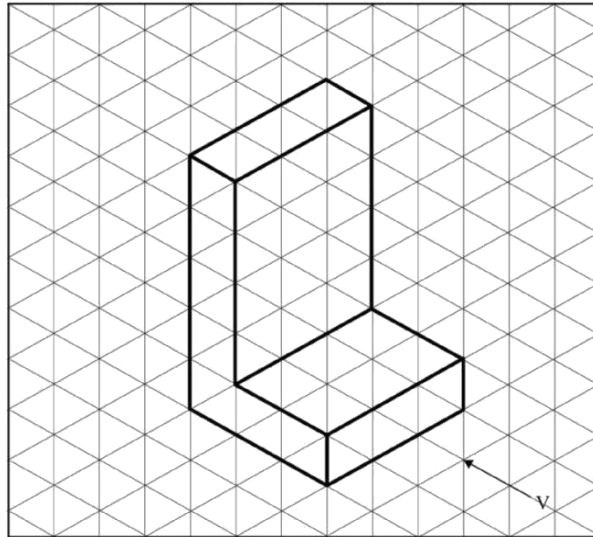
- 10) The diagram shows a cuboid with measurements as shown.



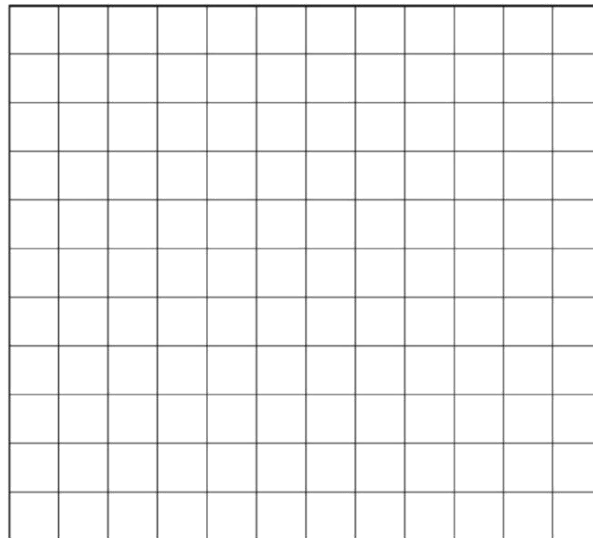
Draw an **accurate** net for the cuboid.

[4]

11) On the lower grid draw the front elevation of the solid as viewed from V.

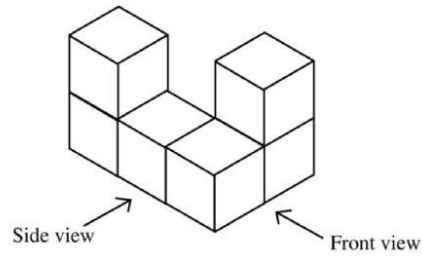


Front elevation



[2]

12)



The diagram shows the front and side views of a 3-D solid consisting of 6 cubes.

Draw

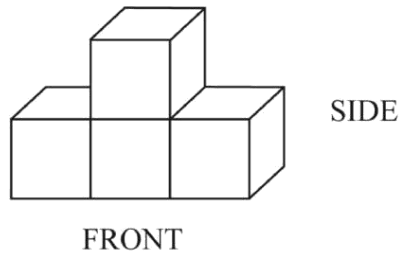
(a) the plan of the solid,

[2]

(b) the side elevation of the solid.

[2]

13) Below is a sketch of a 3-D shape.



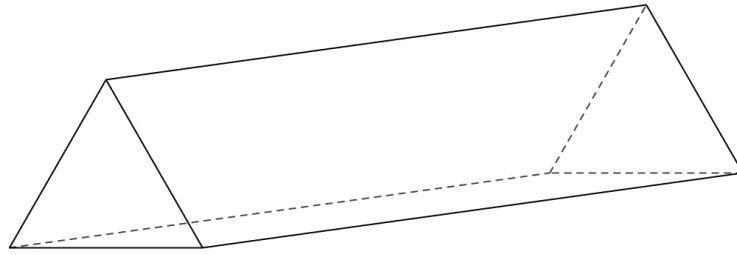
Draw **(a)** the plan,

[1]

(b) the side elevation.

[1]

14)



Sketch a net of the chocolate box (triangular prism).

[3]

- 15) Dennis plans to build a large toy box with a lid.
A sketch of the toy box is shown below.
It is in the shape of a cuboid.

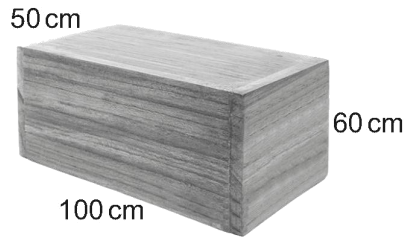


Diagram not drawn to scale

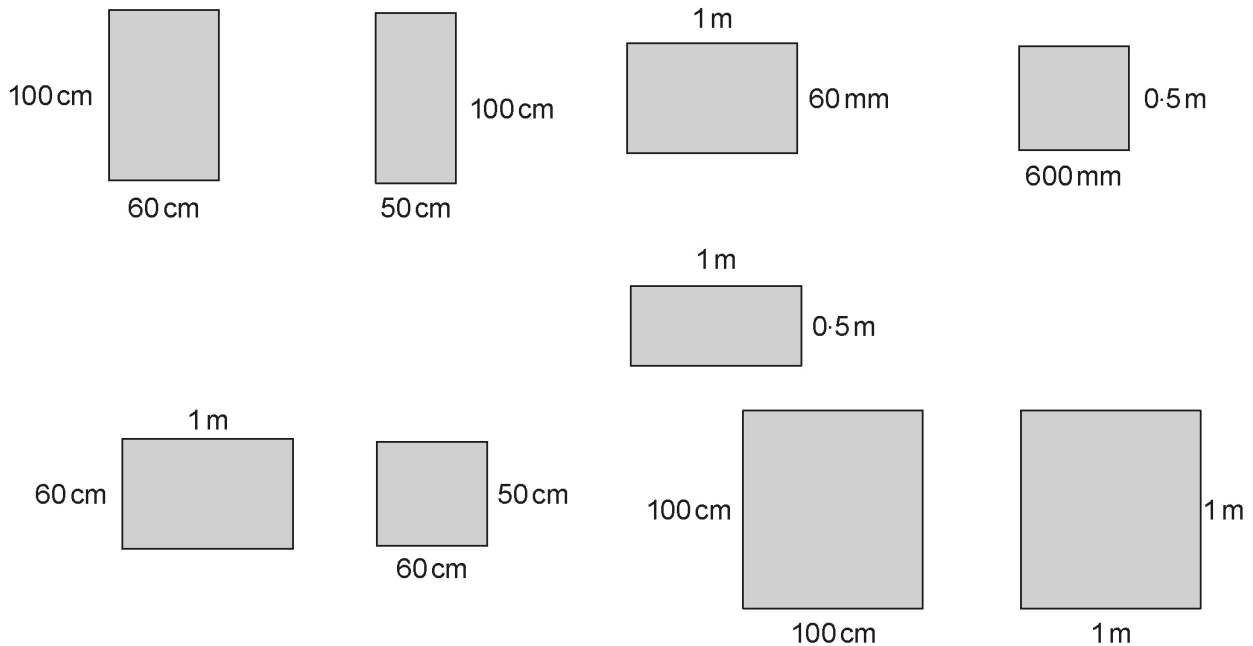
- (a) What is the volume of the toy box?
State the units of your answer. [3]

.....

.....

.....

- (b) Dennis has some wooden panels ready to make the toy box.
These are shown below.
Tick each of the panels that Dennis will need to use to make the toy box. [3]



Diagrams not drawn to scale

- 16) A manufacturer makes cereal bars.
Each bar is a cuboid, measuring 8 cm by 4 cm by 1 cm.
The manufacturer wants to make a box, with a lid, in which to pack 3 cereal bars.
The bars are packed one on top of the other, so that no space is wasted, as shown in the diagram below.

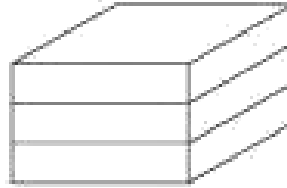


Diagram not drawn to scale.

Draw an accurate net of the box that will hold 3 cereal bars.