Name ANSWERS	Class

MATHS TEACHER HUB

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Plans and elevations

(9 – 1) Topic booklet

Foundation

These questions have been collated from previous years GCSE Mathematics papers.

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided
  – *there may be more space than you need.*
- Diagrams are NOT accurately drawn, unless otherwise indicated.
- You must **show all your working out.**
- If the question is a **1F** question you are not allowed to use a calculator.
- If the question is a **2F** or a **3F** question, you may use a calculator to help you answer.

Information

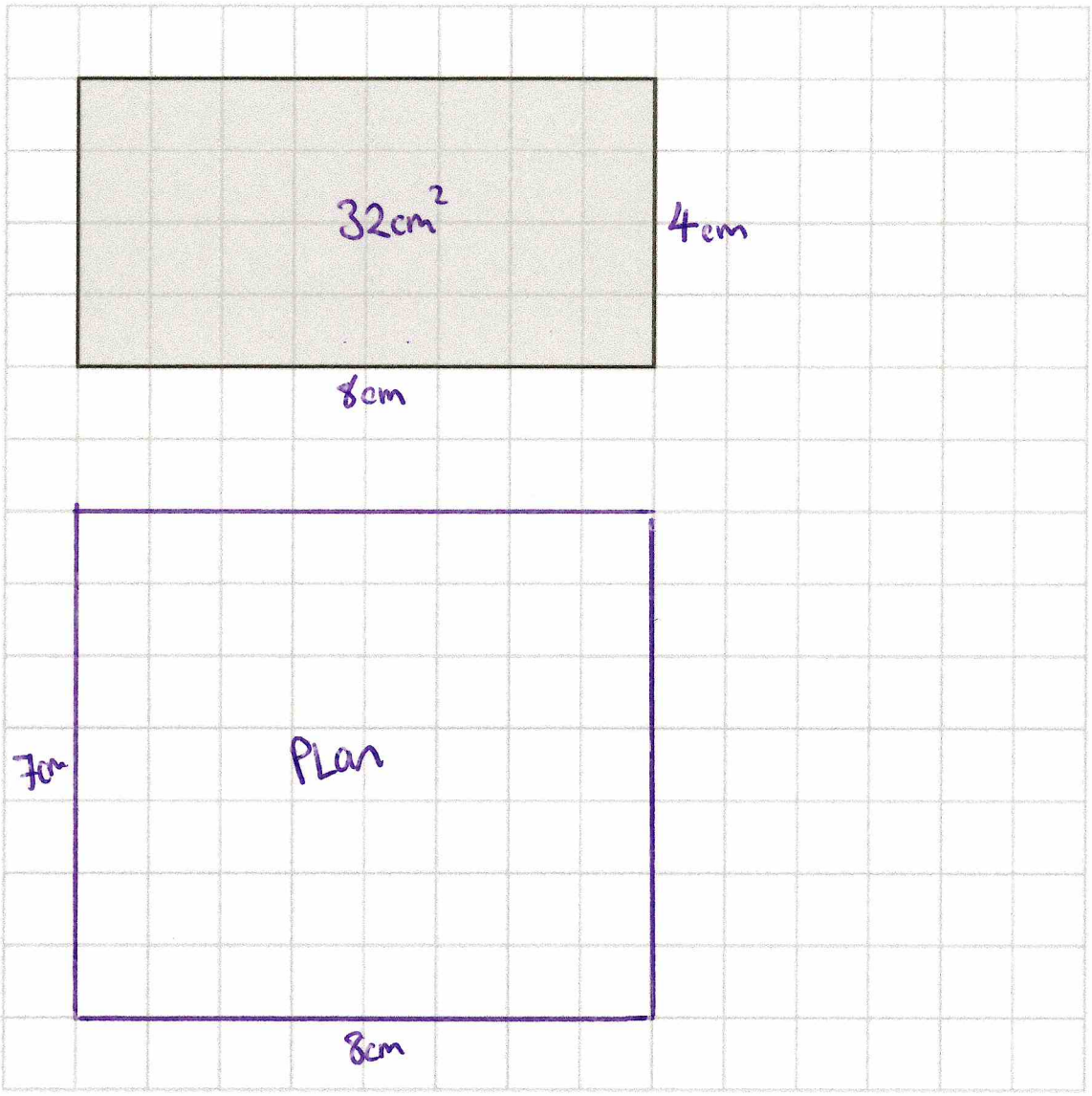
- The marks for **each** question are shown in brackets
  – *use this as a guide as to how much time to spend on each question.*

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

Answer ALL questions
Write your answers in the space provided.
You must write down all the stages in your working.

19 The front elevation of a cuboid is shown on the centimetre grid below.



The volume of the cuboid is 224 cm^3

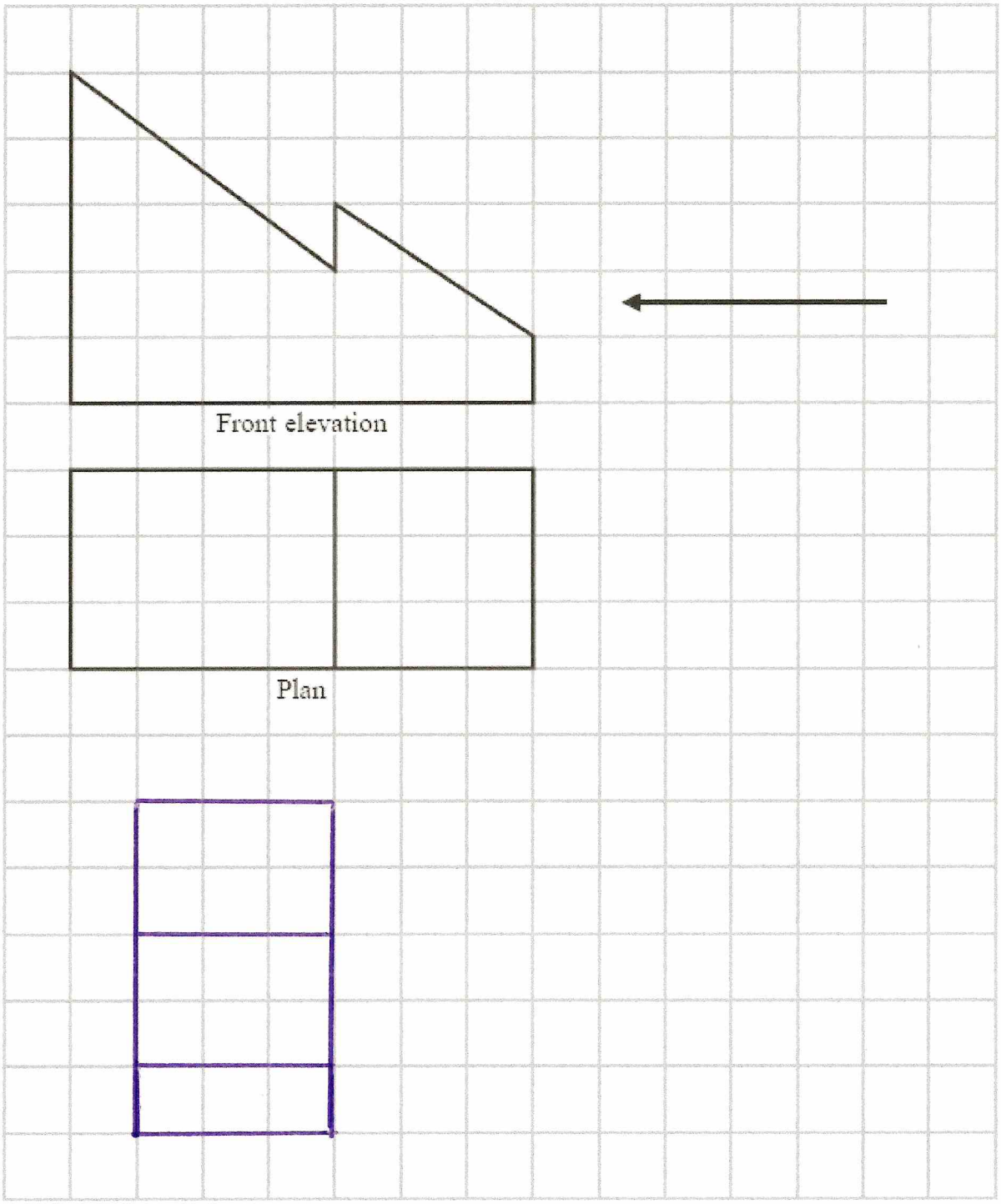
On the grid, draw the plan of the cuboid.

$224 \div 32 = 7$

(Total for Question 19 is 3 marks)

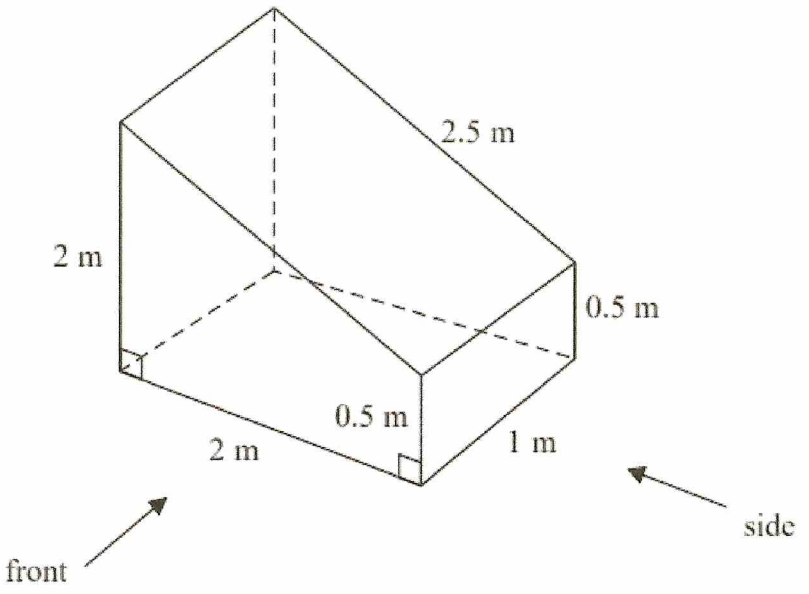
19 The front elevation and the plan of a solid are shown on the grid.

On the grid, draw the side elevation of the solid from the direction of the arrow.

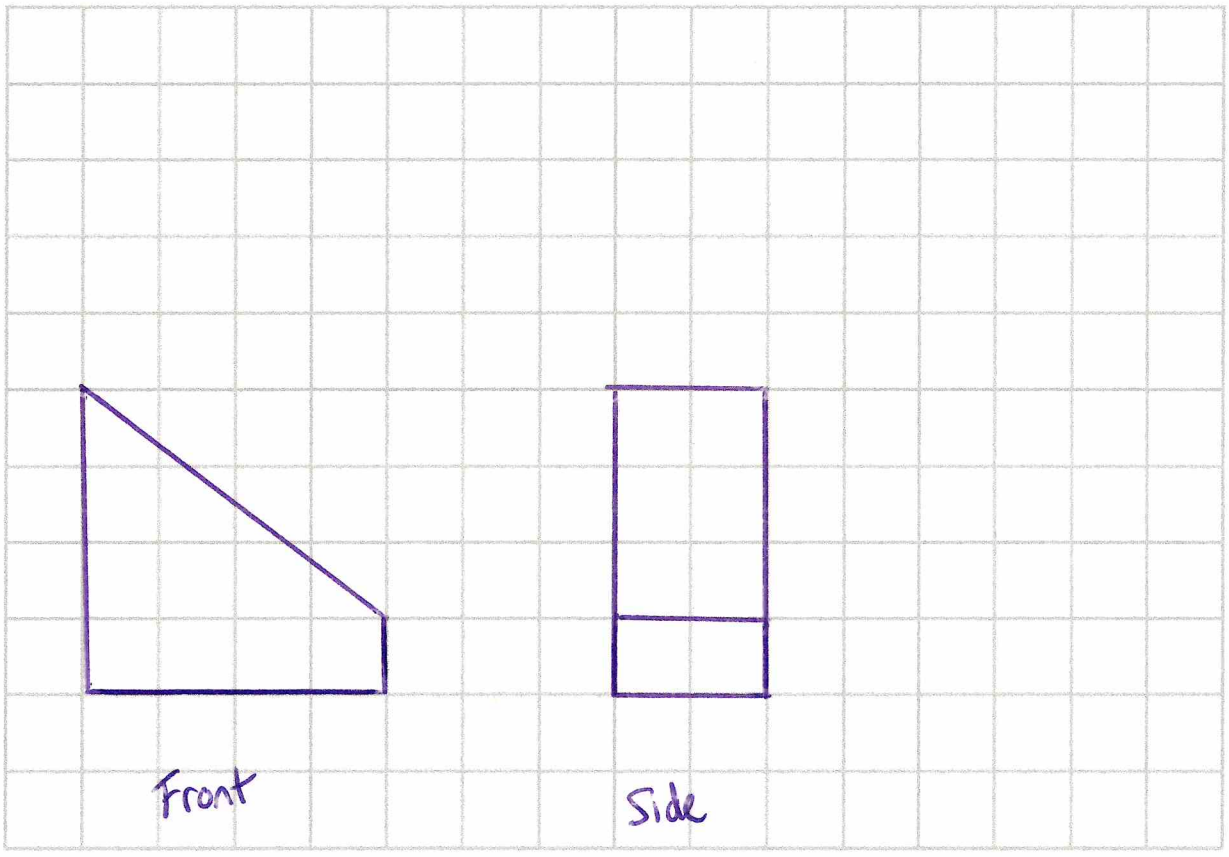


(Total for Question 19 is 2 marks)

19 The diagram shows a prism with a cross section in the shape of a trapezium.

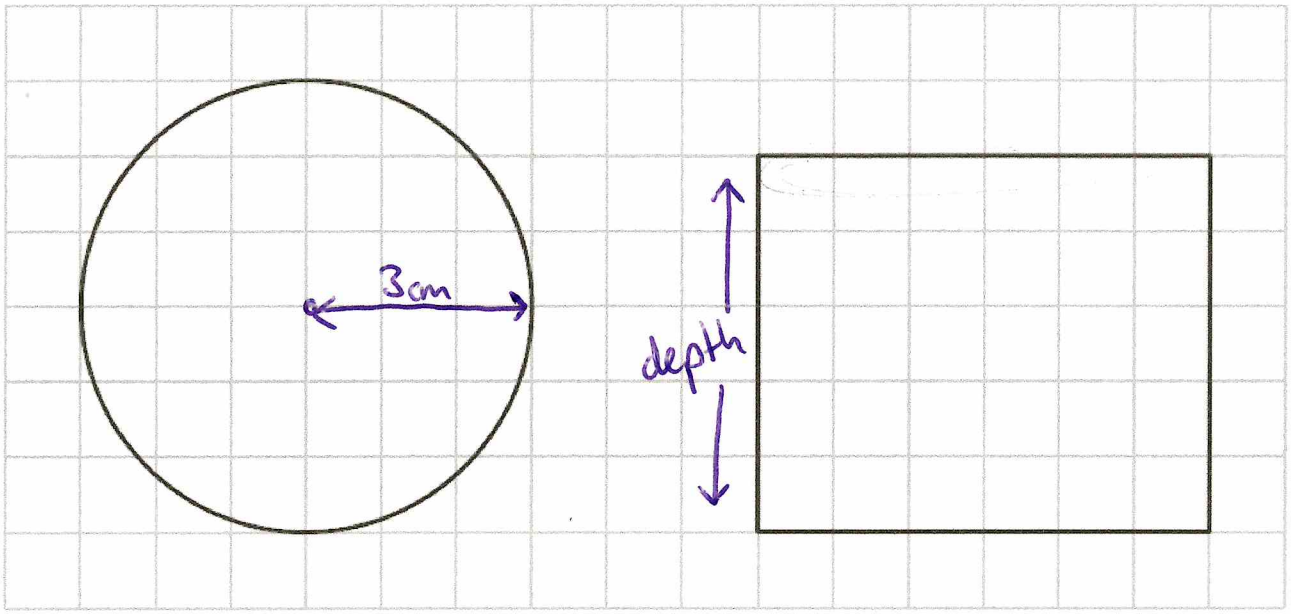


On the centimetre grid below, draw the front elevation and the side elevation of the prism.
Use a scale of 2 cm to 1 m.



(Total for Question 19 is 4 marks)

22 The centimetre grid shows the plan and the front elevation of a cylinder.



Plan

Front elevation

Work out the volume of the cylinder.
Give your answer in terms of π

$A = \pi \times 3^2$

$A = \pi \times 9$

$A = 9\pi$

Volume = Area of Circle × depth

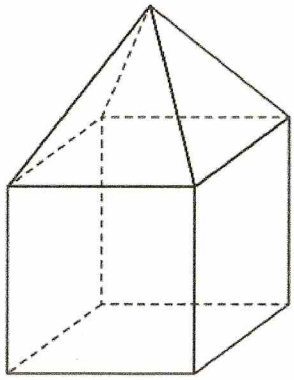
$V = 9\pi \times 5$

$V = 45\pi$

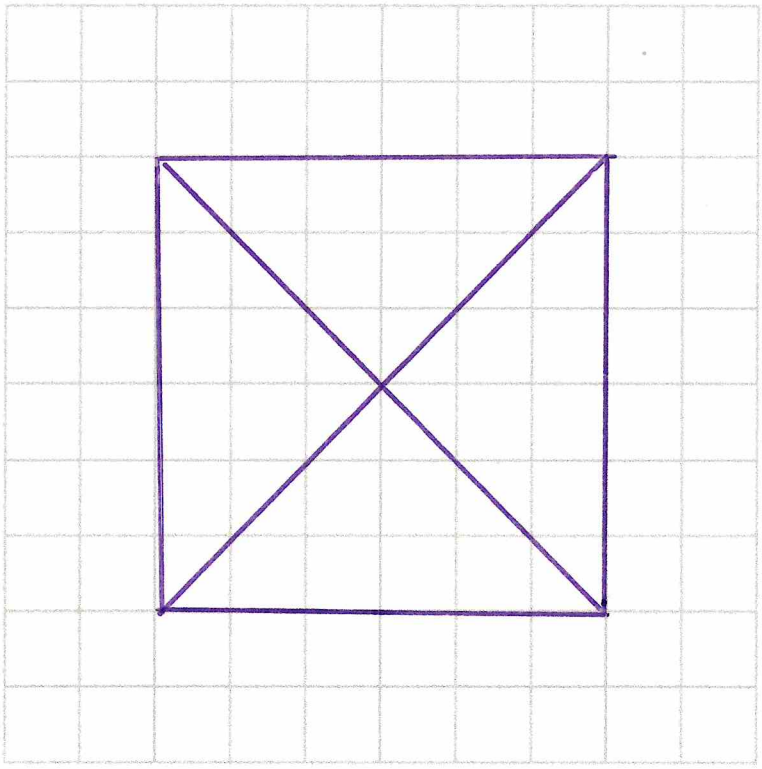
45π ..... cm^3

(Total for Question 22 is 3 marks)

22 Here is a solid made from a square-based pyramid and a cube.
Each edge of the solid has length 6 cm.

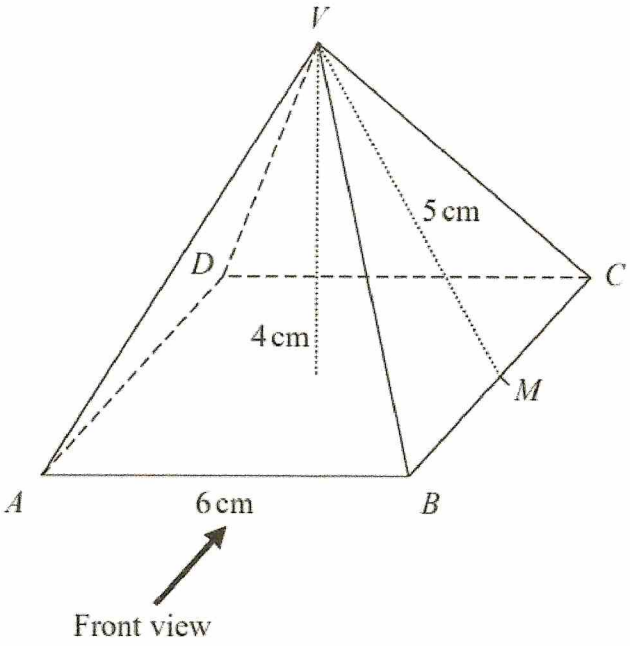


On the centimetre grid, draw the plan of this solid.



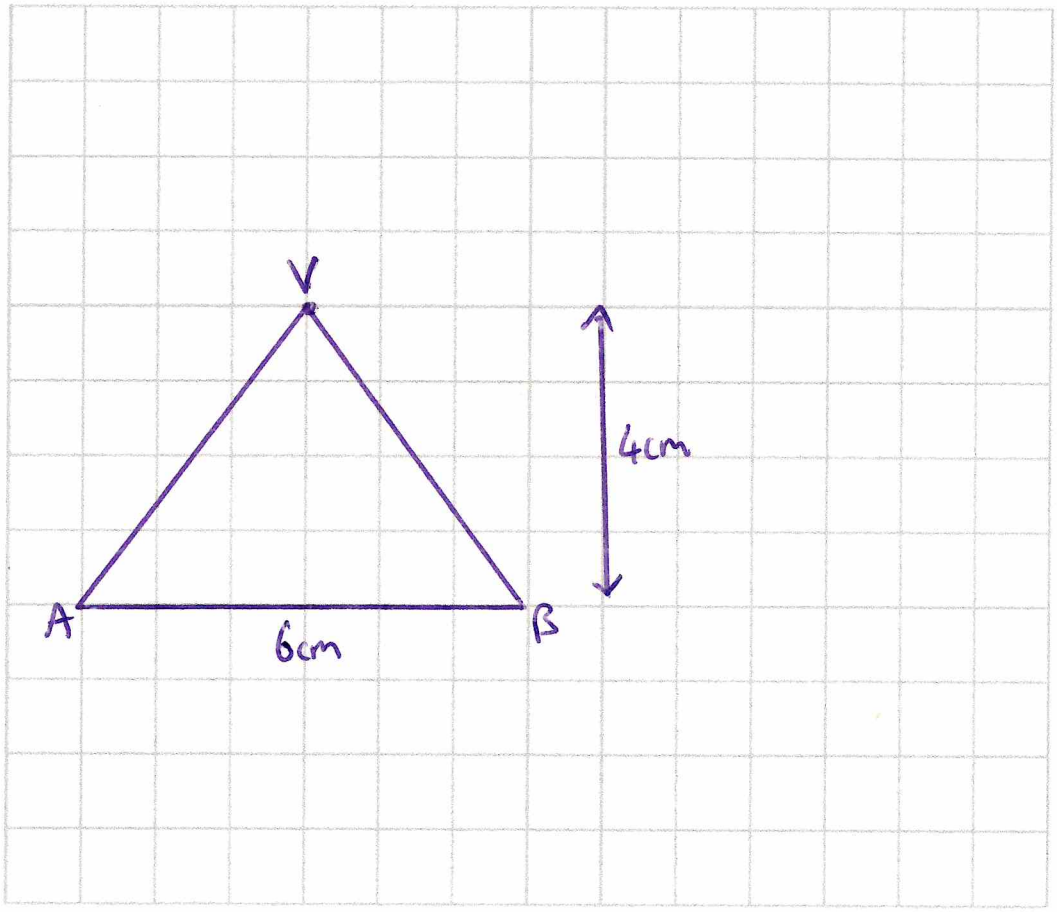
(Total for Question 22 is 2 marks)

23 Here is a solid square-based pyramid, *VABCD*.



The base of the pyramid is a square of side 6 cm.
The height of the pyramid is 4 cm.
M is the midpoint of *BC* and *VM* = 5 cm.

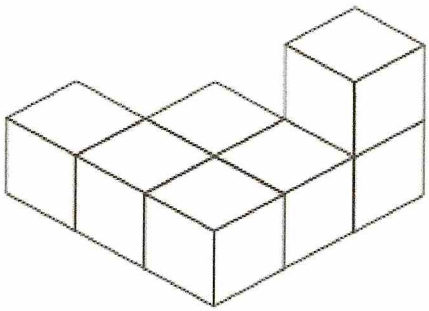
Draw an accurate front elevation of the pyramid from the direction of the arrow.



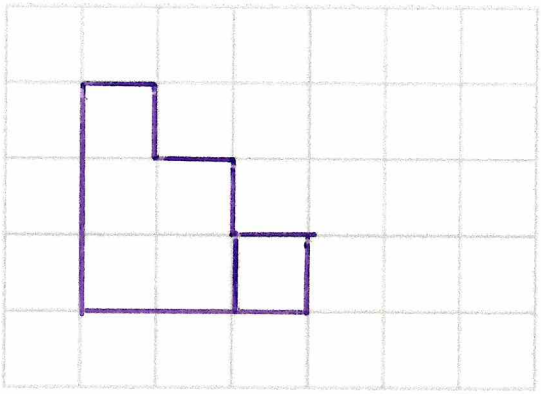
(2)

(Total for Question 23 is 2 marks)

23 The diagram represents a solid made from seven centimetre cubes.

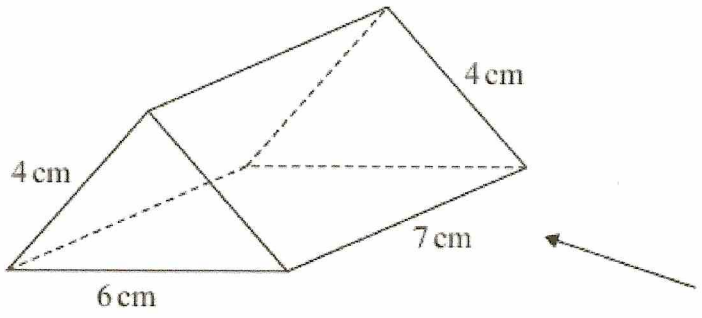


On the centimetre grid below, draw a plan of the solid.



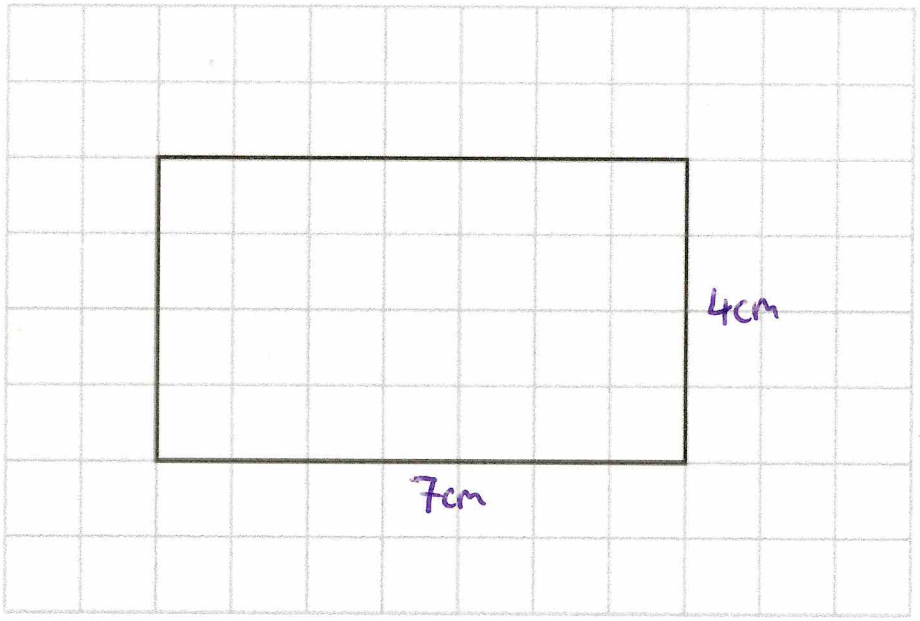
(Total for Question 23 is 2 marks)

24 The diagram shows a solid triangular prism.



Rana is trying to draw the side elevation of the solid prism from the direction of the arrow.

Here is her answer on a centimetre grid.

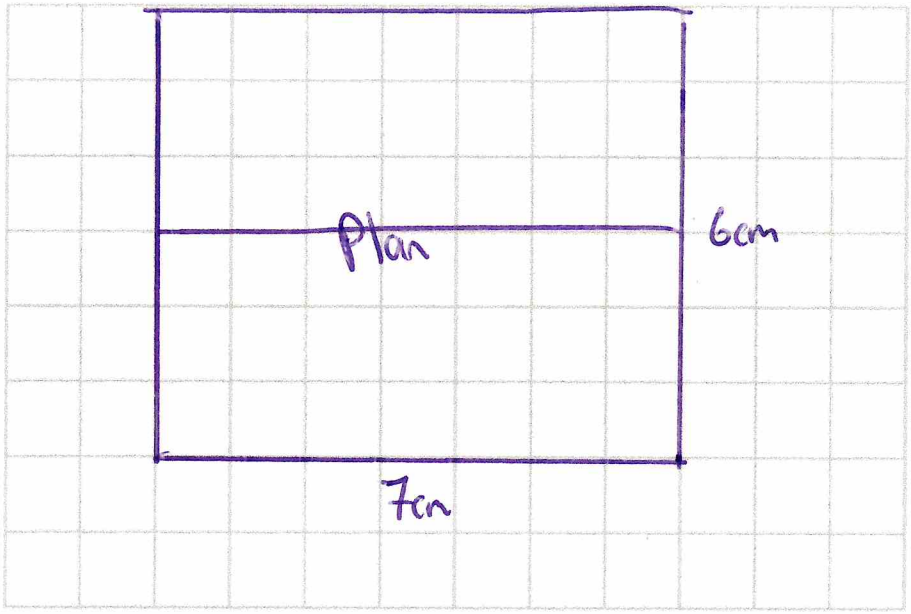


(a) Explain why Rana's side elevation is not correct.

She has used 4cm as the height of the prism, which it is not correct.

(1)

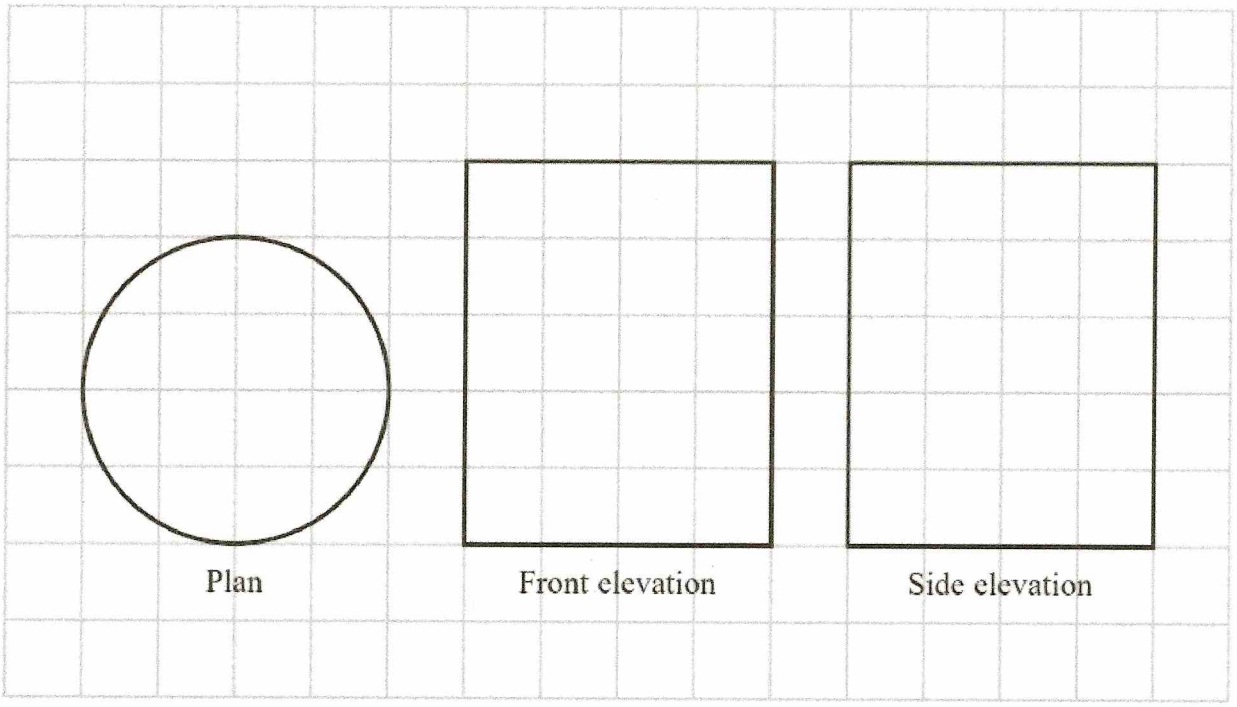
(b) On the centimetre grid below, draw a plan of the solid prism.



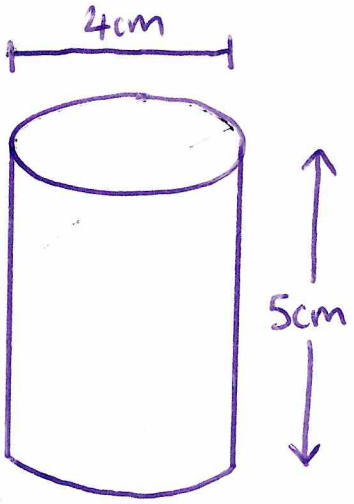
(2)

(Total for Question 24 is 3 marks)

25 The diagram shows the plan, front elevation and side elevation of a solid shape, drawn on a centimetre grid.

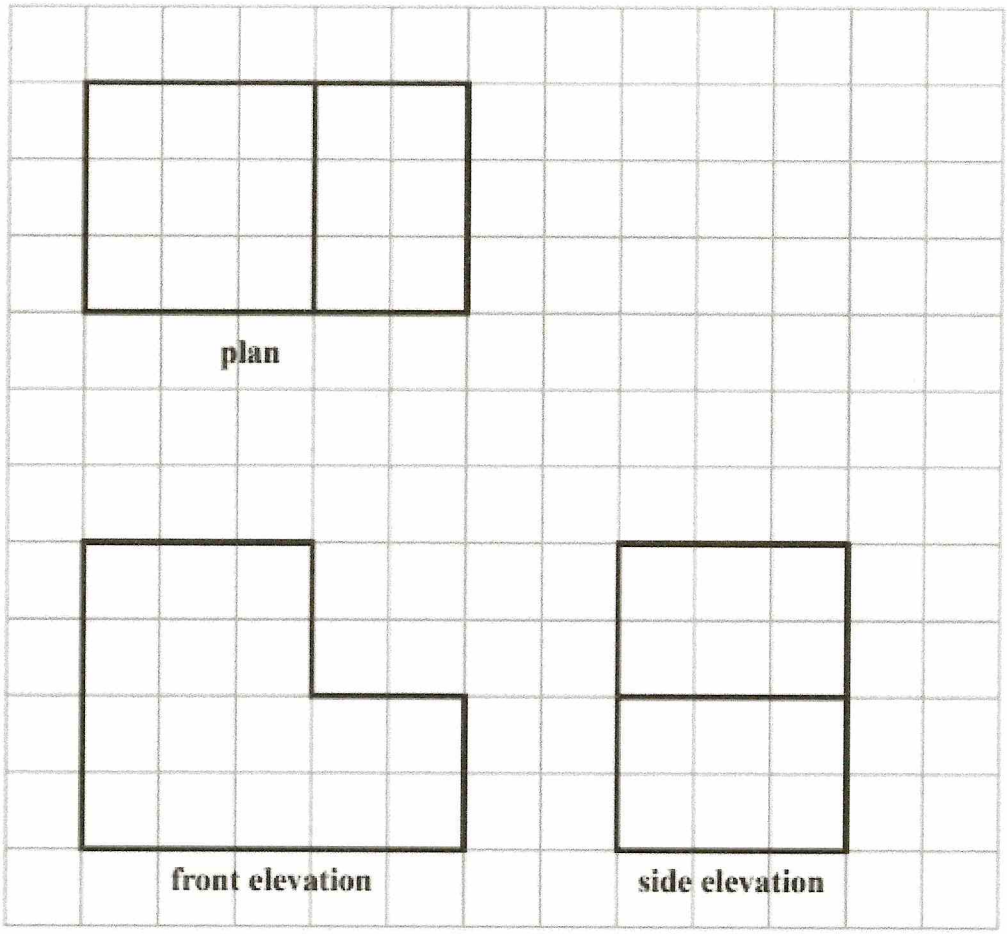


In the space below, draw a sketch of the solid shape.
Give the dimensions of the solid on your sketch.

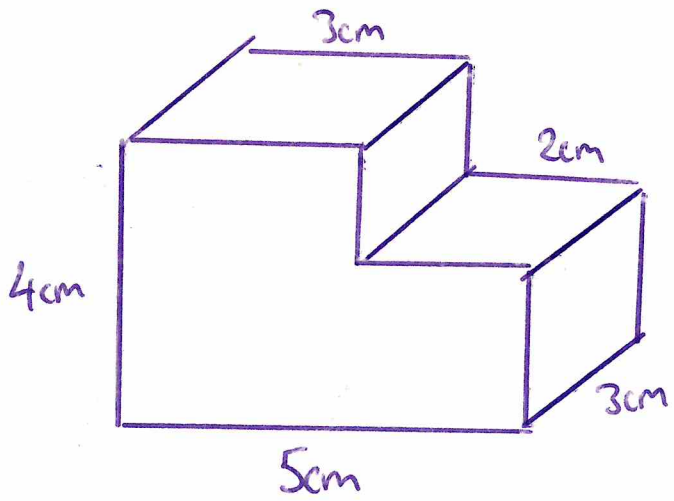


(Total for Question 25 is 2 marks)

26 The plan, front elevation and side elevation of a solid prism are drawn on a centimetre grid.



In the space below, draw a sketch of the solid prism.
Write the dimensions of the prism on your sketch.



(Total for Question 26 is 2 marks)