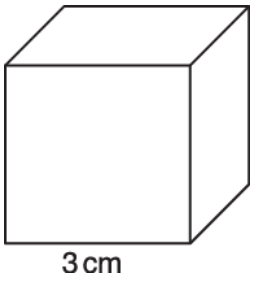
1. Here is a cube.

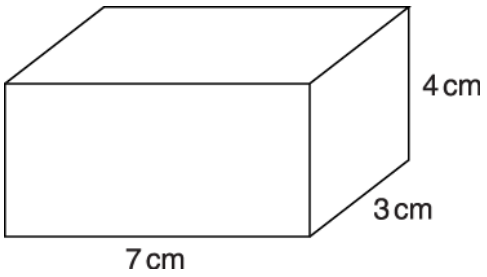


Complete the table below for any cube.

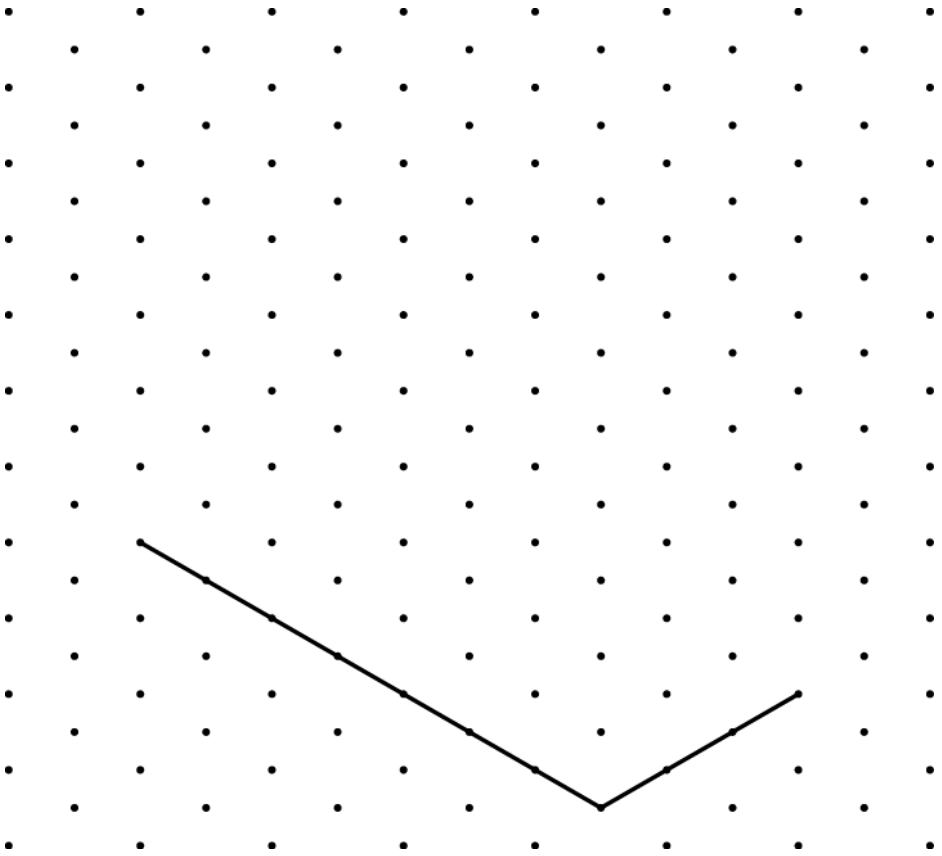
Number of faces	
Number of vertices	
Number of edges	

[3]

2. Here is a cuboid.

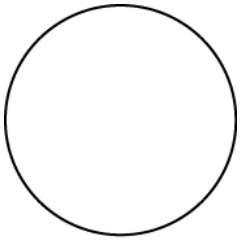


On the grid below, make an accurate isometric drawing of the cuboid.
Two of the edges have already been drawn.

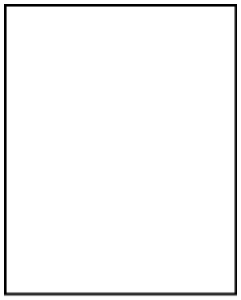


[3]

3(a). This is the plan and side elevation of a solid.



Plan



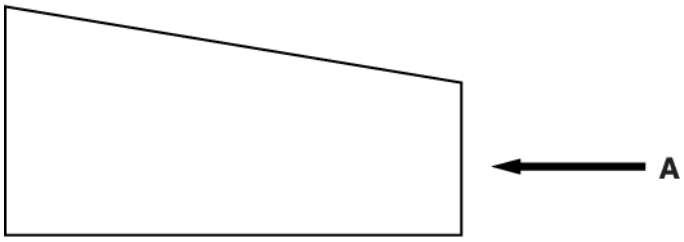
Side Elevation

What is the mathematical name of this solid?

_____ [1]

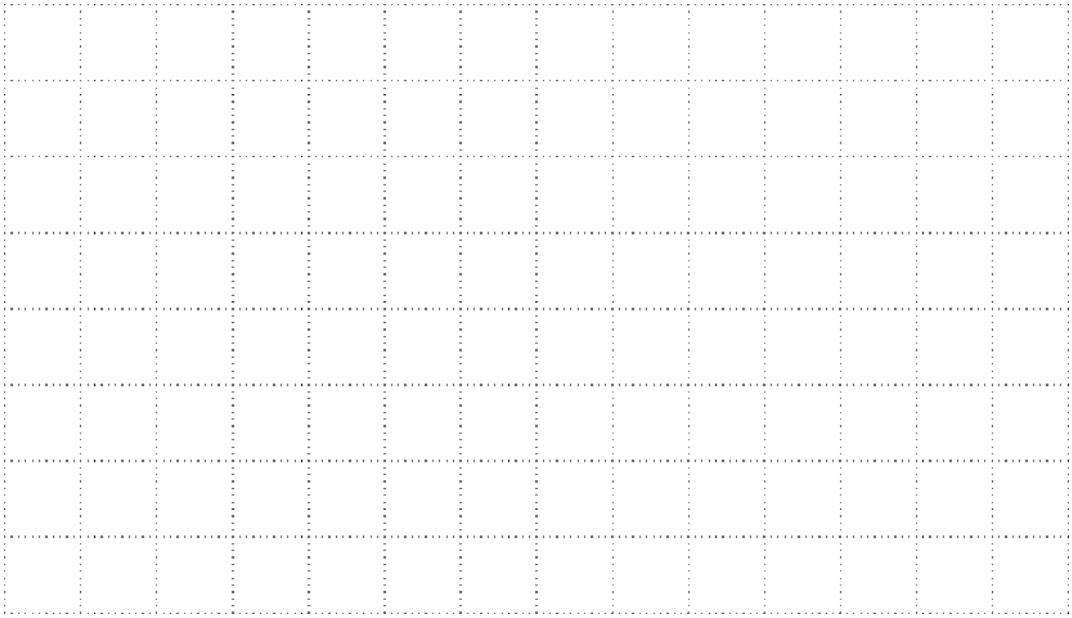
(b). This is the plan and side elevation of a solid.
They are drawn full size.

Plan



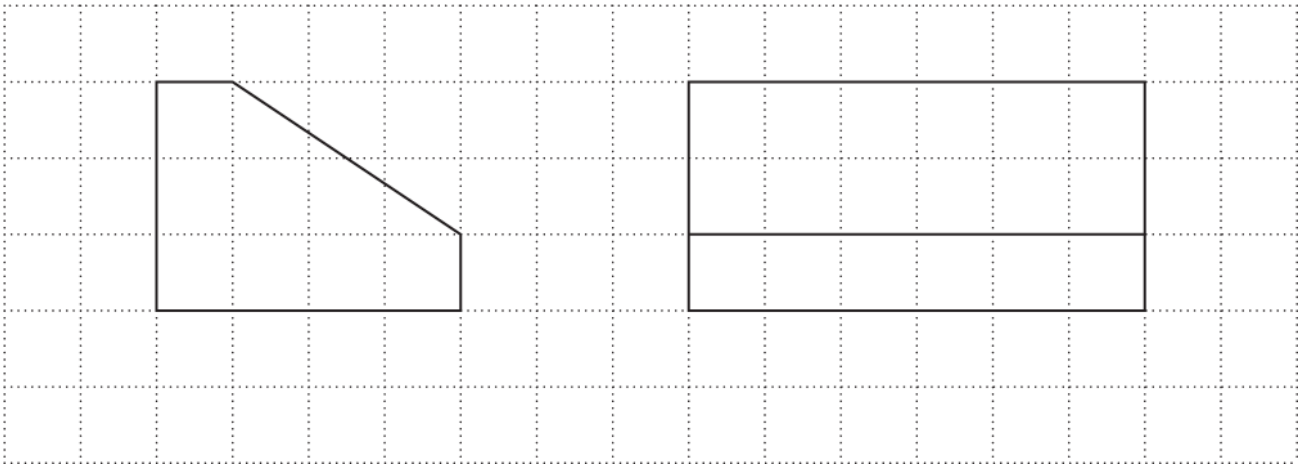
Side Elevation

Draw accurately the front elevation of this solid, from direction **A**, on the square paper below.

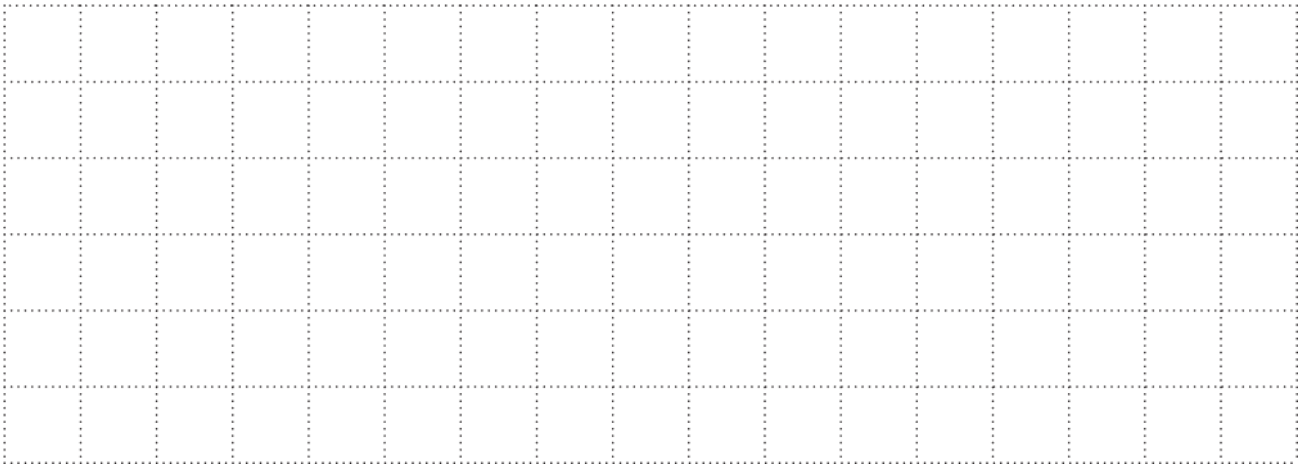


[3]

4(a). The front and side elevations of a prism, with a pentagon as its cross section, are drawn on this one-centimetre square grid.



Draw accurately the plan of the prism on the grid below.



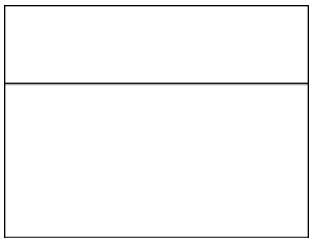
[2]

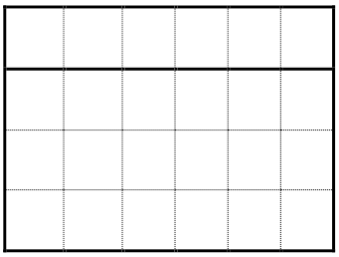
(b). Calculate the volume of the prism.

_____ cm^3 **[3]**

END OF QUESTION PAPER

Question			Answer/Indicative content	Marks	Part marks and guidance	
1			6 8 12	3	**B1** for each	Examiner's Comments The number of faces was answered very well but a large number of candidates gave the number of vertices as 12 and the number of edges as 8.
			Total	**3**		
2			Correct isometric drawing	3	For **3** marks condone hidden edges shown as dotty lines Or **B2** for correct isometric drawing but with hidden edges shown solid or incorrect Or **B1** for one correct face **Examiner's Comments** Most candidates were able to access marks on the drawing with many getting full marks or scoring two marks as they showed the hidden edges of the cuboid as solid lines. Candidates who made errors usually had one correct face. Most were able to use the dotted paper accurately.	Allow freehand if intention clear – ie just misses dot Ignore any non-edge lines
			Total	**3**		
3	a		Cylinder	1	Condone Circular [based] Prism **Examiner's Comments** The majority of candidates recognised a cylinder from the plan and side elevation.	Do not accept prism on its own Ignore spelling

Question			Answer/Indicative content	Marks	Part marks and guidance	
	b			3	**B1** for a rectangle of any height with 4 cm width AND **B2** for a rectangle of any width with a height of 3 cm and horizontal line of height 2 cm Or **B1** for rectangle of any width with height 3 cm **or** with height 2 cm **or** with any other height and horizontal line of height 2 cm or 3 cm **Examiner's Comments** Some were confused as to how to draw the front elevation, with three dimensional drawings being seen. Most candidates obtained some marks for drawing rectangles with the correct width or height. There were few fully correct solutions.	no marks for 3D drawings or different orientations
			Total	4		

Question			Answer/Indicative content	Marks	Part marks and guidance	
4	a			2	**B1** for rectangle 6cm by 4cm Accept clear intention Accept any orientation Use overlay For B1 ignore any **internal** lines within a rectangle 6cm by 4cm **Examiner's Comments** It was clear in (a) that many candidates did not know what a plan view was and attempts at nets were common, or three dimensional representations of the prism as if it were on isometric paper. Many did not attempt this part at all. Very few candidates were able to calculate the volume in part (b), possibly because they were unable to visualise the prism. There was a general understanding that three things needed multiplying for a volume, but few realised that they needed to find the area of the end face and multiply it by the length. Those that considered the cross-section often treated it as a triangle however most did 3 × 4 for the cross-section and very few counted squares. M1 was often awarded for a length of 6 identified within their volume calculation.	

Question			Answer/Indicative content	Marks	Part marks and guidance		
	b		54	3	**B1** for 9 [cm^2] **And** **M1** for *their* 9 × 6 or for a volume calculation where 6 is identified as the length	seen as area Eg $b \times l \times w$ = 4 × 6 × 3 May be seen on diagram	
			Total	5			