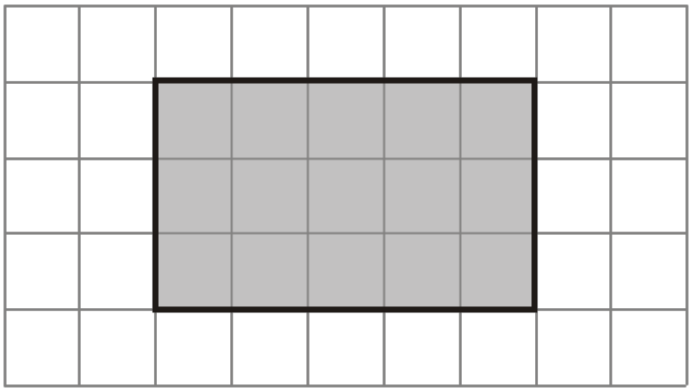
Q1. Here is a shaded shape on a grid of centimetre squares.



(a) Find the perimeter of the shaded shape.

..... cm

(1)

(b) Find the area of the shaded shape.

..... cm^2

(1)

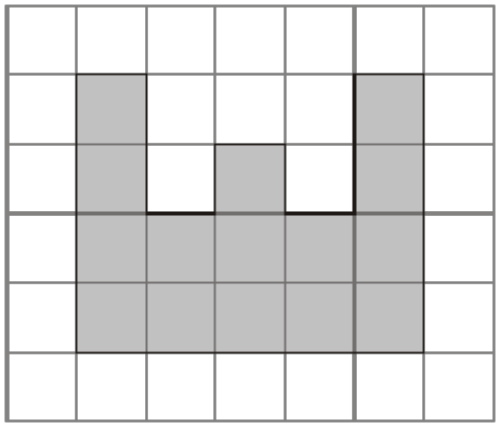
(c) Write down the mathematical name of the shaded shape.

.....

(1)

(Total 3 marks)

Q2. A shaded shape has been drawn on the centimetre grid.



(a) Find the perimeter of the shaded shape.

..... cm

(1)

(b) Find the area of the shaded shape.

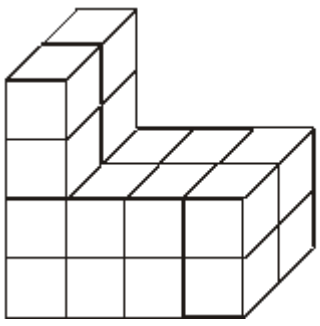
..... cm^2

(1)

Here is a solid prism made from centimetre cubes.

(c) Find the volume of this prism.

Diagram **NOT** accurately drawn

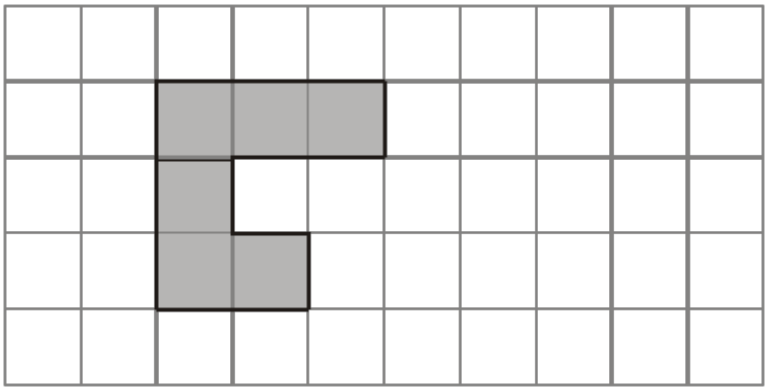


represents 1 cm^3

..... cm^3

(2)
(Total 4 marks)

Q3.



The shaded shape is drawn on a grid of centimetre squares.

(a) Find the perimeter of the shaded shape.

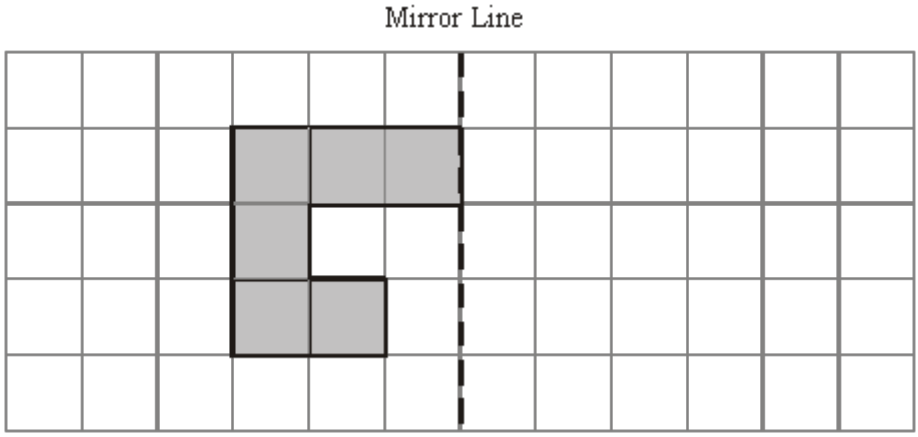
..... cm

(1)

(b) Find the area of the shaded shape.

..... cm^2

(1)



(c) Reflect the shaded shape in the mirror line.

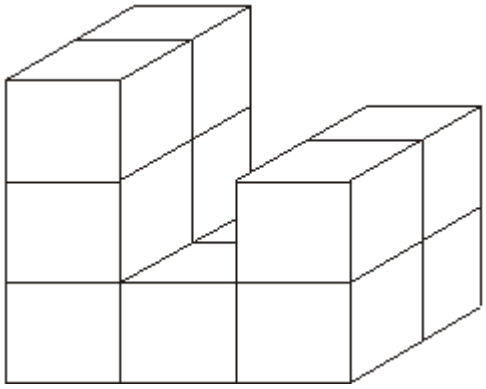


Diagram **NOT** accurately drawn

(1)

Here is a prism made of centimetre cubes.

(d) Find the volume of the prism.

..... cm^3

(1)
(Total 4 marks)

Q4. Here is a rectangle.

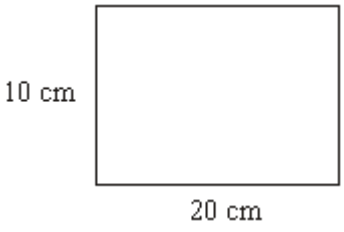


Diagram **NOT** accurately drawn

(a) Work out the perimeter of the rectangle.

..... cm

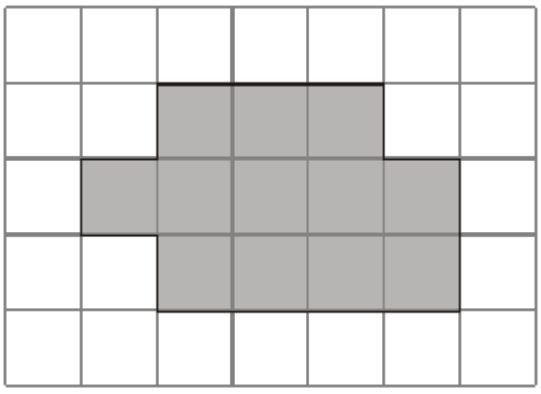
(2)

(b) Work out the area of the rectangle.

..... cm^2

(2)
(Total 4 marks)

Q5.



The diagram shows a shaded shape drawn on a centimetre grid.

(a) Work out the perimeter of the shaded shape.

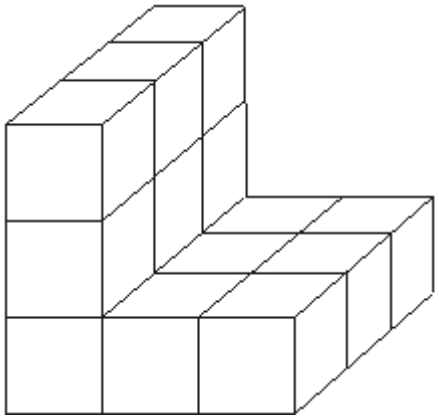
..... cm

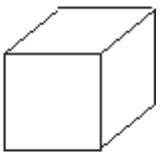
(1)

(b) Work out the area of the shaded shape.
State the units of your answer.

.....

(2)





represents
1 cm^3

Diagrams **NOT** accurately drawn

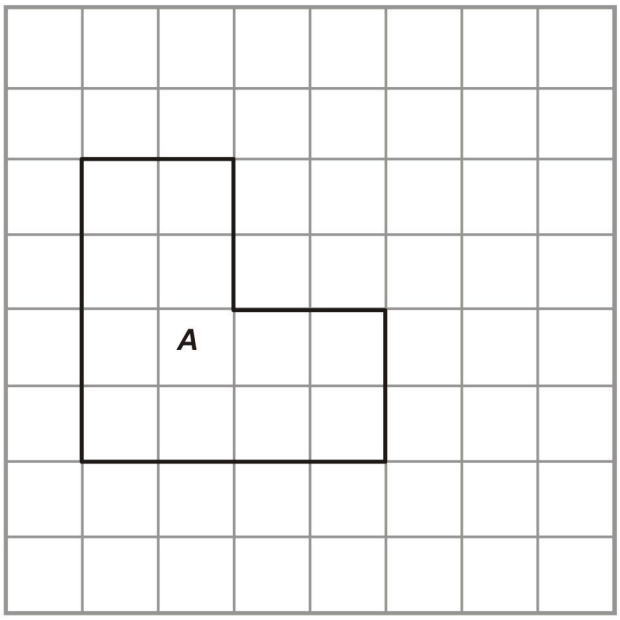
Here is a solid prism made of centimetre cubes.

(c) Find the volume of the solid prism.

..... cm^3

(2)
(Total 5 marks)

Q6.



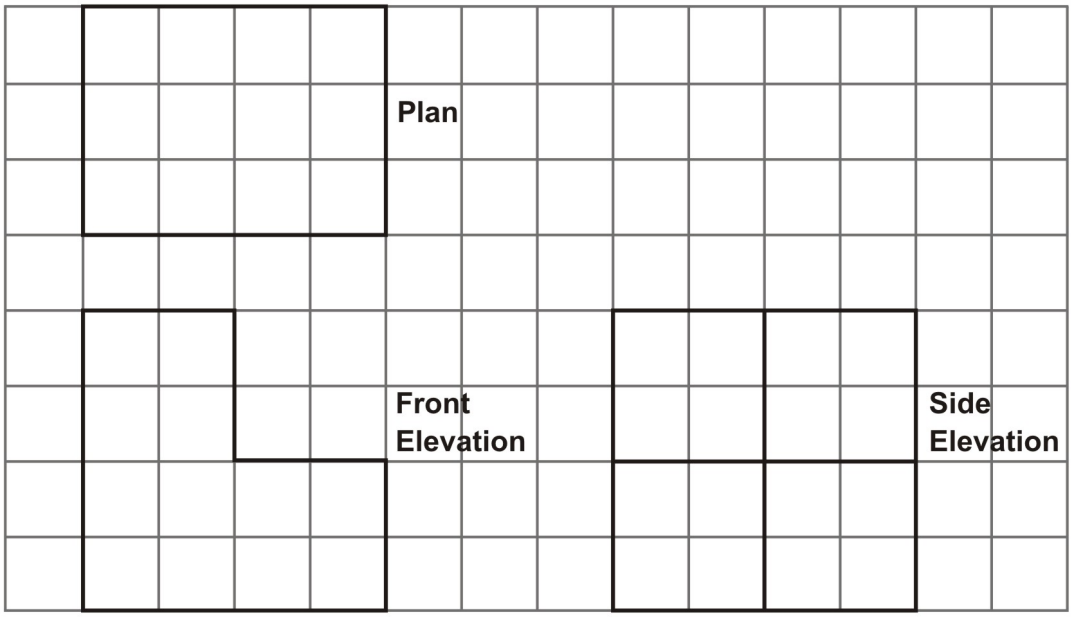
Shape *A* has been drawn on a centimetre grid.

(a) Find the perimeter of shape *A*.

.....

(1)

The diagram shows the plan, the front elevation and the side elevation of a 3-D solid made from one centimetre cubes drawn full size.



(b) Find the volume of the 3-D shape.

.....

(4)
(Total 5 marks)

M1.

	Answer	Mark	Additional Guidance
(a)	16	1	**B1** for 16 cao
(b)	15	1	**B1** for 15 cao
(c)	rectangle	1	**B1** for rectangle, quadrilateral, trapezium, parallelogram or oblong
			Total for Question: 3 marks

M2.

	Answer	Mark	Additional Guidance
(a)	24	1	**B1** cao
(b)	15	1	**B1** cao
(c)	20	2	**B2** cao (**B1** for 10 or 16 or 15)
			Total for Question: 4 marks

M3.

	Answer	Mark	Additional Guidance
(a)	14	1	**B1** cao
(b)	6	1	**B1** cao
(c)	(Reflection)	1	**B1** cao
(d)	12	1	**B1** cao
			Total for Question: 4 marks

M4.

	Working	Answer	Mark	Additional Guidance
(a)	10 + 20 + 10 + 20	60	2	**M1** for 10 + 20 + 10 + 20 **A1** cao
(b)	10 × 20	200	2	**M1** for 10 × 20 **A1** cao
				Total for Question: 4 marks

M5.

	Answer	Mark	Additional Guidance
(a)	16	1	**B1** cao
(b)	12 cm^2	2	**B1** for 12 cao, **B1** (indep) for cm^2

(c)	15	2	**M1** for 5 × 3 **A1** cao [SC: **B1** for 10, 13 or 14]
			Total for Question: 5 marks

M6.

	Working	Answer	Mark	Additional Guidance
(a)		16 cm	1	**B1** cao (units included)
(b)		48 cm^3	4	**M1** 3-D drawing or sketch **M1** 4 × 4 × 2 and 2 × 2 × 4 / 4 × 4 × 4 and 2 × 2 × 4 **M1** adding or subtracting **A1** cao (units included)
				Total for Question: 5 marks

E1. A well understood question by most candidates; however a significant minority mixed up area and perimeter and some candidates found the area and perimeter of the grid on which the shaded shape was drawn. Almost all candidates wrote rectangle for the shape though some candidates did write quadrilateral, square or even kite.

E2. It is disappointing to have to report that only slightly more than half of all candidates achieved the marks in any part of this question. Errors include confusion between area and perimeter, and errors in simple counting of lines, squares or cubes. Even more able candidates were found to have errors in this question.

E3. There were many correct responses but a significant number of candidates confused perimeter with area and vice versa, scoring no marks. Around two thirds of the candidates got part (a) correct and/or part (b) correct.

In part (c) nearly all candidates got this correct with a few adding an extra square to give 4 squares in the top row.

In part (d) just under 60% got the correct volume. By far the most common error was to attempt to find the volume by multiplying a height by a width by a length, reaching 18 (3 × 3 × 2) or even 8 (2 × 2 × 2).

E4. Although some was seen, there seemed less confusion between perimeter and area than in the past. Part (a) was successfully answered by over 80% of candidates. Some candidates only added the two sides given and gave 30 as their answer. Examiners rarely saw any working in part (b). Over 60% of candidates gained both marks in this part of the question.

E5. In parts (a) and (b), many candidates were confused in distinguishing between perimeter and area. Many gave 12 as their answer to part (a). In part (b), the omission of units was common, even when the area was correct. In part (c), many candidates successfully found the correct volume by working out 5 × 3 or more usually by simply counting the cubes. The most common errors seen were either calculations of 3 × 3 × 3 (= 27) or mistakes in counting methods leading to answers of 13 and 14, which gained 1 mark, and sometimes 12 which gained no credit.