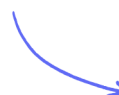


Symmetry & Shapes

Rotational Symmetry / Lines of Symmetry / Planes of Symmetry / 2D Shapes / 3D Shapes / Plans & Elevations

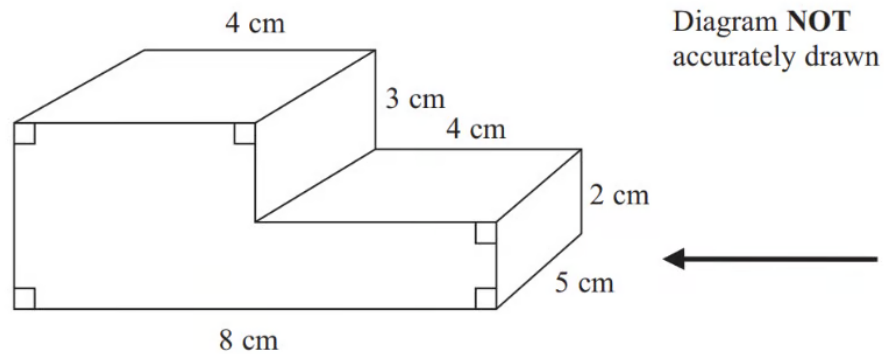
Easy (11 questions)	/23
Medium (9 questions)	/23
Hard (5 questions)	/8
Total Marks	/54

Scan here to return to the course
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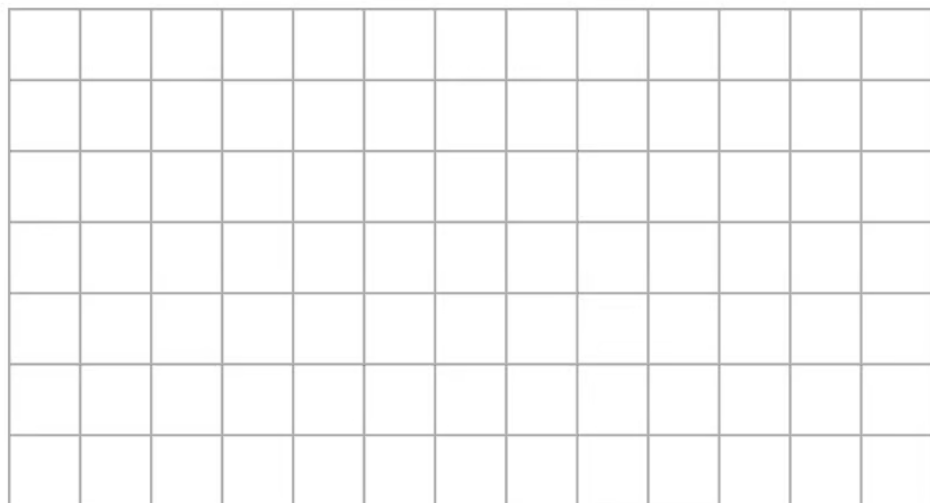


Easy Questions

- 1 The diagram shows a solid prism.

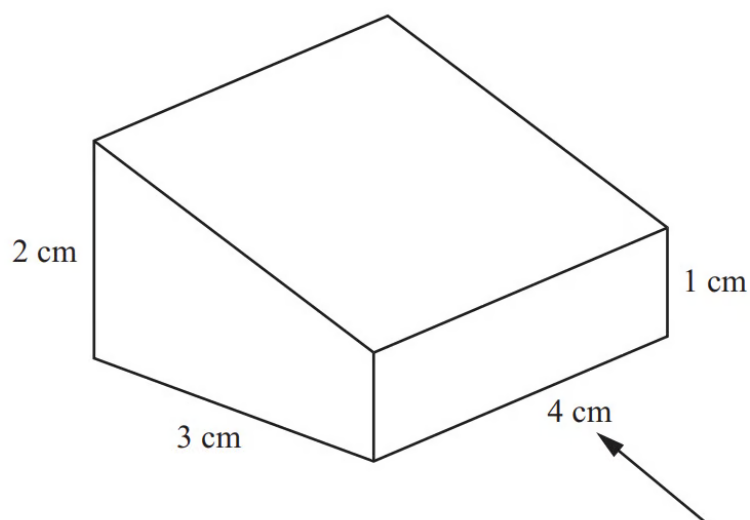


On the centimetre square grid, draw the side elevation of the solid prism from the direction shown by the arrow.

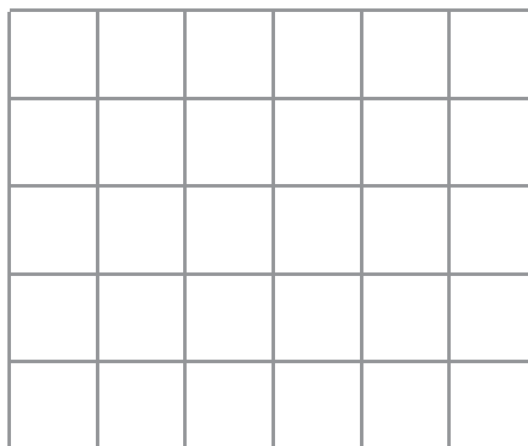


(2 marks)

2 (a) The diagram shows a solid prism.

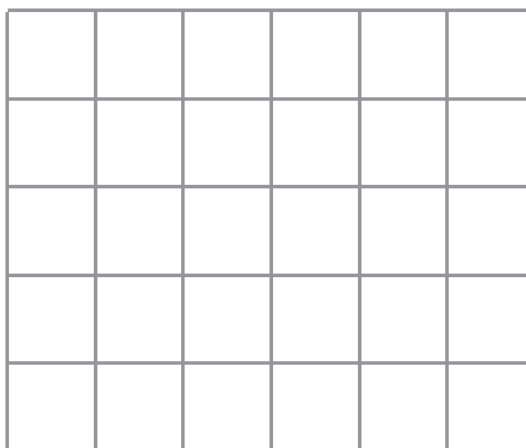


On the grid below, draw the front elevation of the prism from the direction of the arrow.



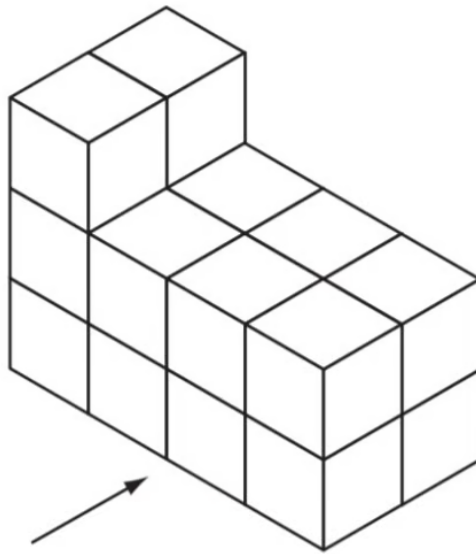
(2 marks)

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

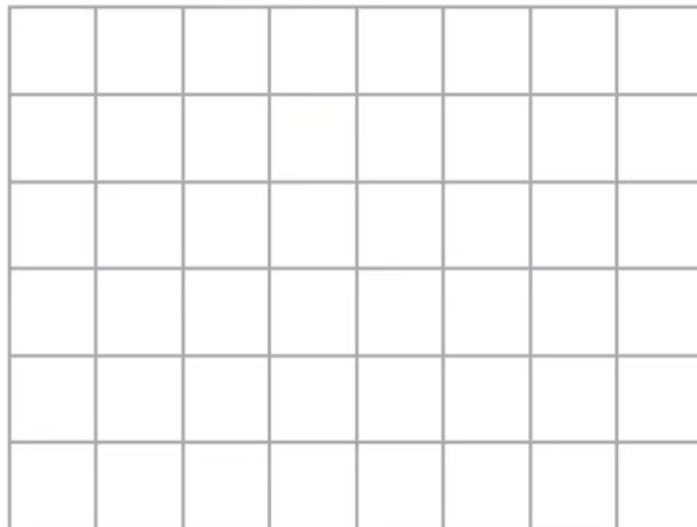


(2 marks)

3 (a) The diagram shows a solid prism made from centimetre cubes.

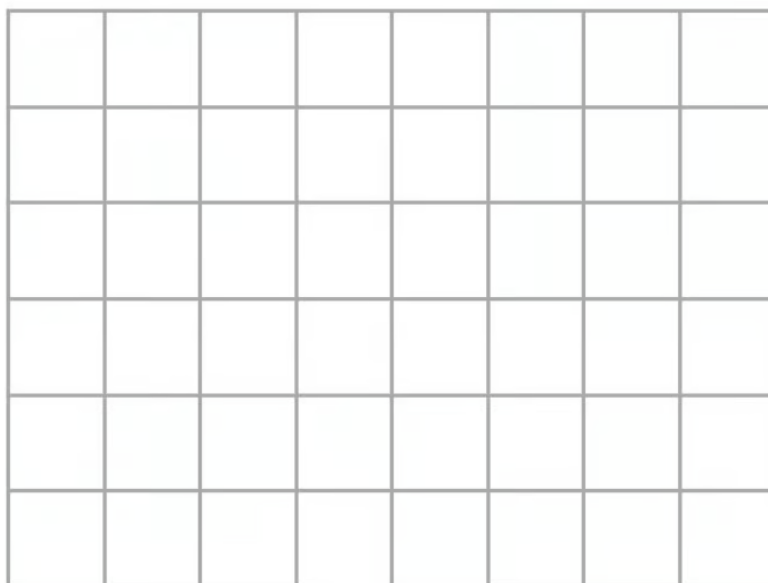


On the centimetre square grid, draw the front elevation of the solid prism from the direction shown by the arrow.



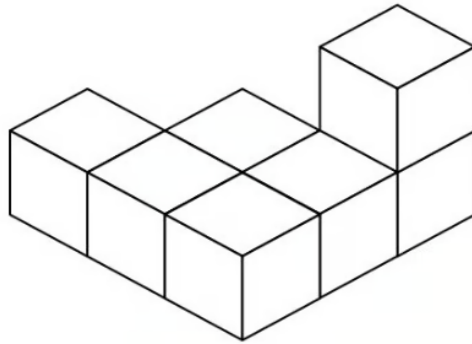
(2 marks)

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

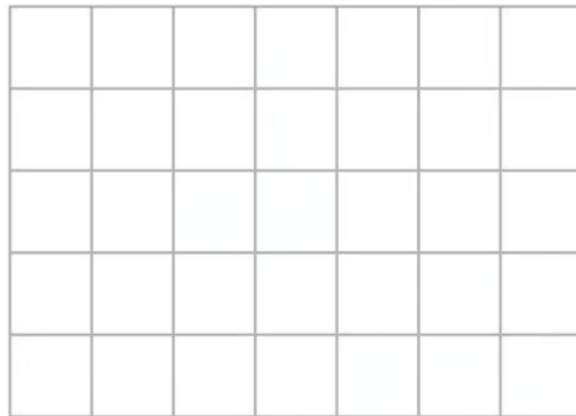


(2 marks)

- 4 The diagram represents a solid made from seven centimetre cubes.



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



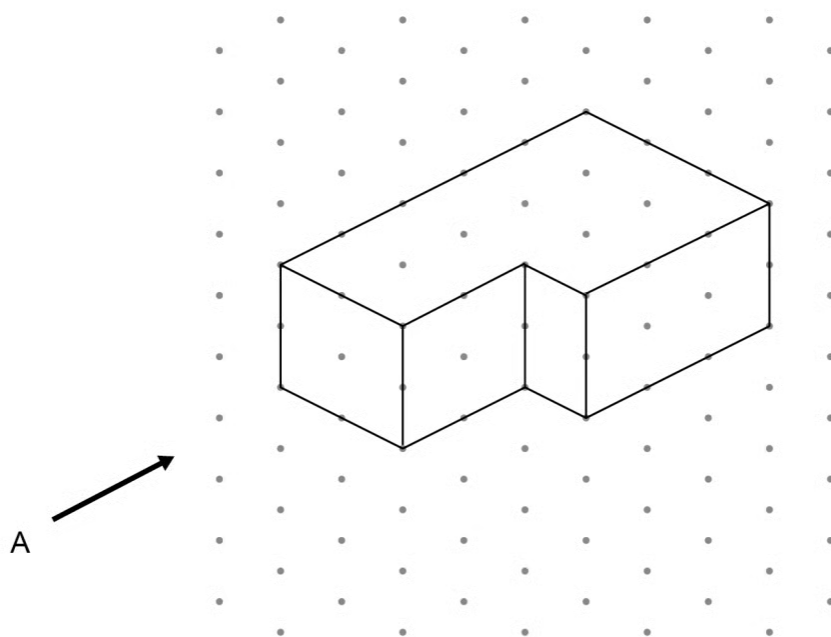
(2 marks)

- 5 Choose the solid that has 7 vertices.

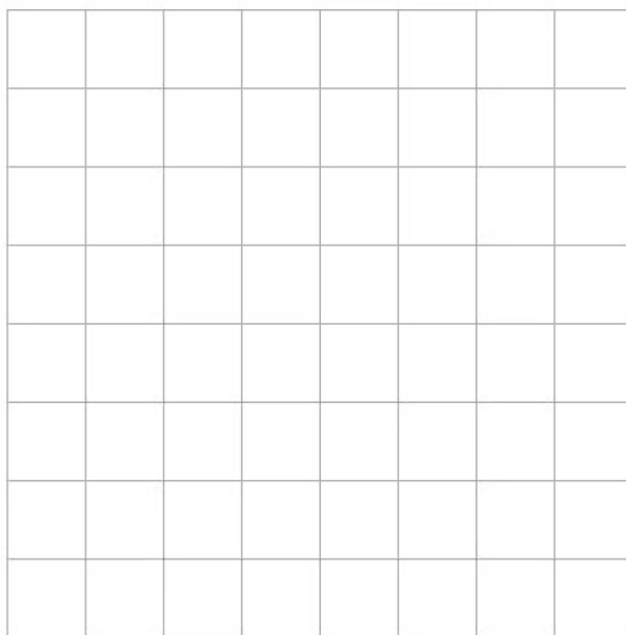
- A. hexagonal prism
- B. hexagon-based pyramid
- C. pentagonal prism
- D. pentagon-based pyramid

(1 mark)

6 (a) A solid shape is drawn on isometric paper.



On the centimetre grid, draw the elevation of the shape from A.



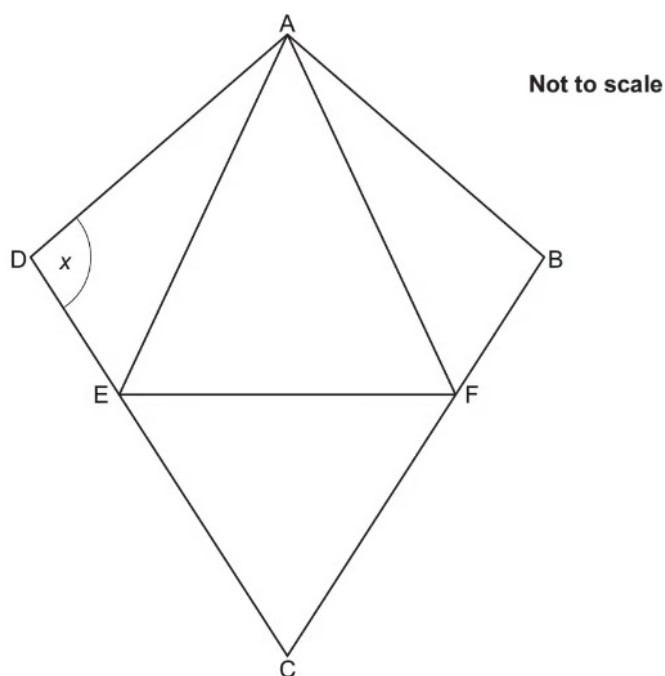
(1 mark)

(b) On the centimetre grid, draw a plan of the shape.



(1 mark)

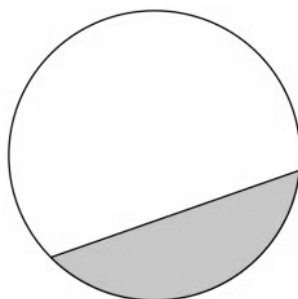
- 7 The diagram shows a kite, $ABCD$.
 AFE and CEF are equilateral triangles.



Write down a mathematical name for quadrilateral $AFCE$.

(1 mark)

8 Here is a circle.

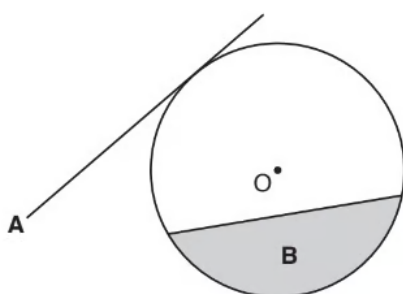


Choose the word that describes the shaded part.

- A.** segment
- B.** chord
- C.** sector
- D.** arc

(1 mark)

9 The diagram shows a circle, centre O.



Write down the mathematical name of

i) line **A**,

[1]

ii) shaded region **B**.

[1]

(2 marks)

10 (a) Complete each statement.

A quadrilateral with only one pair of parallel sides is called a

(1 mark)

(b) An angle greater than 90° but less than 180° is called

(1 mark)

11 (a)



The diagram shows a regular pentagon and a kite. Complete the following statements.

The regular pentagon has lines of symmetry.

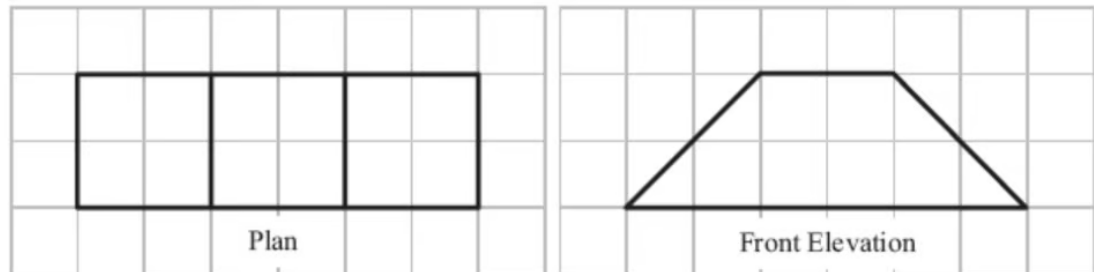
(1 mark)

(b) The kite has rotational symmetry of order

(1 mark)

Medium Questions

1 (a) Here are the plan and front elevation of a solid shape.



On the grid below, draw the side elevation of the solid shape.

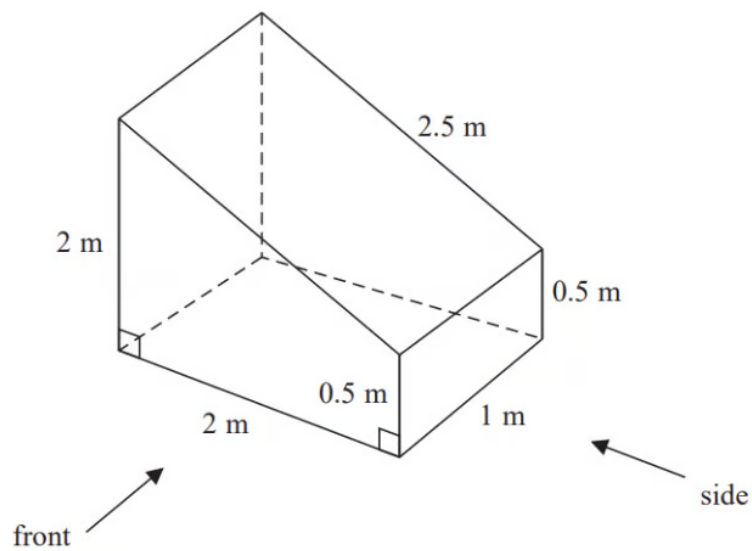


(2 marks)

(b) In the space below, draw a sketch of the solid shape.

(2 marks)

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



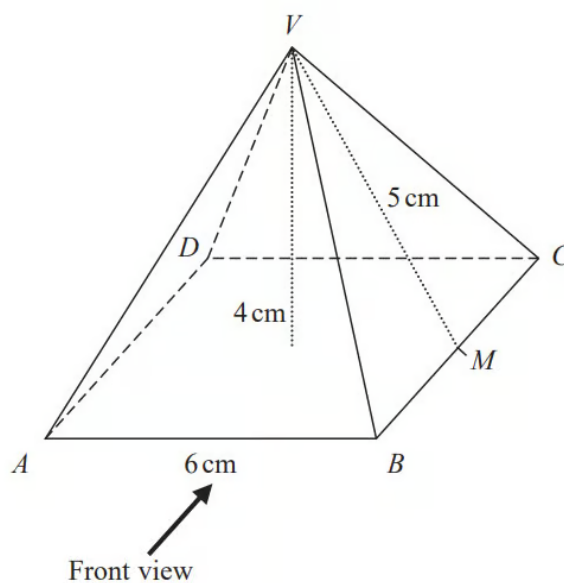
On the centimetre grid below, draw the front elevation and the side elevation of the prism.

Use a scale of 2 cm to 1 m.



(4 marks)

3 (a) Here is a solid square-based pyramid, $VABCD$.

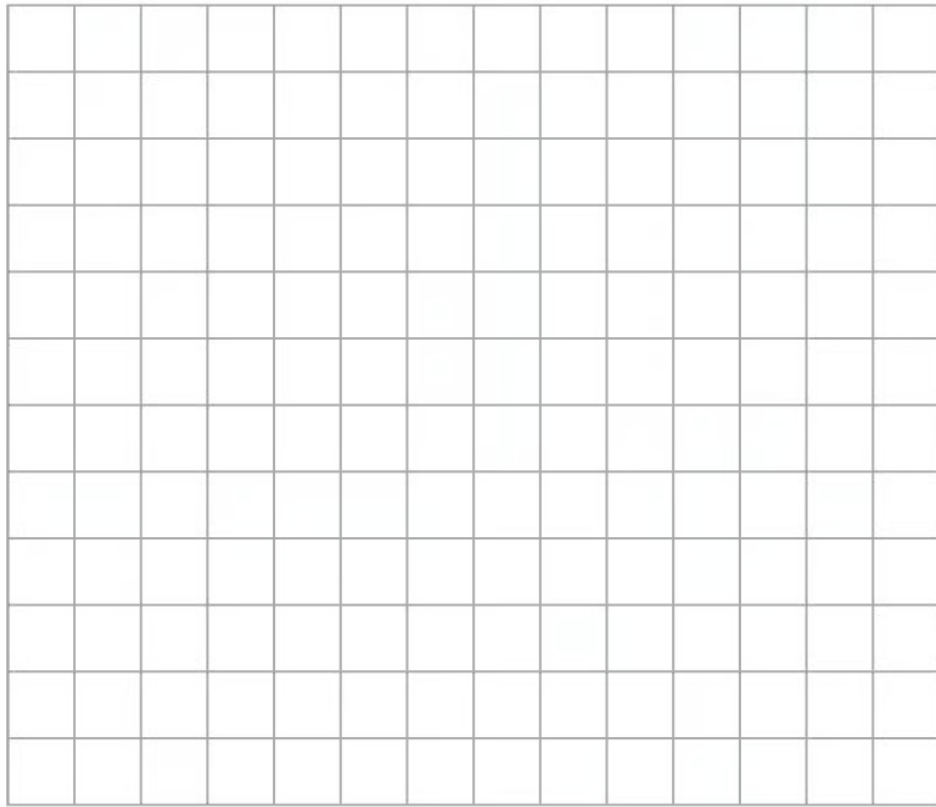


The base of the pyramid is a square of side 6 cm .

The height of the pyramid is 4 cm .

M is the midpoint of BC and $VM = 5\text{ cm}$.

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



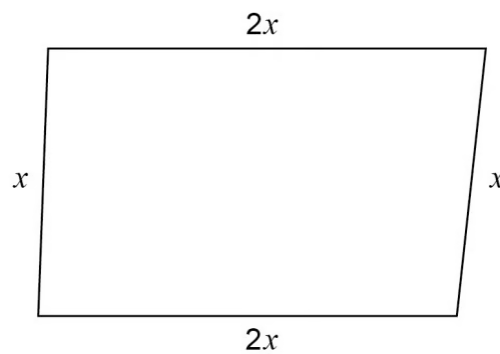
(2 marks)

(b) Work out the total surface area of the pyramid.

(4 marks)

4 Here is a **sketch** of a quadrilateral.

All lengths are in centimetres.



Not drawn
accurately

Tick **one** box for each statement.

	True	May be true	Not true
The quadrilateral is a rectangle			
The quadrilateral is a parallelogram			
The quadrilateral is a rhombus			
The quadrilateral is a kite			

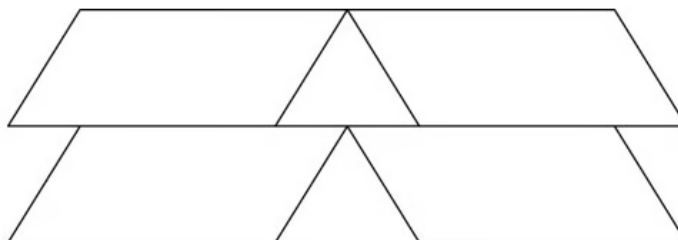
(3 marks)

5 Tick **all** the statements that are true for any rhombus.

- ☐ The diagonals are lines of symmetry
- ☐ The diagonals bisect each other
- ☐ The diagonals are perpendicular
- ☐ The diagonals are equal in length

(1 mark)

6 (a) This shape is made from two triangles and four congruent parallelograms.



Not drawn
accurately

For each statement, choose the correct statement.

The triangles are equilateral.

- A.** Must be true
- B.** Could be true
- C.** Must be false

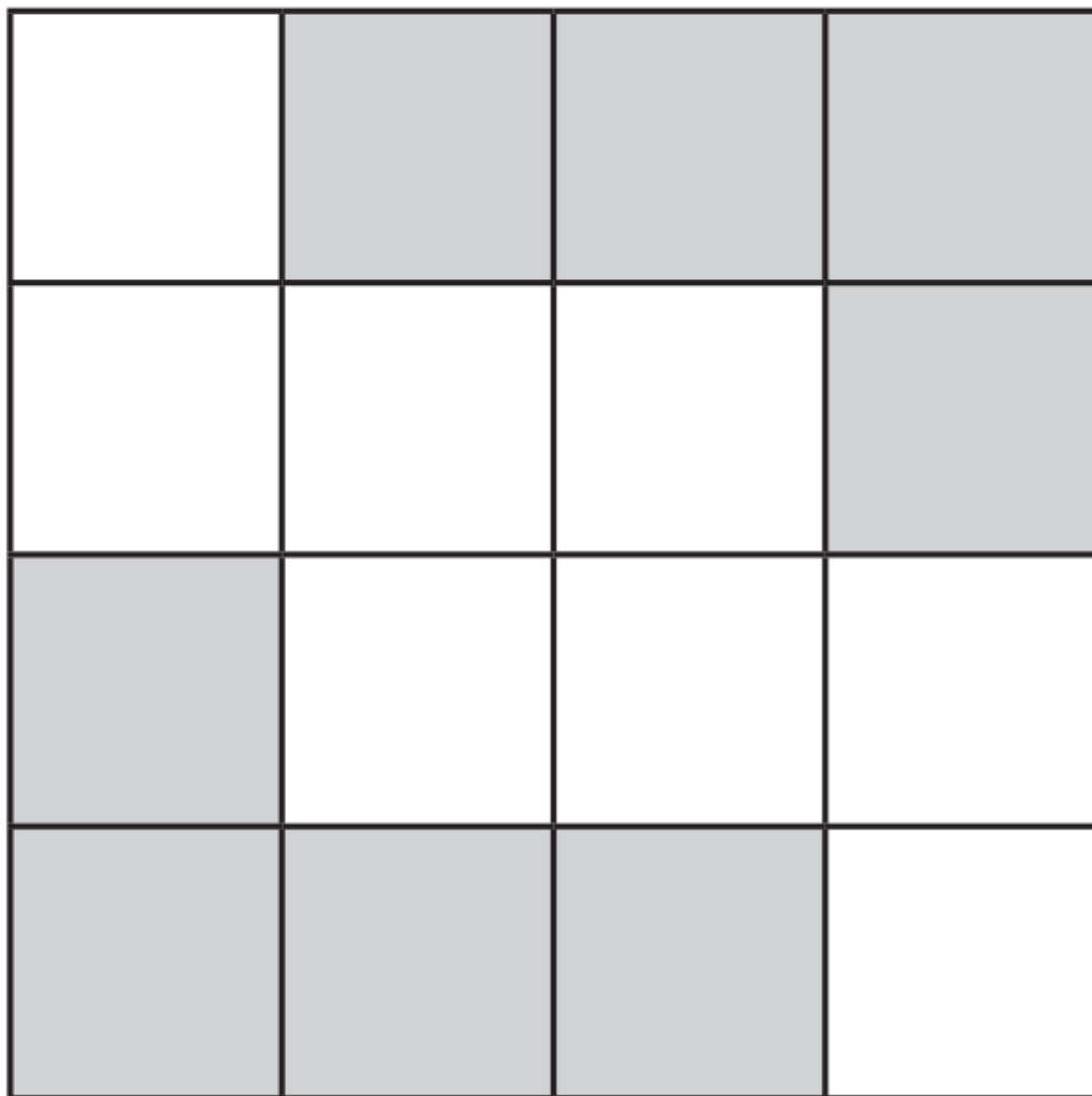
(1 mark)

(b) The triangles are congruent.

- A.** Must be true
- B.** Could be true
- C.** Must be false

(1 mark)

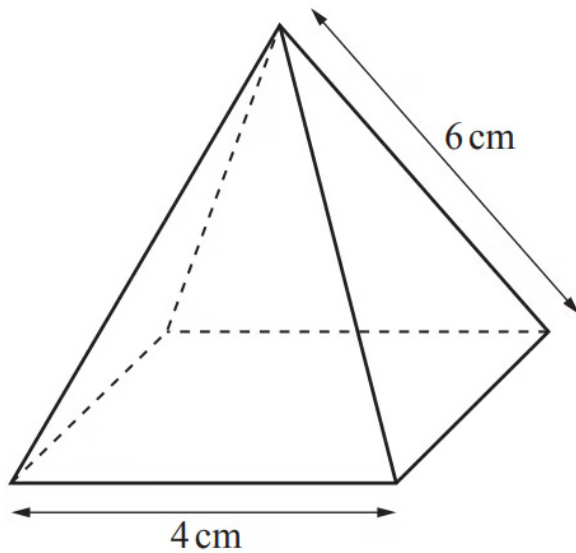
7



Write down the order of rotational symmetry of the diagram.

(1 mark)

8

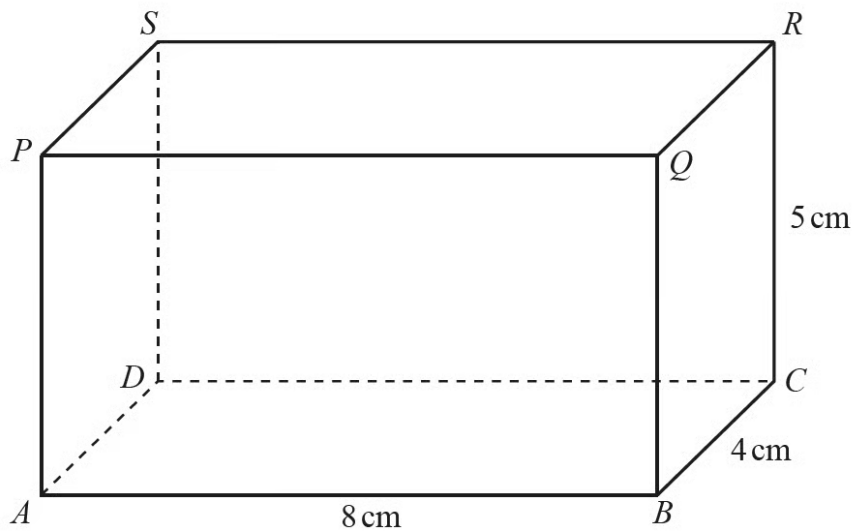
NOT TO
SCALE

The diagram shows a pyramid with a square base.
The triangular faces are congruent isosceles triangles.

Write down the number of planes of symmetry of this pyramid.

(1 mark)

9

NOT TO
SCALE

The diagram shows a cuboid.

$AB = 8$ cm,

$BC = 4$ cm and

$CR = 5$ cm.

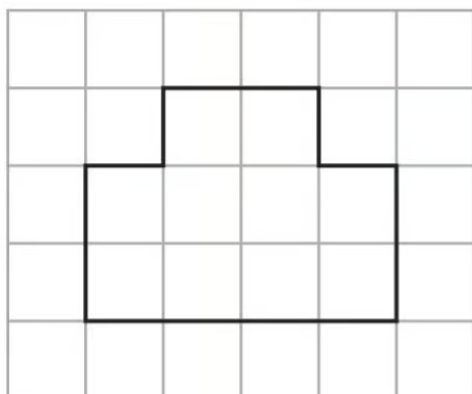
Write down the number of planes of symmetry of this cuboid.

(1 mark)

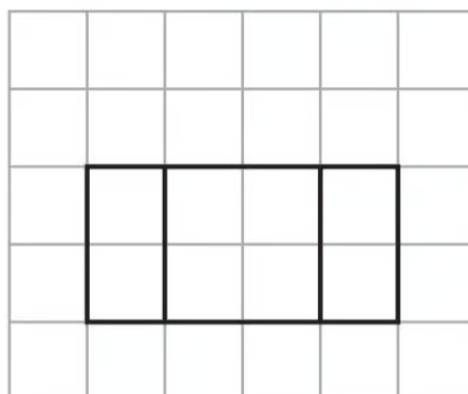
Hard Questions

- 1 Here are the front elevation and the plan of a prism.

Front elevation



Plan



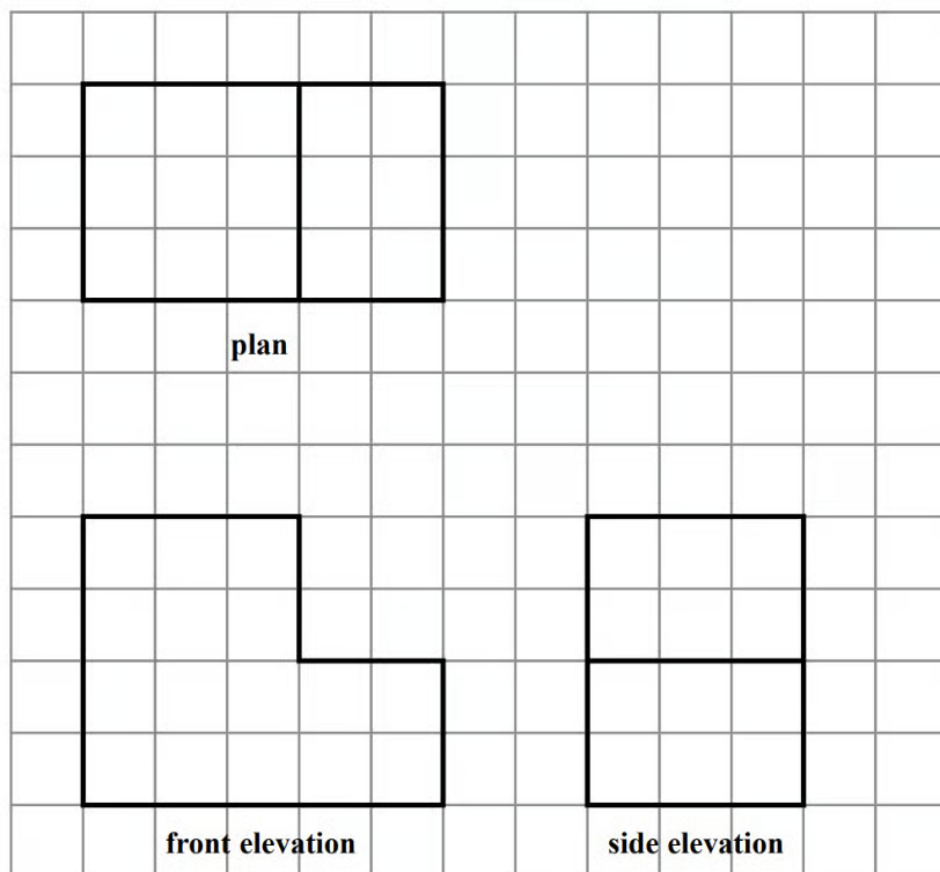
On the grid below, draw the side elevation of the prism.



(2 marks)

- 2 The plan, front elevation and side elevation of a solid prism are drawn on a centimetre

grid.

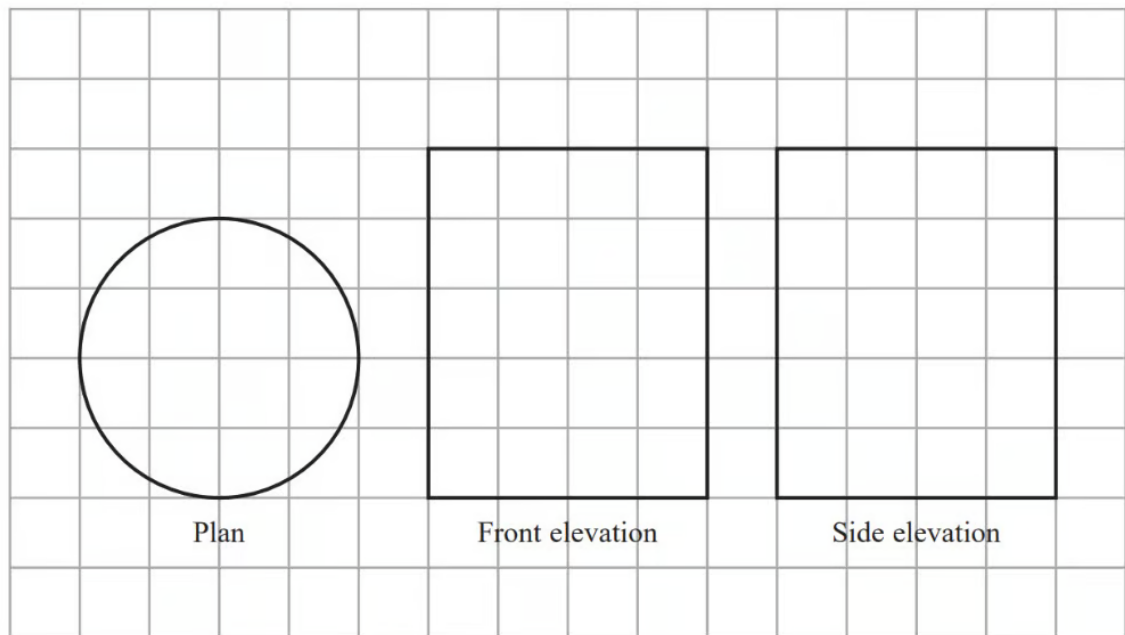


In the space below, draw a sketch of the solid prism.
Write the dimensions of the prism on your sketch.

(2 marks)

- 3** The diagram shows the plan, front elevation and side elevation of a solid shape, drawn

on a centimetre grid.

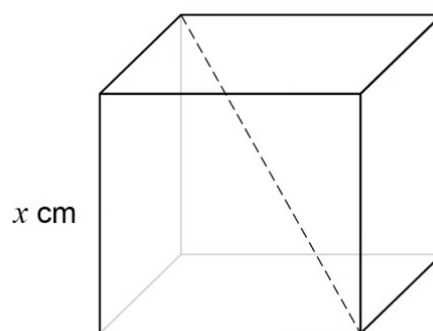


In the space below, draw a sketch of the solid shape.
Give the dimensions of the solid on your sketch.

(2 marks)

4 Here is a cube with edge length x cm

One diagonal is shown.



The total length, in centimetres, of the edges of the cube is a multiple of 18

Choose the correct statement.

- A.** x is a whole number
- B.** x is not a whole number
- C.** x might be a whole number

(1 mark)

5 The cross section of a prism has n sides.

Choose the expression for the number of edges of the prism.

- A.** $2n$
- B.** $3n$
- C.** $n + 2$
- D.** $2n + 3$

(1 mark)