

3D Shapes - Faces, Edges, Vertices and Nets

For AQA GCSE Mathematics (8300) • Foundation tier

Name _____

Total marks: **22**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method.

1 Which statement about a square-based pyramid is correct?

Tick one box.

[1 mark]

- ☐ It has 4 vertices.
- ☐ It has 5 faces.
- ☐ It has 5 edges.
- ☐ All of its faces are triangles.

2 Circle the solid that has one flat face and one curved surface.

[1 mark]

cylinder

cone

sphere

cube

3 Circle the solid that does **not** have a uniform cross section.

[1 mark]

cube

cylinder

triangular prism

square-based pyramid

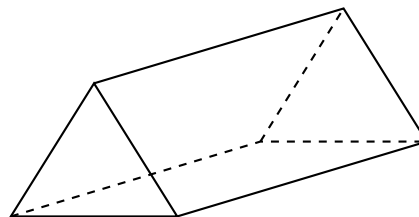
- 4 (a) How many edges does a cube have?
Circle your answer.

[1 mark]

- (b) The base of a pyramid is a hexagon.
How many of the faces of the pyramid are triangles?
Circle your answer.

[1 mark]

- 5 Here is a solid prism.



Not drawn accurately

- (a) How many faces does the prism have?

[1 mark]

Answer _____

- (b) How many vertices does the prism have?

[1 mark]

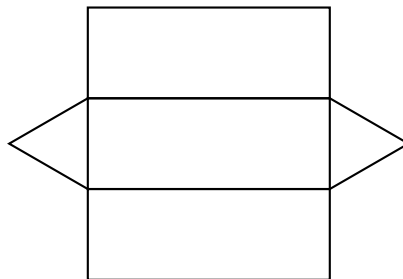
Answer _____

6 Complete the table.

	Faces	Edges	Vertices
Pentagonal prism	7		
Triangular-based pyramid		6	
Square-based pyramid			5

[3 marks]

7 Here is the net of a 3D shape.

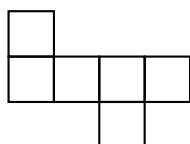


Write down the name of the 3D shape.

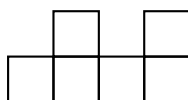
[1 mark]

Answer _____

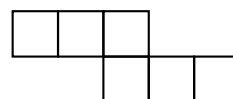
8 Here are four nets.
Each net is made from six squares.
Which net will **not** fold to make a cube?
Circle the correct letter.



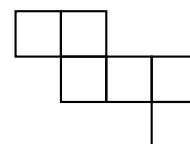
A



B



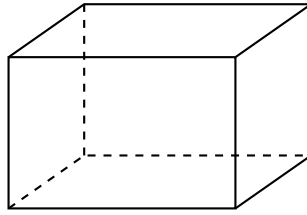
C



D

[1 mark]

9 Here is a cuboid.



Sam says,
'A cuboid has 8 edges.'

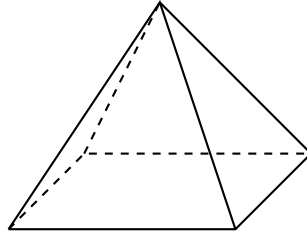
Is Sam correct? Tick a box.
Give a reason for your answer.

[1 mark]

☐ Yes

☐ No

10 Here is a square-based pyramid.

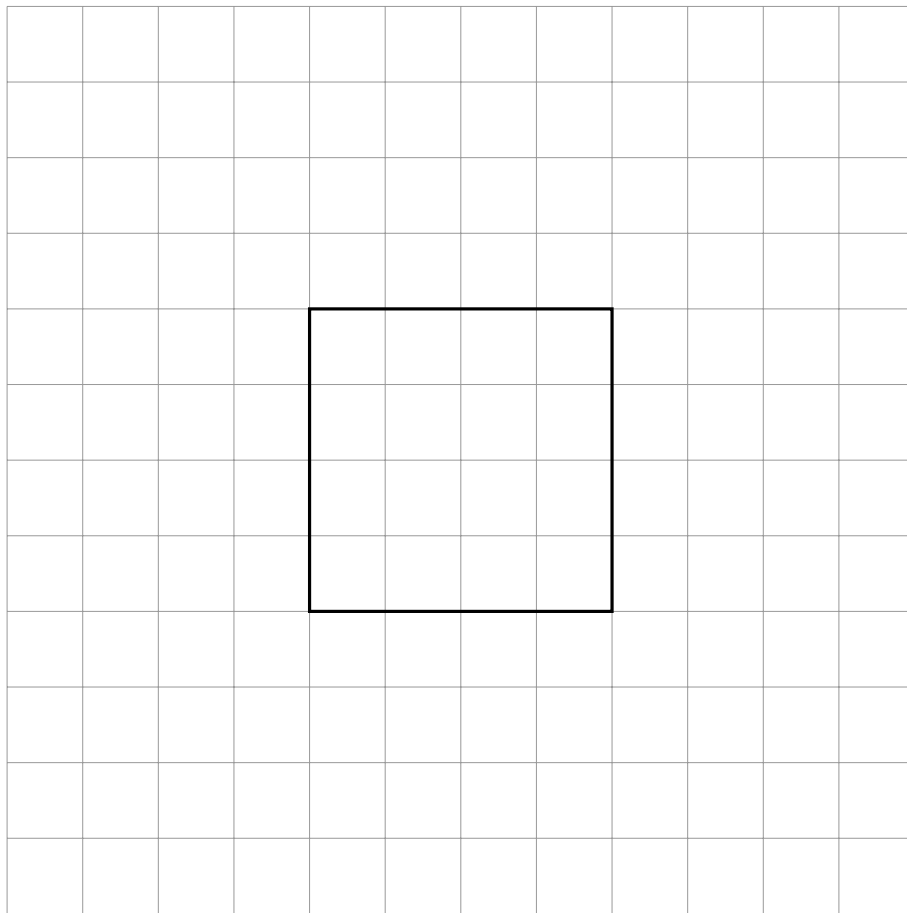


The base is a square with sides of length 4 cm.

Each triangular face has a base of 4 cm and a perpendicular height of 3 cm.

The square base of the net is drawn on the centimetre grid.

Draw the four triangles to complete a net of the pyramid on the centimetre grid.



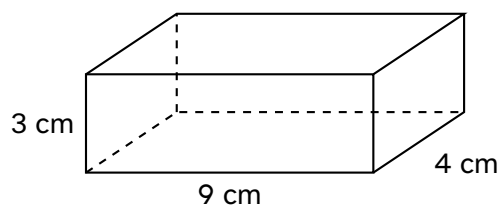
[2 marks]

- 11** A cuboid has a square base.
The area of the base is 36 cm^2 .
The edges of the cuboid have a total length of 84 cm .
Work out the height of the cuboid.

[4 marks]

Answer _____ cm

- 12** Here is a cuboid.



Not drawn accurately

A cube has the same total surface area as this cuboid.
Work out the length of one edge of the cube.
You must show your working.

[3 marks]

Answer _____ cm