

3D Shapes - Faces, Edges and Vertices

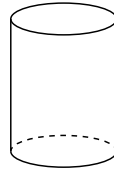
For Pearson Edexcel GCSE Mathematics (1MA1) • Foundation tier

Name _____

Total marks: **24**

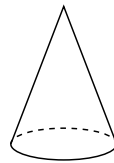
Answer **all** questions in the spaces provided. Show your working: marks are given for correct method.

- 1** (a) Write down the mathematical name of this solid shape.



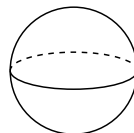
.....
(1)

- (b) Write down the mathematical name of this solid shape.



.....
(1)

- (c) Write down the mathematical name of this solid shape.



.....
(1)

(Total for Question 1 is 3 marks)

- 2 The diagram shows a pyramid.
The base of the pyramid is a pentagon.

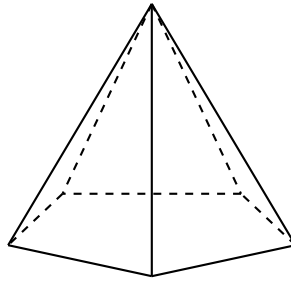


Diagram **NOT** accurately drawn

- (a) Write down the number of vertices of the pyramid.

.....
(1)

- (b) Write down the number of edges of the pyramid.

.....
(1)

(Total for Question 2 is 2 marks)

- 3 (a) In the space below, draw a sketch of a square-based pyramid.

(1)

- (b) Write down the number of faces of a square-based pyramid.

.....
(1)

(Total for Question 3 is 2 marks)

- 4 Here is a 3-D shape.
Some of its vertices are labelled.

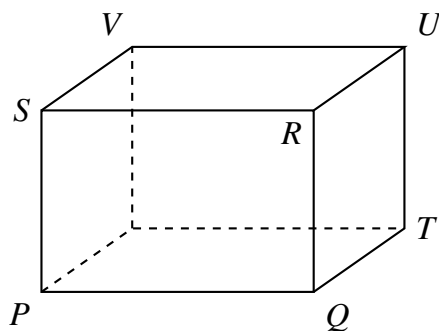


Diagram **NOT** accurately drawn

- (a) Write down the name of this 3-D shape.

.....
(1)

- (b) Shade in the face $RUVS$.

(1)

(Total for Question 4 is 2 marks)

- 5 A hexagonal prism has two ends that are hexagons.
Write down the number of faces, edges and vertices of a hexagonal prism.

faces edges vertices
(2)

(Total for Question 5 is 2 marks)

- 6** Here is a prism.
Each end of the prism is an octagon.

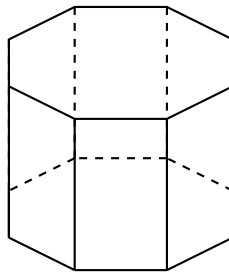


Diagram **NOT** accurately drawn

- (a) Write down the number of faces of the prism.

.....
(1)

- (b) Write down the number of vertices of the prism.

.....
(1)

(Total for Question 6 is 2 marks)

- 7 The diagram shows a square-based pyramid.
All the edges of the pyramid are the same length.

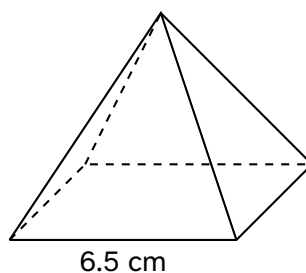


Diagram **NOT** accurately drawn

Work out the total length of the edges of the pyramid.

..... cm
(2)

(Total for Question 7 is 2 marks)

- 8 Here is a triangular prism.
The two ends of the prism are equilateral triangles.

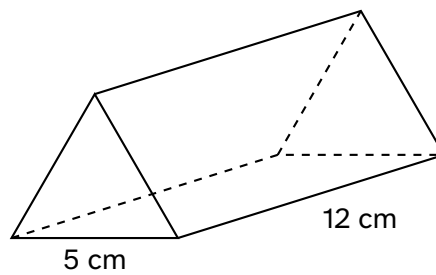


Diagram **NOT** accurately drawn

- (a) Write down the number of vertices of the prism.

.....
(1)

- (b) Write down the number of faces of the prism.

.....
(1)

- (c) Work out the total length of all the edges of the prism.

..... cm
(2)

(Total for Question 8 is 4 marks)

- 9 Here is a cuboid.

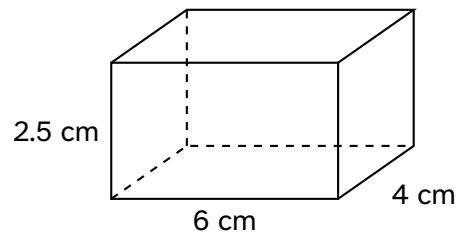


Diagram **NOT** accurately drawn

Work out the total length of all the edges of the cuboid.

..... cm
(2)

(Total for Question 9 is 2 marks)

- 10 Rosie has a piece of wire 2 m long.
She is going to make some frames in the shape of a cube.
She needs wire for every edge of each frame.
Each edge of a frame is 7 cm long.
Work out the greatest number of frames Rosie can make.

.....
(3)

(Total for Question 10 is 3 marks)
