Name	Date

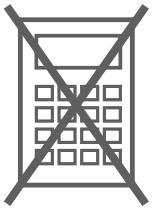
GCSE Mathematics 9-1

Properties of 3D Shapes

(Non-Calculator)

Exam-Style Topic Paper	Total Marks
Time: 45 minutes	**/ 40**

Instructions



- Use black ink or ball-point pen.
- Fill in the boxes at the top of this page with your name and date number.
- Answer all questions.
- Answer the questions in the spaces provided – there may be more space than you need.
- You must show all your working.
- Diagrams are NOT accurately drawn, unless otherwise indicated.
- Calculators may **not** be used.

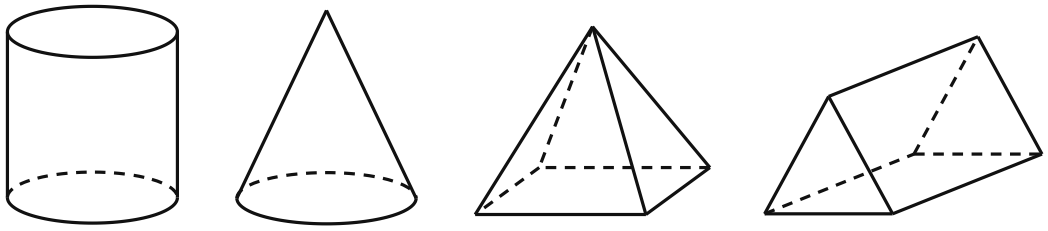
Information

- The marks for each question are shown in brackets – use this as a guide as to how much time to spend on each question.

Advice

- Read each question carefully before you start to answer it.
- Try to answer every question.
- Check your answers if you have time at the end.

1 Here are four 3D shapes.



A **B** **C** **D**

(a) Write down the name of shape A.

.....

[1 mark]

(b) Write down the name of shape B.

.....

[1 mark]

(c) Write down the name of shape C.

.....

[1 mark]

(d) Write down the name of shape D.

.....

[1 mark]

---

2 I am a 3D shape.
I have 1 curved surface and 2 flat circular faces.
What shape am I?

.....

[1 mark]

---

3 Here is a list of 3D shapes.

cube cylinder cone sphere cuboid

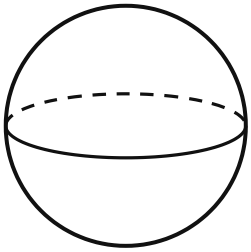
Write down the **two** shapes from the list that have no vertices.

.....

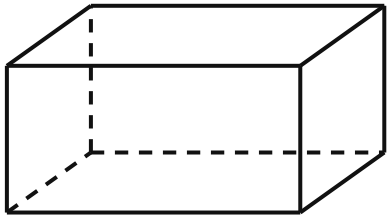
[2 marks]

---

4 Here are two more 3D shapes.



E



F

(a) Write down the name of shape E.

.....

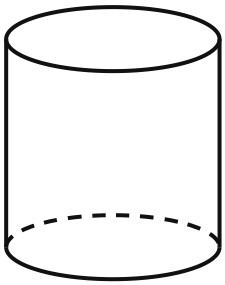
[1 mark]

(b) Write down the name of shape F.

.....

[1 mark]

5 Here is a cylinder.



(a) How many flat faces does a cylinder have?

.....

[1 mark]

(b) How many curved surfaces does a cylinder have?

.....

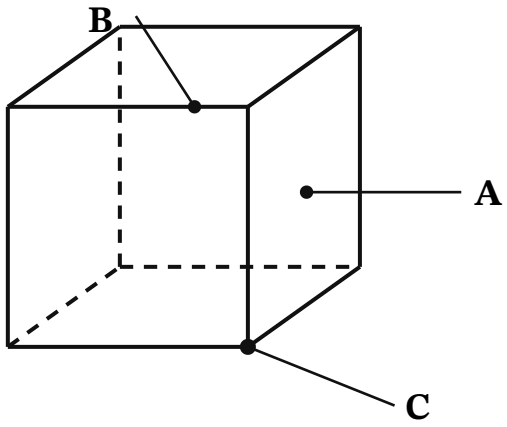
[1 mark]

6 What shape are the faces of a cuboid?

.....

[1 mark]

7 Here is a cube.



Each label points to a face, an edge or a vertex.

(a) What does label A point to?

.....

[1 mark]

(b) What does label B point to?

.....

[1 mark]

(c) What does label C point to?

.....

[1 mark]

---

8 I am a 3D shape.
I have 6 faces.
All of my faces are squares.
What shape am I?

.....

[1 mark]

---

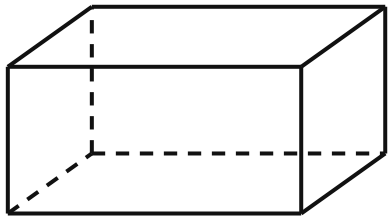
9 I am a 3D shape.
I have 1 square face and 4 triangular faces.
What shape am I?

.....

[1 mark]

---

10 Here is a cuboid.



(a) How many faces does a cuboid have?

.....

[1 mark]

(b) How many edges does a cuboid have?

.....

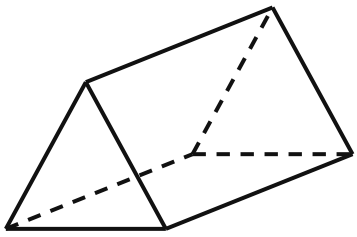
[1 mark]

(c) How many vertices does a cuboid have?

.....

[1 mark]

11 Here is a triangular prism.



(a) How many faces does it have?

.....

[1 mark]

(b) How many edges does it have?

.....

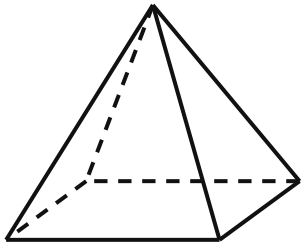
[1 mark]

(c) How many vertices does it have?

.....

[1 mark]

12 Here is a square-based pyramid.



(a) How many faces does it have?

.....

[1 mark]

(b) How many edges does it have?

.....

[1 mark]

(c) How many vertices does it have?

.....

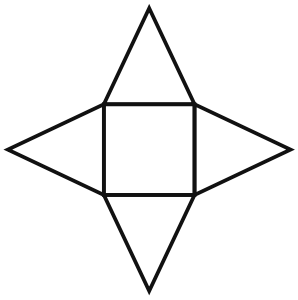
[1 mark]

13 How many edges does a sphere have?

.....

[1 mark]

14 Here is the net of a 3D shape.



Write down the name of the 3D shape.

.....

[1 mark]

15 Complete the table.

Shape	Number of faces	Number of edges	Number of vertices
Cube	6	12	8
Triangular-based pyramid			
Hexagonal prism			
Pentagonal prism			

[3 marks]

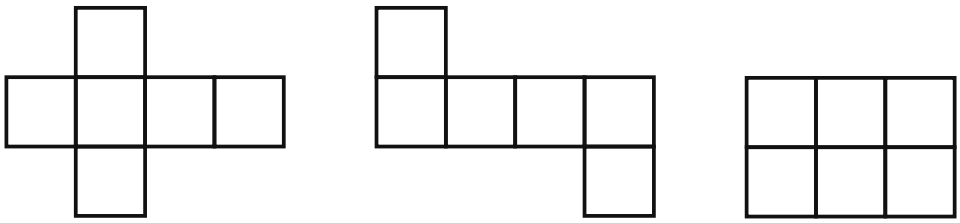
16 Priya says, "A triangular prism and a square-based pyramid have the same number of vertices."
Is Priya correct?
Explain your answer.

.....

.....

[1 mark]

17 Here are three nets.



A **B** **C**

Which net will **not** fold to make a cube?

.....

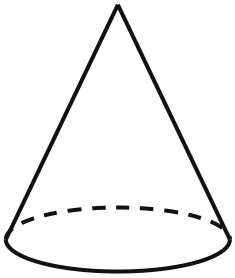
[1 mark]

18 A prism has ends that are hexagons.
How many faces does the prism have?

.....

[1 mark]

19 Here is a cone.



(a) How many flat faces does a cone have?

.....

[1 mark]

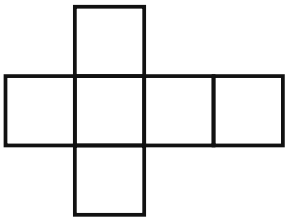
(b) How many vertices does a cone have?

.....

[1 mark]

---

20 Here is the net of a 3D shape.



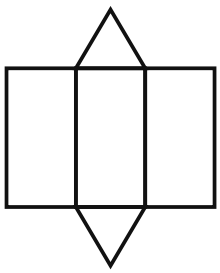
Write down the name of the 3D shape.

.....

[1 mark]

---

21 Here is the net of a 3D shape.



Write down the name of the 3D shape.

.....

[1 mark]

---

22 I am a 3D shape.
I have 2 triangular faces and 3 rectangular faces.
What shape am I?

.....

[1 mark]

23 Ella says, "A cube has 6 edges."
Is Ella correct?
Explain your answer.

.....

.....

[1 mark]