

WA6MMGTH1

Three-dimensional space and structures

Core + Challenge

Prisms and Pyramids

I can name, sketch and build prisms and pyramids, and count their faces, edges and vertices.

Name: _____ Date: _____ Score: _____ / 56

Key idea

A **prism** has two identical ends joined by rectangles. A **pyramid** has one base and triangles that meet at the **apex**.

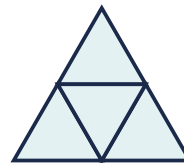
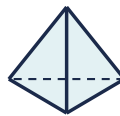
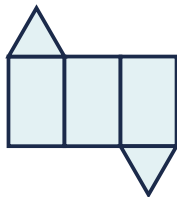
Name them by the base shape. **Faces** are flat surfaces, **edges** are where faces meet, **vertices** are corners.

A **net** folds up to make the object. Dashed lines show hidden edges. Example: a hexagonal prism has 8 faces, 18 edges, 12 vertices.

Triangular prism

Net

Triangular pyramid Net



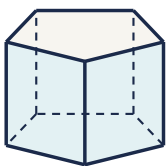
A

Warm up *name, count and unfold*

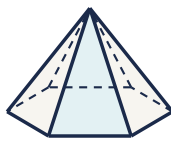
/ 16 marks

Name each object. 1 mark each.

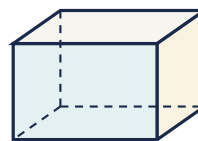
1



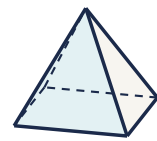
2



3

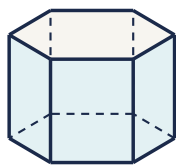


4

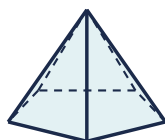


Prisms and Pyramids · WA6MMGTH1

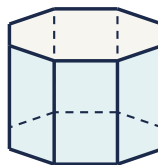
5



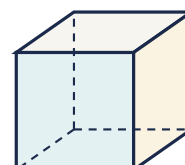
6



7



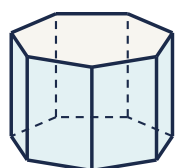
8



Count. Remember the hidden (dashed) edges. 1 mark each.

9

How many **faces**?



10

How many **edges**?



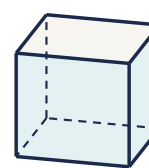
11

How many **vertices**?



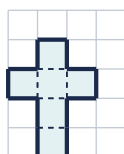
12

How many **faces**?

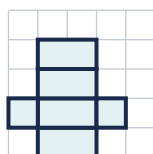


Which object does each net fold into? 1 mark each.

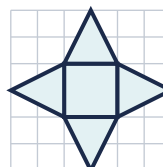
13



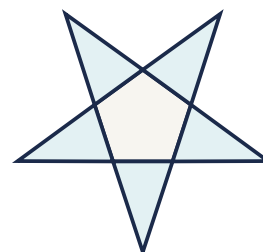
14



15



16



B

Practise *use the skill*

/ 21 marks

1 Complete the table.

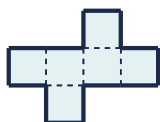
[3 marks]

Object	Faces	Edges	Vertices
triangular prism			
rectangular prism			
pentagonal prism			
square pyramid			
hexagonal pyramid			

2 Which of these nets fold to make a **cube**? Circle the letters.

[3 marks]

A



B



C



D



E

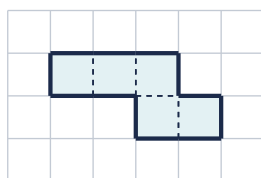


F



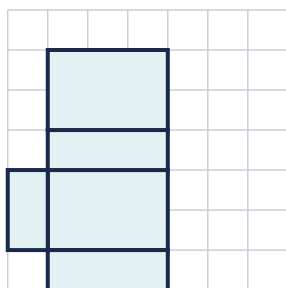
3 This net of a cube is missing **one** square. Shade a square to complete it.

[2 marks]



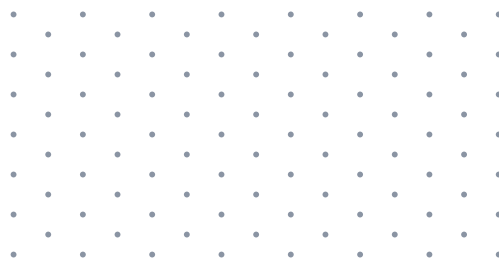
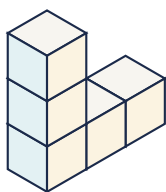
4 This is the net of a box 3 cm long, 2 cm wide and 1 cm high. **One face is missing.** Draw it.

[2 marks]



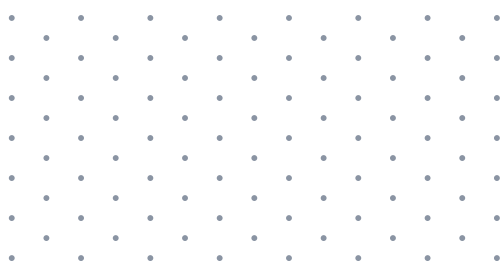
- 5 Copy this model onto the isometric dot paper.

[3 marks]



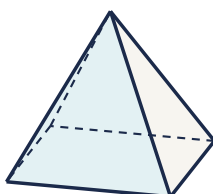
- 6 On the dot paper, draw a **rectangular prism** that is 3 cubes long, 2 cubes wide and 2 cubes high.

[2 marks]



- 7 A playground climbing frame is a **square pyramid** made of steel poles along its edges. **a)** How many poles are there? **b)** How many poles meet at the top?

[2 marks]



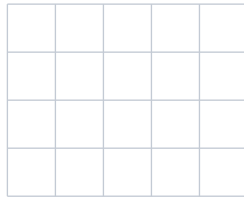
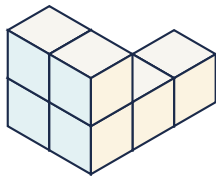
Answer: _____

- 8 Sort these objects into the table: cone, square pyramid, cylinder, cube, triangular prism, sphere, triangular pyramid.

[2 marks]

	All faces flat	Has a curved surface
Has an apex		
No apex		

- 9 a) How many cubes are in this model? (No cubes are hidden.) b) Shade the grid to show the view from **above**. [2 marks]



C Think it through *explain your thinking*

/ 10 marks

- 1 Jack says, “These six squares will fold into a cube, because a cube has six faces.” Do you agree with Jack? Explain. [2 marks]



- 2 **True or false?** “A triangular prism and a triangular pyramid have the same number of faces.” Explain. [2 marks]

- 3 **Always, sometimes or never true?** “A pyramid has an even number of edges.” Circle one and explain. [2 marks]

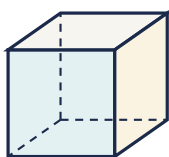
Always

Sometimes

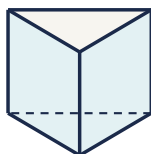
Never

- 4 Which object is the **odd one out**? Explain. [2 marks]

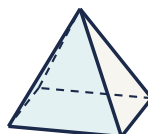
A



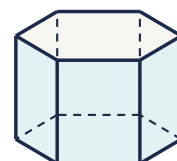
B



C

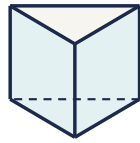
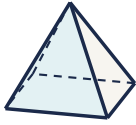


D



Prisms and Pyramids · WA6MMGTH1

- 5 What is the **same** and what is **different** about a square pyramid and a triangular prism? Give one of each, using faces, edges or vertices. [2 marks]



D**Challenge** *stretch yourself*

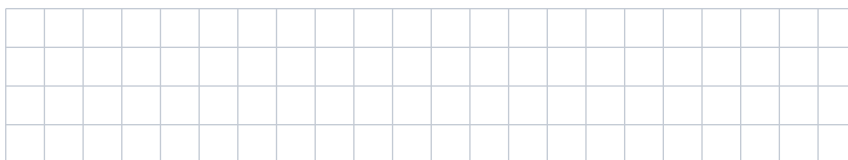
/ 9 marks

- 1 Complete the table for prisms. Then write a rule that connects the **faces**, **vertices** and **edges** of every prism. [3 marks]

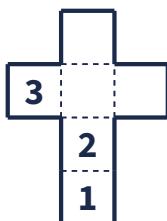
Sides on the base	Faces	Vertices	Edges
7			
8			
10			

Rule: _____

- 2 There are **11** different nets of a cube. Draw **three** that are **not** shown in Warm up 13 or Practise 2. (A net turned or flipped over counts as the same net.) [3 marks]



- 3 On a dice, **opposite faces add to 7**. Write the missing numbers 4, 5 and 6 on this net of a dice. [3 marks]



How did I go?

Warm up ____ / 16 Practise ____ / 21 Think it through ____ / 10 Challenge ____ / 9 **Total ____ / 56**

Want help with Year 6 maths? Our tutors make it click. **Book a free trial class at [edulift.com.au](https://www.edulift.com.au)**