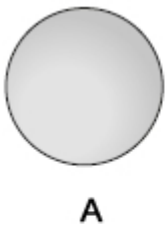
1. Write the missing numbers in the **2** empty boxes.

	Number of **square** faces	Number of **triangular** faces	Number of **circular** faces
cylinder 	0	0	
cube 		0	0
pyramid 	1	4	0

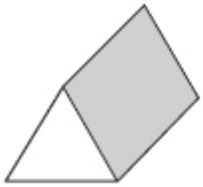
1 mark

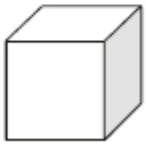
2.


A


B


C


D


E

Which shape has exactly **5** faces?

Write the letter.

1 mark

3. **Two** of these sentences are correct.

Tick **two**.

A cube has **curved faces**. ☐

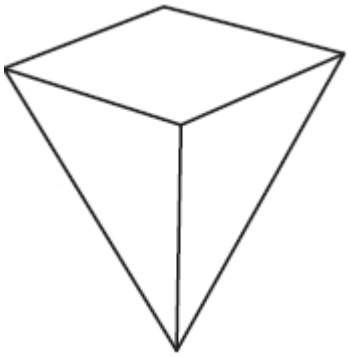
A cube has **curved faces**. ☐

A cube has **6 faces**. ☐

A cube has **more than 6 corners**. ☐

1 mark

4. How many vertices does a square-based pyramid have?

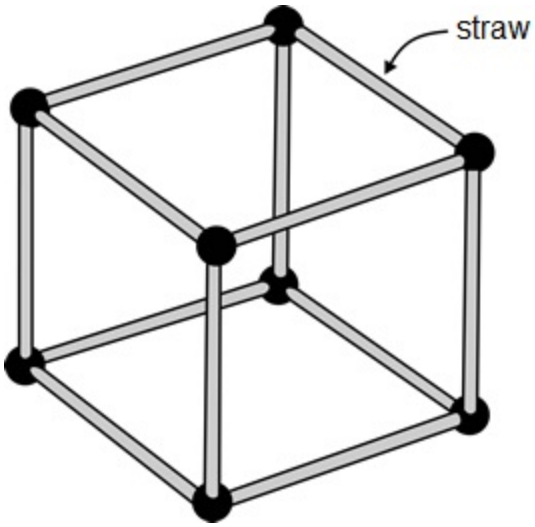


vertices

1 mark

5. **Making models**

Anna makes a cube using straws.



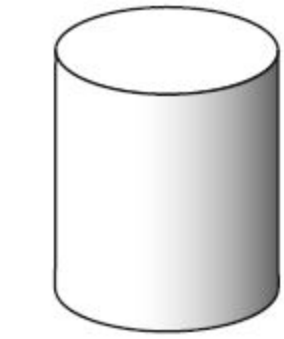
First she joins 4 straws to make a square.
Then she joins more straws to make a cube.

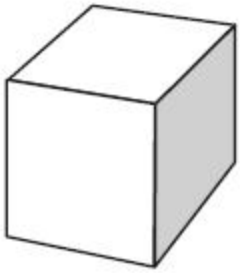
Altogether, how many straws does she use?

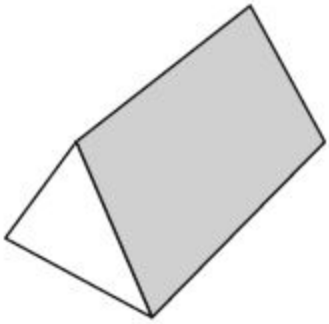
1 mark

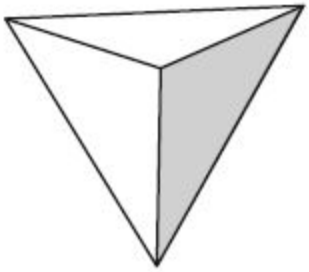
6. Two shapes have **more than 8** edges.

Tick them.







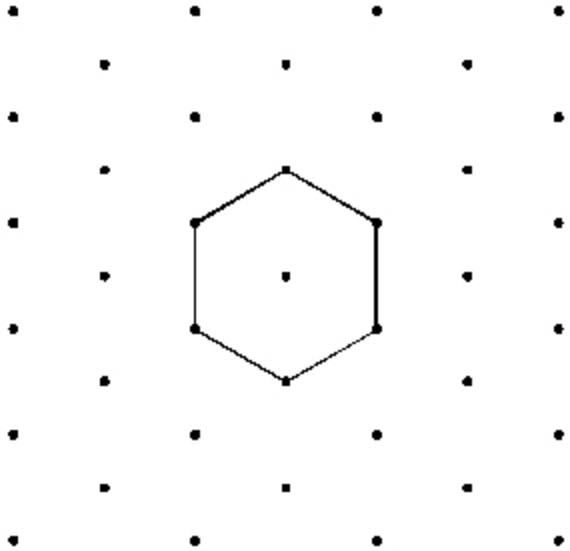


1 mark

7. **Cube drawing**

Simon started a 2-D drawing of a solid cube.

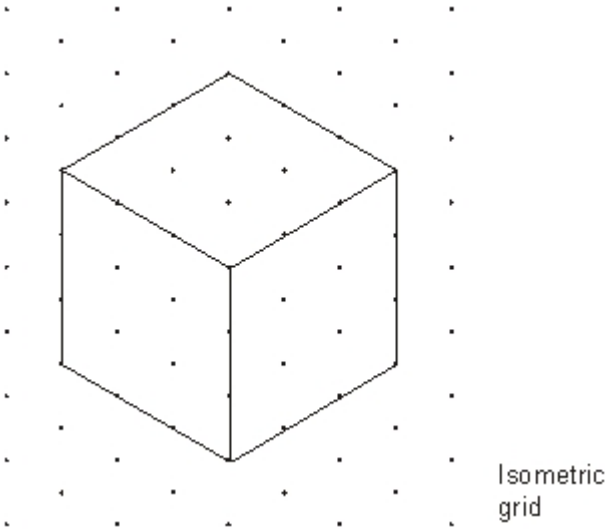
Use **three straight lines** to complete Simon's drawing.



1 mark

8. **Cube**

Here is a diagram of a cube.



Fill in the missing numbers.

The first one is done for you.

The diagram shows ____*3*____ faces,

but a cube has _____ faces altogether.

1 mark

The diagram shows _____ edges,

but a cube has _____ edges altogether.

1 mark

The diagram shows _____ vertices,

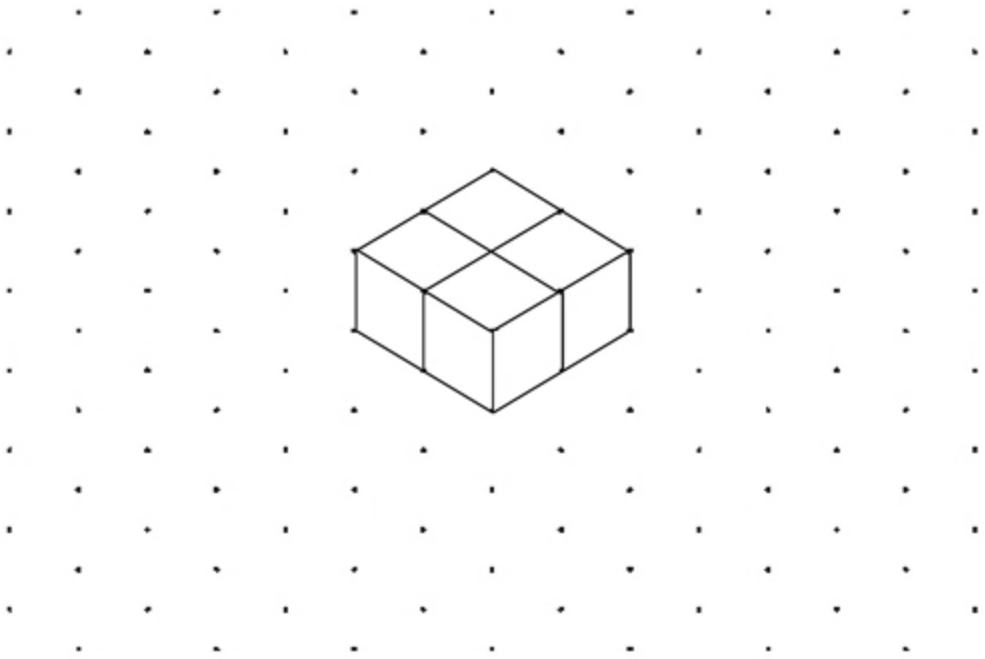
but a cube has _____ vertices altogether.

1 mark

9. **Four cubes**

Sonal has **four small cubes**.

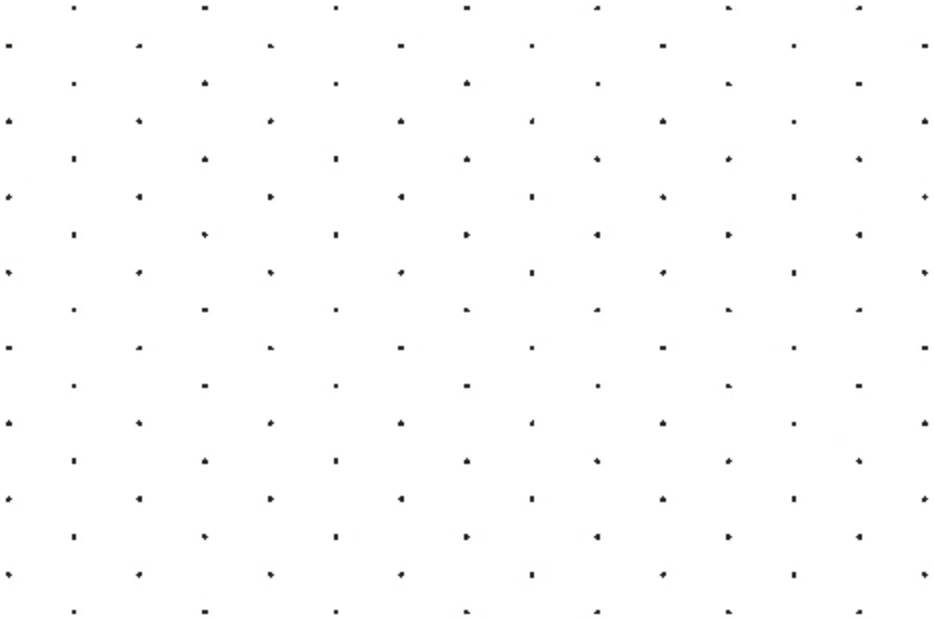
She joins them together to make a shape.



Isometric grid

Then Sonal makes a **different** shape with her four small cubes.

What shape could Sonal have made?
Draw this different shape on the isometric grid below.

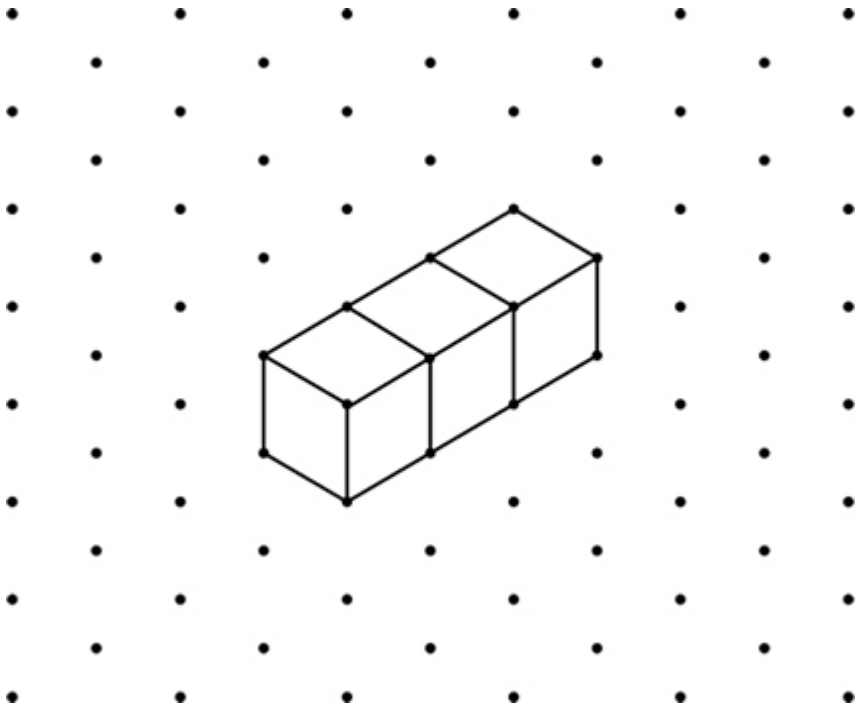


Isometric grid

1 mark

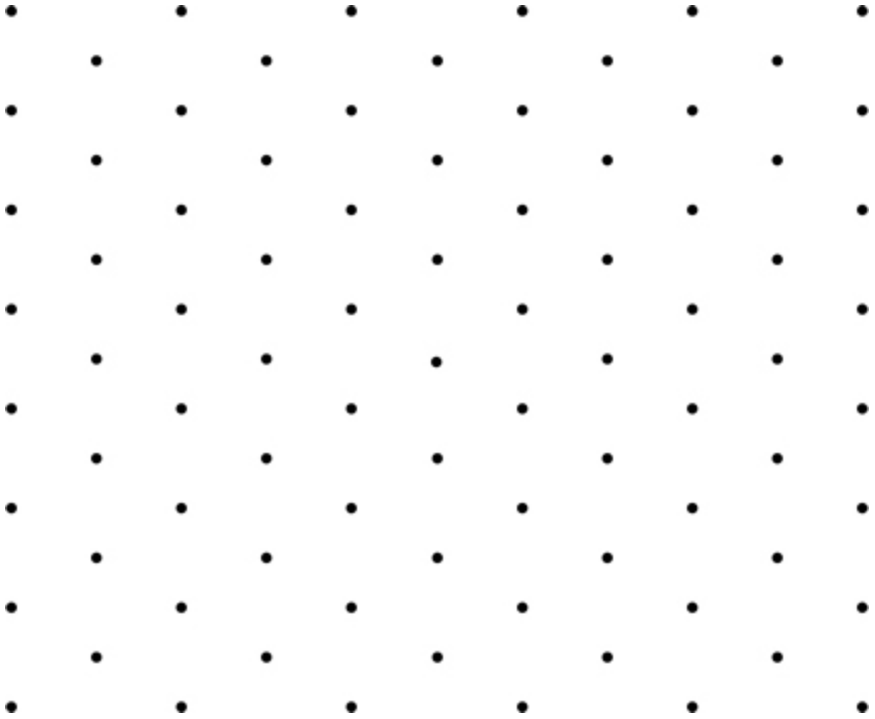
10. **Four cubes**

I join **three cubes** in a line to make this shape.



Then I join **one more cube** to make an **L-shape**.

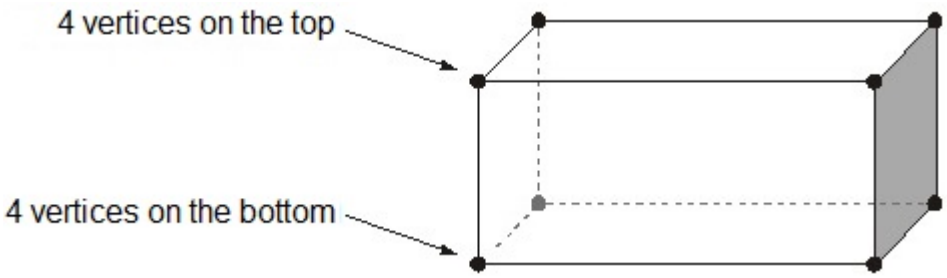
Draw the L-shape on the paper below.



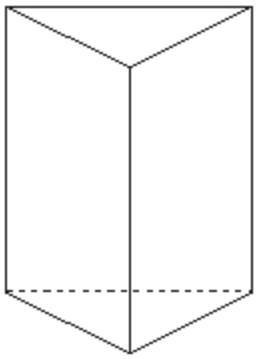
2 marks

11. **Vertices**

A cuboid has **8 vertices**.



(a) How many vertices does this 3-D shape have?



1 mark

(b) A different 3-D shape has **8 vertices**.

It has **6 faces**. Each face is the **same**.

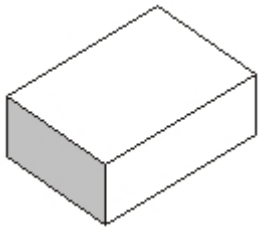
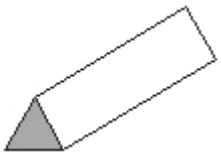
Put a ring round the correct name for this 3-D shape.

square pyramid cylinder

cube rectangle

1 mark

12. (a) Write numbers to complete the table below.

	Number of faces that are **rectangles**	Number of faces that are **triangles**
cuboid 		
triangular prism 		

2 marks

(b) A different shape has five faces.

Four of the faces are triangles. One face is a square.

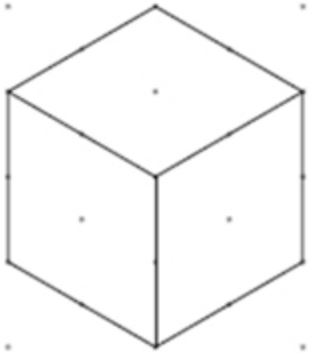
Write the name of this shape.

1 mark

13. Here is a drawing of a cube on an isometric grid.

Draw a cuboid that has:

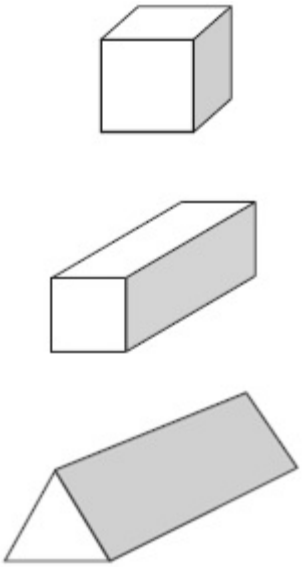
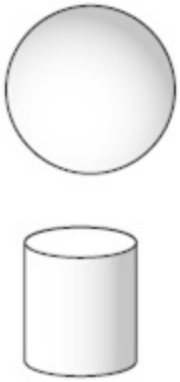
- **double** the volume
- **half** the height



2 marks

14. **One** shape is in the **wrong** place on the sorting grid.

Draw a cross (✗) on it.

Shapes **with** a square face	Shapes **without** a square face
	

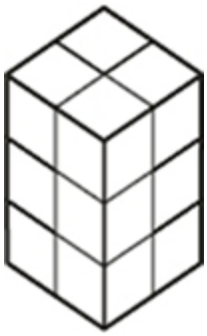
1 mark

15. Write the missing numbers in the **2** empty boxes.

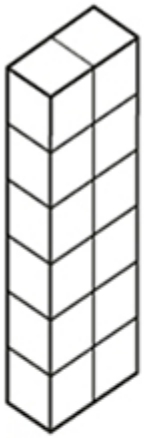
	Number of **square** faces	Number of **triangular** faces	Number of **circular** faces
cube 		0	0
pyramid 	1	4	0
cylinder 	0	0	

1 mark

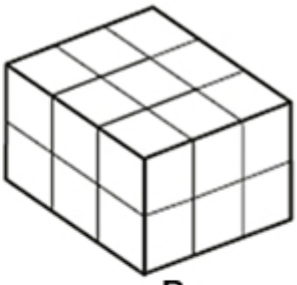
16. Emma makes a cuboid using 12 cubes.



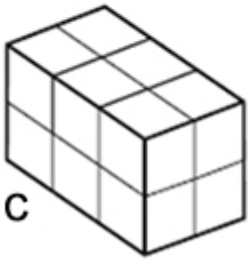
Tick **all** the cuboids below that have the **same** volume as Emma's cuboid.



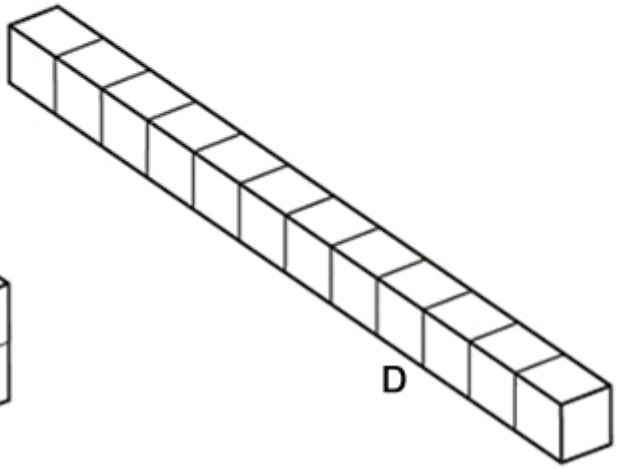
A



B



C

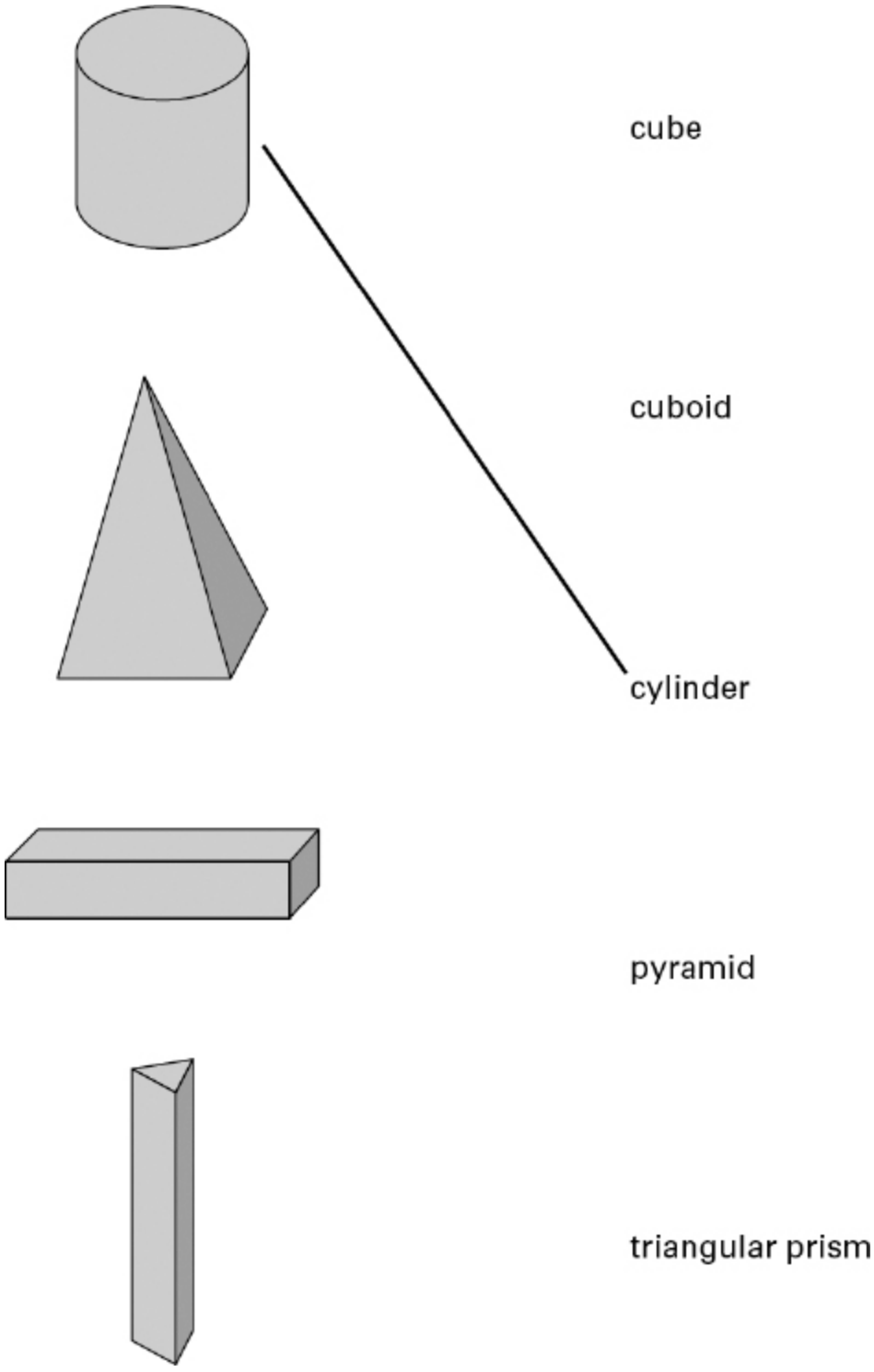


D

1 mark

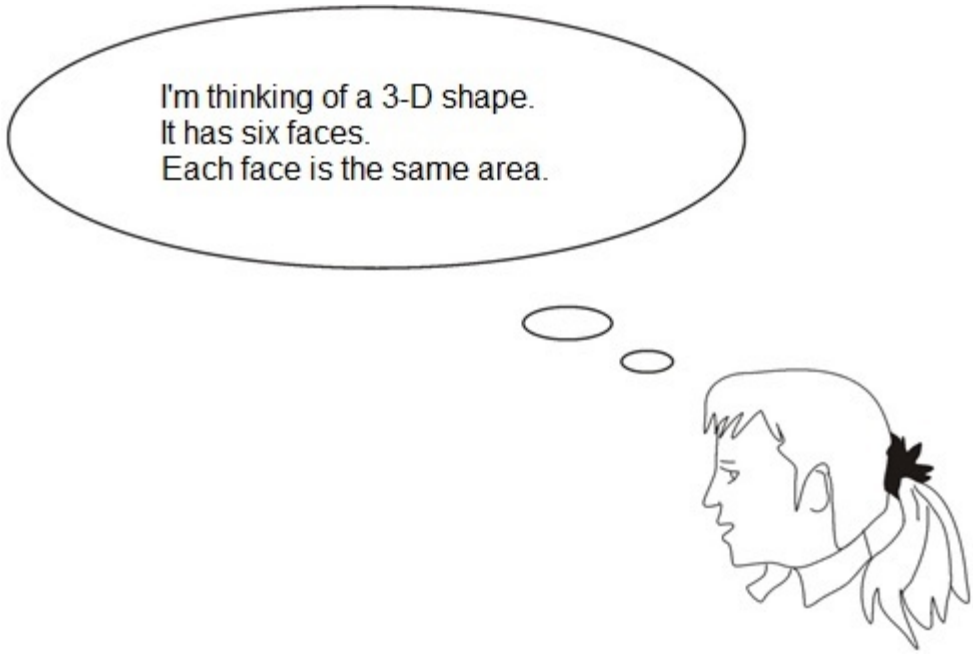
17. Match each picture of a shape to its name.

One has been done for you.



1 mark

18.



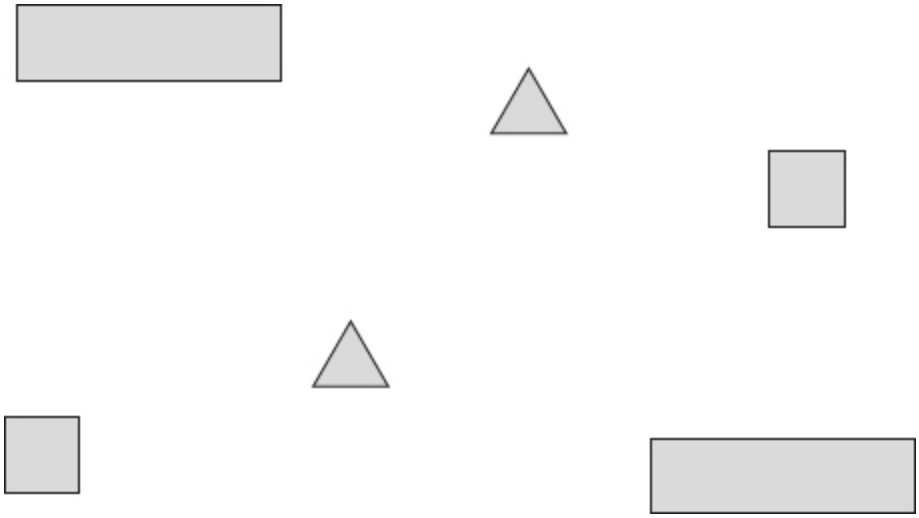
What is the name of the 3-D shape?

1 mark

19. Dan is making a cuboid by fi tting shapes together.

Here are four of the faces of the cuboid he is making.

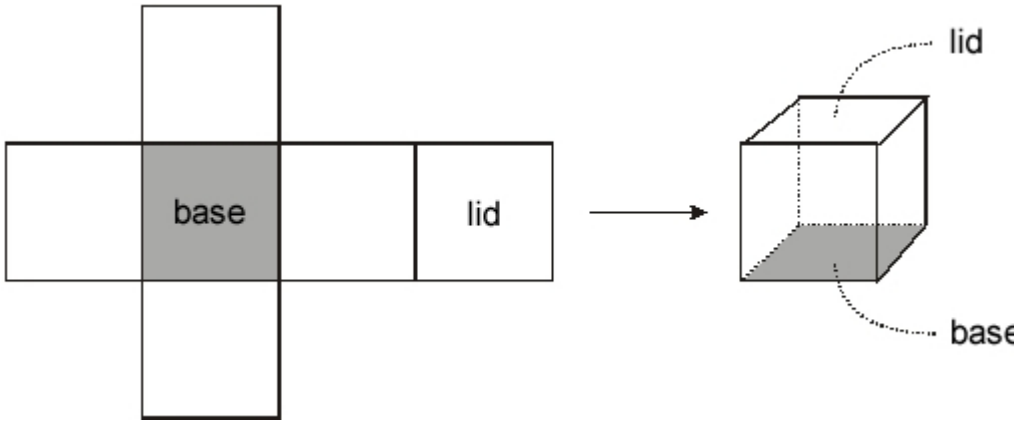
Which other shapes does Dan need to complete his cuboid?
Tick (✓) them.



1 mark

20. **Net**

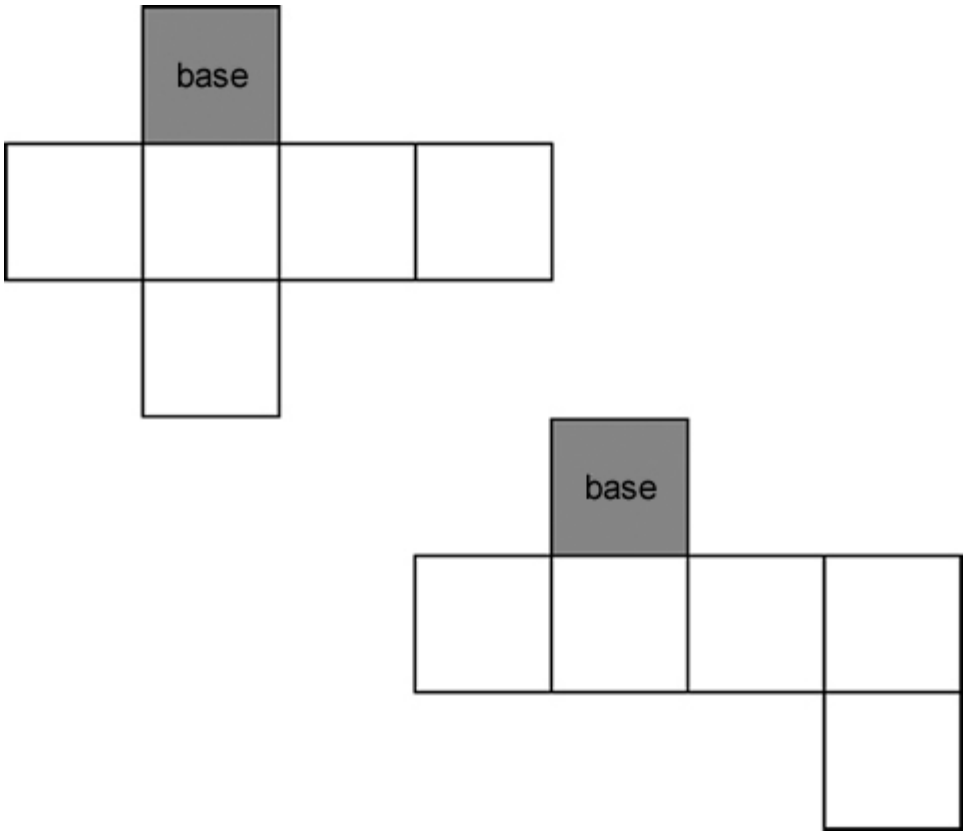
The diagram shows a net that folds to make a box.



There are two different nets shown below.

Each net folds to make a box.
The base of each box is labelled.

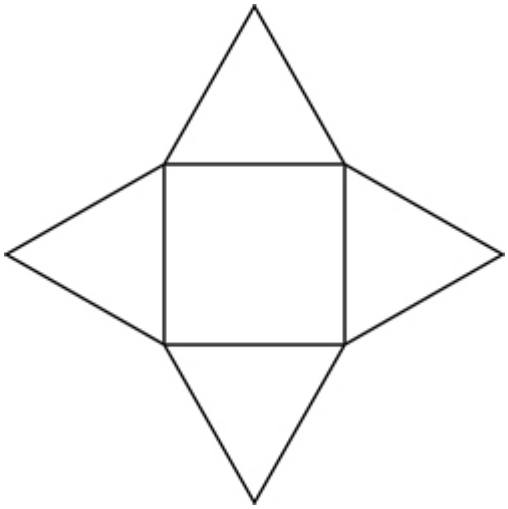
For each box, **label** the face that will be the **lid**.



2 marks

21. **Net**

Here is a net of a 3-D shape.



When the net is folded, what 3-D shape will it make?

Tick (✓) the correct answer below.

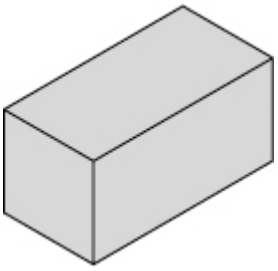
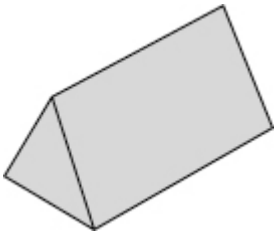
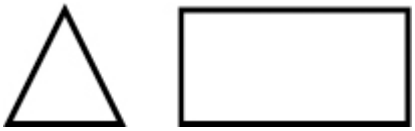
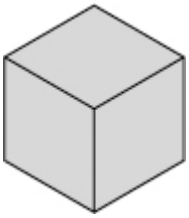
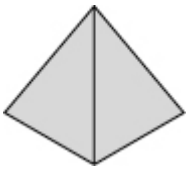
Cube	Prism	Square-based pyramid
Triangular-based Pyramid	Cuboid	

1 mark

22. The table shows the different faces of some 3-D shapes.

Write numbers on the faces to show how many of each there are.

One has been done for you.

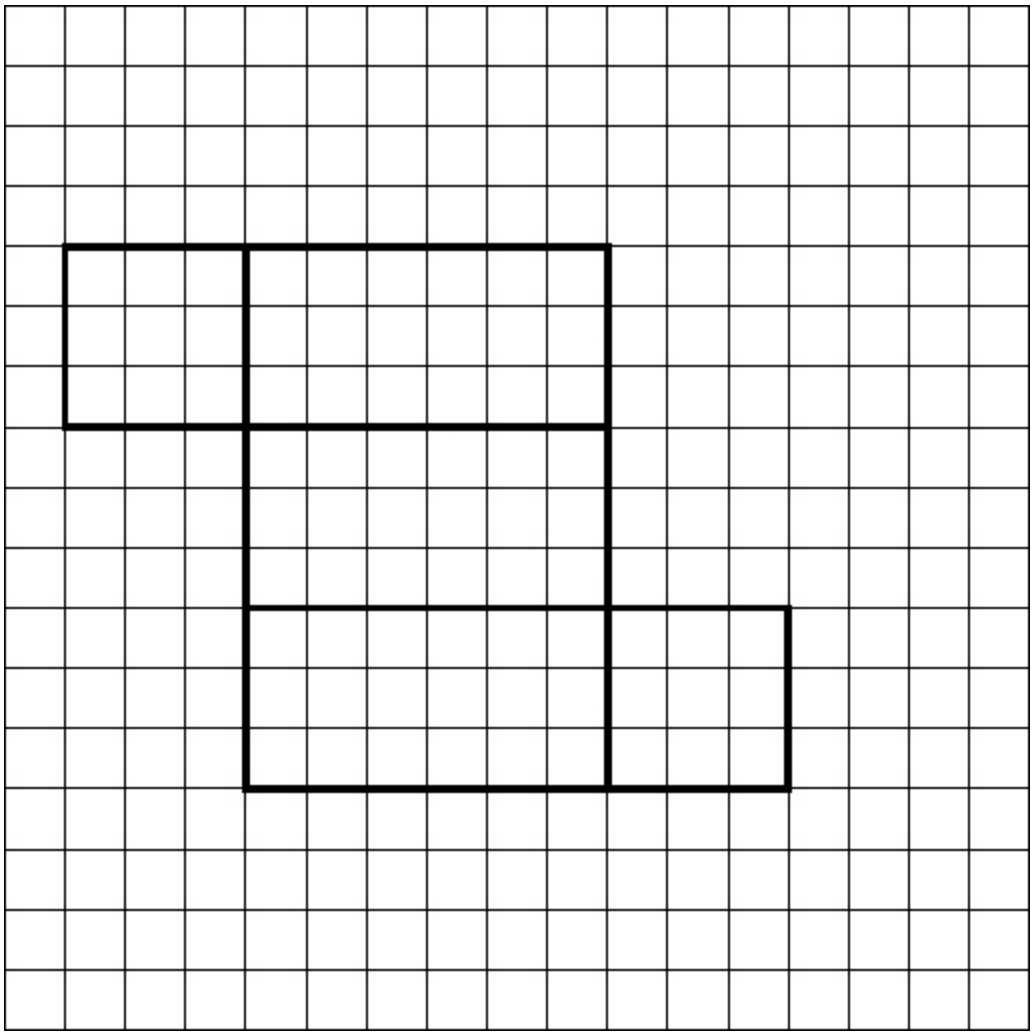
3-D shapes	number of faces
 cuboid	
 triangular prism	
 cube	
 square-based pyramid	

2 marks

23. Here is part of a net for a cuboid.

Draw in the missing face to complete the net.

Use a ruler.



1 mark

Mark schemes

1. Writes:

2 in right box in 1st row;
6 in left box in 2nd row;

	Number of **square** faces	Number of **triangular** faces	Number of **circular** faces
cylinder 	0	0	**2**
cube 	**6**	0	0
pyramid 	1	4	0

[1]

2. D

Accept any other clear way of indicating the correct shape.

[1]

3. Ticks by 2nd and 3rd sentences as shown:

A cube has **curved faces**.

A cube has **6 faces**. ✓

A cube has **more than 6 corners**. ✓

A cube has **fewer than 6 edges**.

Accept any other clear way of indicating the correct sentences.
***Do not** award the mark if extra sentences are indicated unless it is clear that the correct sentences are the child's final choice.*

[1]

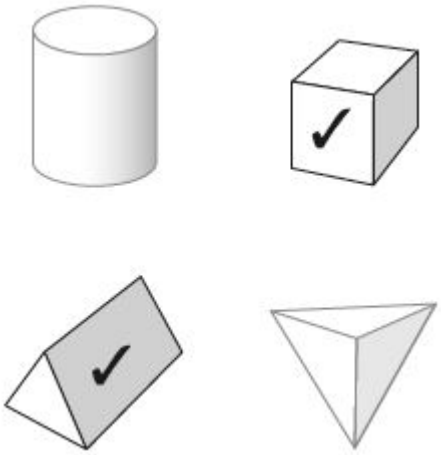
4. 5 (vertices)

[1]

5. 12

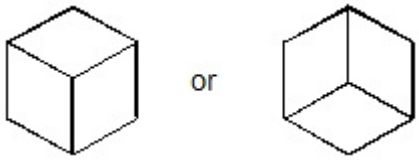
[1]

6. Both correct shapes ticked as shown:



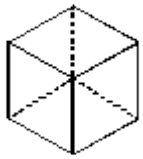
Accept any other clear way of indicating the correct shapes.
***Do not** award the mark if additional shapes are indicated, unless it is clear that the correct two shapes are the pupil's final choice.*

[1]

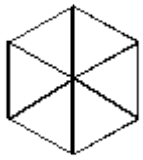
7. 

! Lines not ruled, or not accurate
Accept provided the pupil's intention is clear

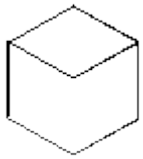
! Hidden lines shown
Accept if shown as broken, eg



but do not accept if shown as solid, eg



Do not accept lines omitted, eg



[1]

8. Gives the correct value, ie 6

1

Gives both correct values in the correct order, ie
9 and 12

! ***Correct values in the incorrect order***
Penalise only the first occurrence

1

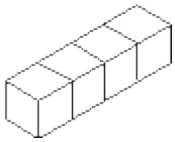
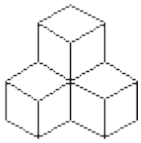
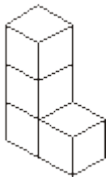
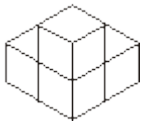
Gives both correct values in the correct order, ie
7 and 8

! ***Responses to second and third marks transposed but otherwise completely correct***
Mark as 0, 1

1

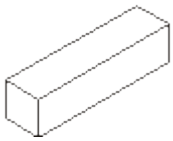
[3]

9. Draws a shape with four cubes that is different from the one given, using the isometric grid

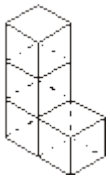
- 
- 
- 
- 

Accept lines not ruled or accurate, and slight inaccuracies in drawing, provided the pupil's intention is clear

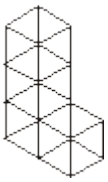
Accept some or all internal lines omitted, eg:

- 

***Do not** accept hidden lines unless they are dotted or otherwise shown as hidden, eg, accept*

- 

*eg, **do not** accept*

- 

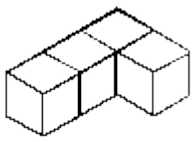
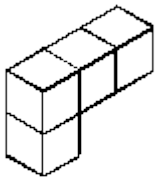
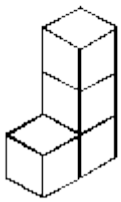
Ignore extended edges

Ignore incomplete drawings

***Do not** accept external lines omitted*

[1]

10. Draws an L-shape, with the correct dimensions, in any orientation, eg

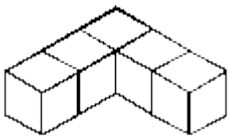
- 
- 
- 

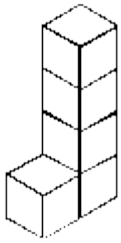
2

or Draws a correct view, using the isometric grid maintaining three dimensions, but omits one or more external lines, or some or all hidden lines are shown

or

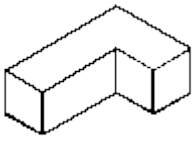
Draws a view of a prism with an L-shaped cross-section, using the isometric grid and with all external lines shown and no hidden lines shown, but with one incorrect dimension, eg

▪ 

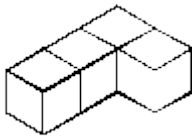
▪ 

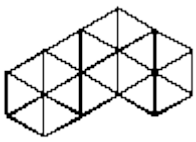
! Lines not ruled
Accept provided the pupil's intention is clear

! Drawing not accurate
Accept vertices within 2mm of the dots. If the drawing is less accurate, but the pupil's intention is clear, deduct one mark
Accept some or all internal lines omitted, eg

▪ 

! L-shape enlarged
For 2m or 1m, accept provided a consistent scale factor has been used for all lengths
Do not accept for 2m, external lines omitted or some or all hidden lines shown, eg

▪ 

▪ 

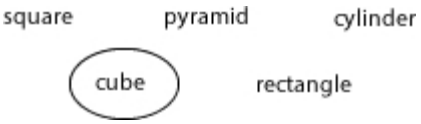
1

[2]

11. (a) 6

1

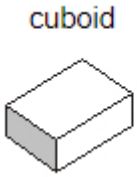
(b) Indicates only the correct shape, ie



U1

[2]

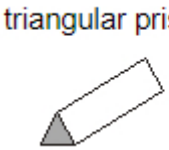
12. (a) Completes the row for the cuboid correctly, ie



For the first mark, accept zero cell left blank or marked with a dash or cross or similar

1

Completes the row for the triangular prism correctly, ie



1

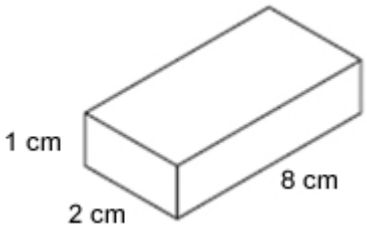
(b) Square-based pyramid

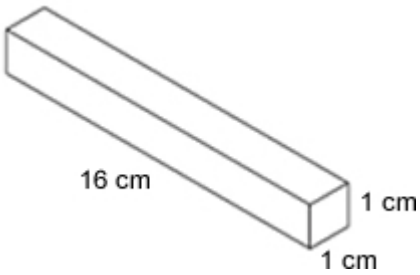
! ***Answer of 'pyramid' or 'square pyramid'***
Condone

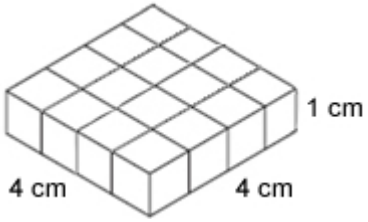
U1

[3]

13. Draws a cuboid with a height of 1 cm and a volume of 16 cm^3 in any orientation, using the isometric grid, eg:

- 

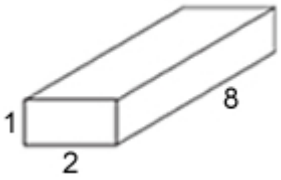
- 

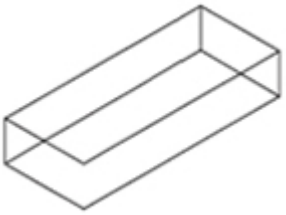
- 

2

or

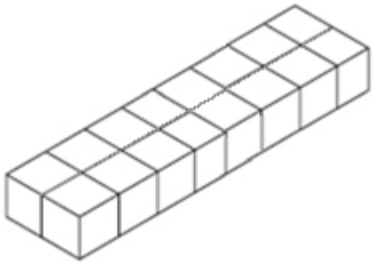
Draws a cuboid with unambiguous indication of the correct dimensions, but the only error is not to use the isometric grid correctly or omits an external line and/or includes some hidden lines, eg:

- 

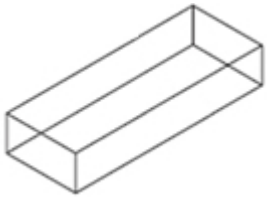
- 

1

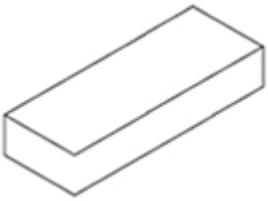
Accept lines not ruled or accurate
Accept slight inaccuracies in drawing
! Extended lines
For 2 m or 1 m, condone
! Internal lines drawn
Ignore, eg



! Hidden lines drawn
***Do not accept** for 2 m, unless hidden lines are dotted or otherwise shown as hidden.*
Accept hidden lines for 1 m, eg:



! An external line omitted
***Do not accept** for 2 m.*
Accept for 1 m if intended shape is clear, eg:

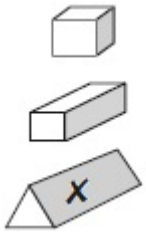


! Ignore incomplete drawings
! Vertices not at dots
***Do not** accept for 2 m, but accept for 1 m*

1

[2]

14. Cross drawn on the triangular prism, as shown:

Shapes **with** a square face	Shapes **without** a square face
	

Accept any other clear way of indicating the triangular prism.
***Do not** award the mark if other shapes are indicated, unless it is clear that the correct shape is the pupil's final choice.*
Accept a tick that is near to the correct answer, so as long as it is unambiguous as to which shape is identified.

[1]

15. Writes:

6 in left box in 1st row;

2 in right box in 3rd row.

	Number of **square** faces	Number of **triangular** faces	Number of **circular** faces
cube 	**6**	0	0
pyramid 	1	4	0
cylinder 	0	0	**2**

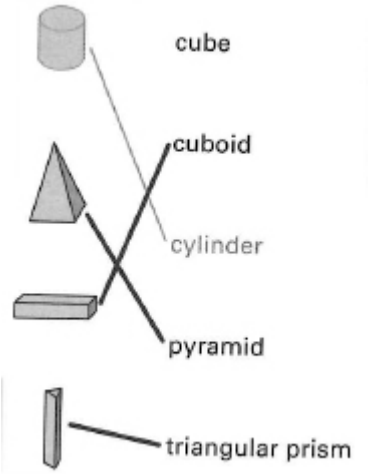
[1]

16. A, C, D

All three needed for the mark.

[1]

17. All three shapes matched as shown:



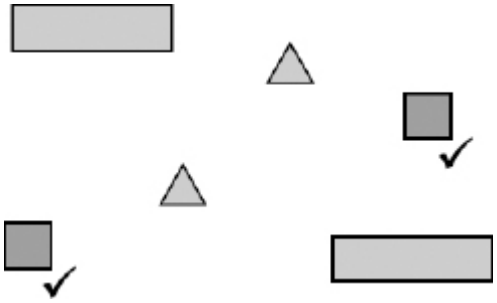
All three *shapes must be matched correctly for the award of the mark.*
Lines need not touch the shapes of names exactly, provided the intention is clear.
Do not *accept shapes which have been matched to more than one name.*

[1]

18. cube
Accept misspellings.

[1]

19. Two shapes ticked as shown:

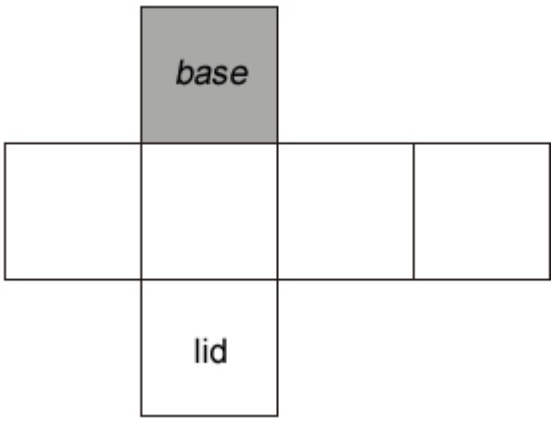


Both *shapes must be correct for the award of the mark.*
Accept any other clear way of indicating the correct shapes, such as circling.

U1

[1]

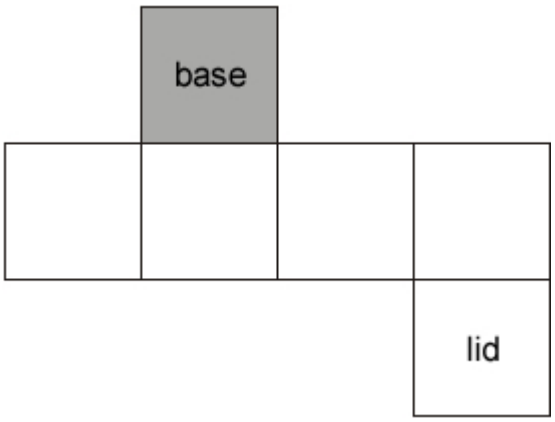
20. Indicates the correct face, eg



Accept unambiguous indication

1

Indicates the correct face, eg



1

[2]

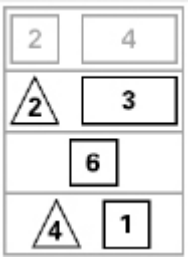
21. Indicates the correct name, ie

Cube Prism Square-based pyramid

Triangular-based pyramid Cuboid

[1]

22. Table completed as shown:



All five *boxes must be completed correctly for the award of* ***TWO*** *marks.*
If both marks are awarded, record by entering 1 in each marking space.

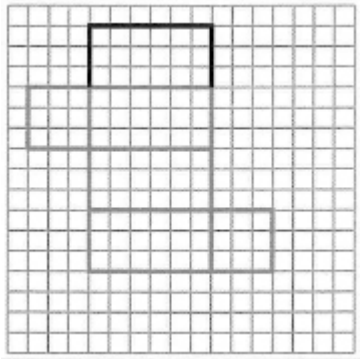
If the answer is incorrecet, award **ONE** mark for two out of three 3-D shapes completed correctly.

Award ***ONE*** *mark by entering 1, 0 in the marking spaces.*

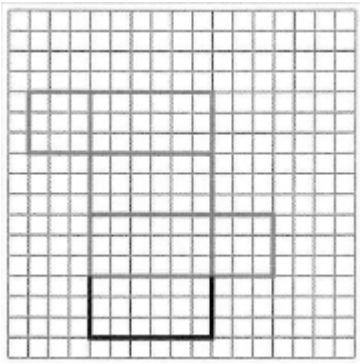
Up to 2m

[2]

23. Net completed as shown:



OR



Accept slight inaccuracies in drawing provided the intention is clear.
Vertices must be within 2mm of the correct grid points.

U1

[1]