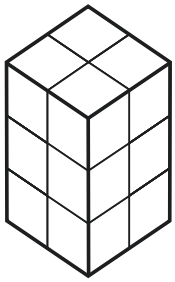
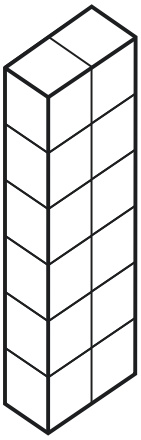
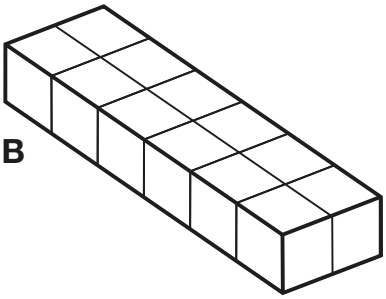
**1** Emma makes a cuboid using 12 cubes.

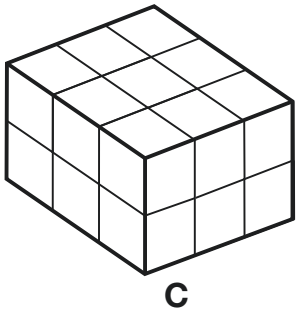
[2016]

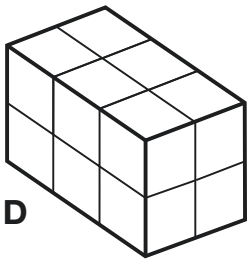


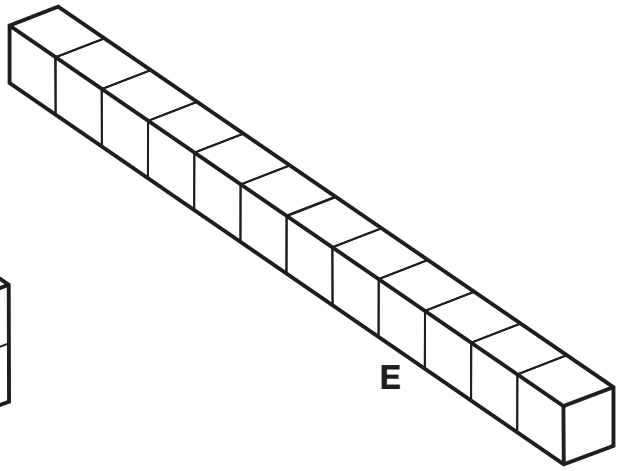
Write the letter of the cuboid that has a **different** volume from Emma's cuboid.



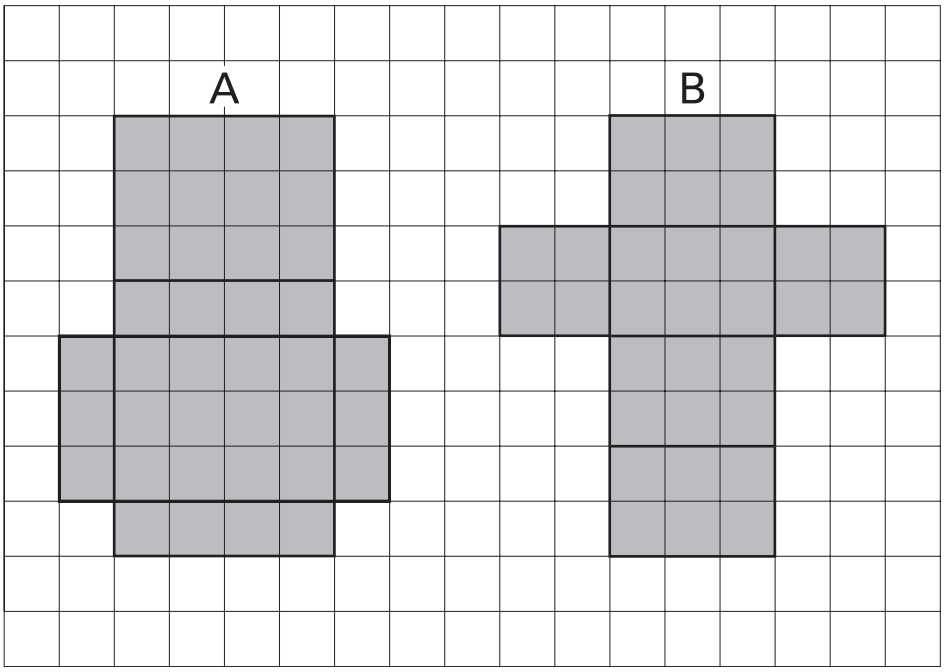




_____

[1 mark]

**2** The squared paper shows the nets of cuboid A and cuboid B.

[Extra]




Calculate the volume of cuboid A.

Calculate the volume of cuboid B.

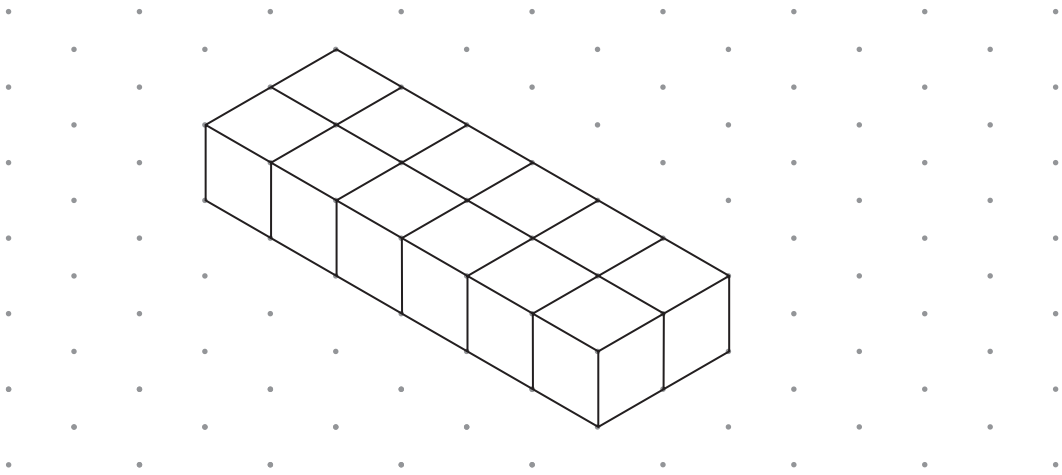
[2 marks]

**3**

[Extra]

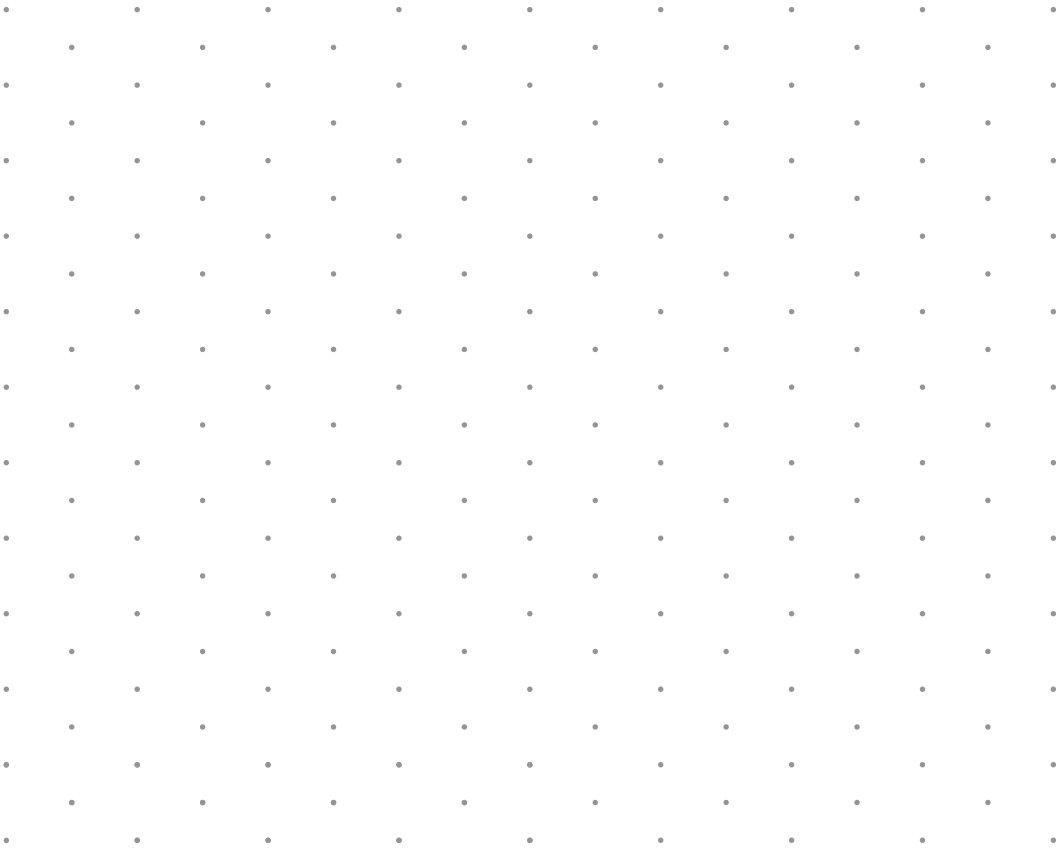
Look at the cuboid drawn on the grid.

It is made from **12 cubes**.



Isometric grid

On the grid below, draw a **different** cuboid made from 12 cubes.



Isometric grid

[2 marks]

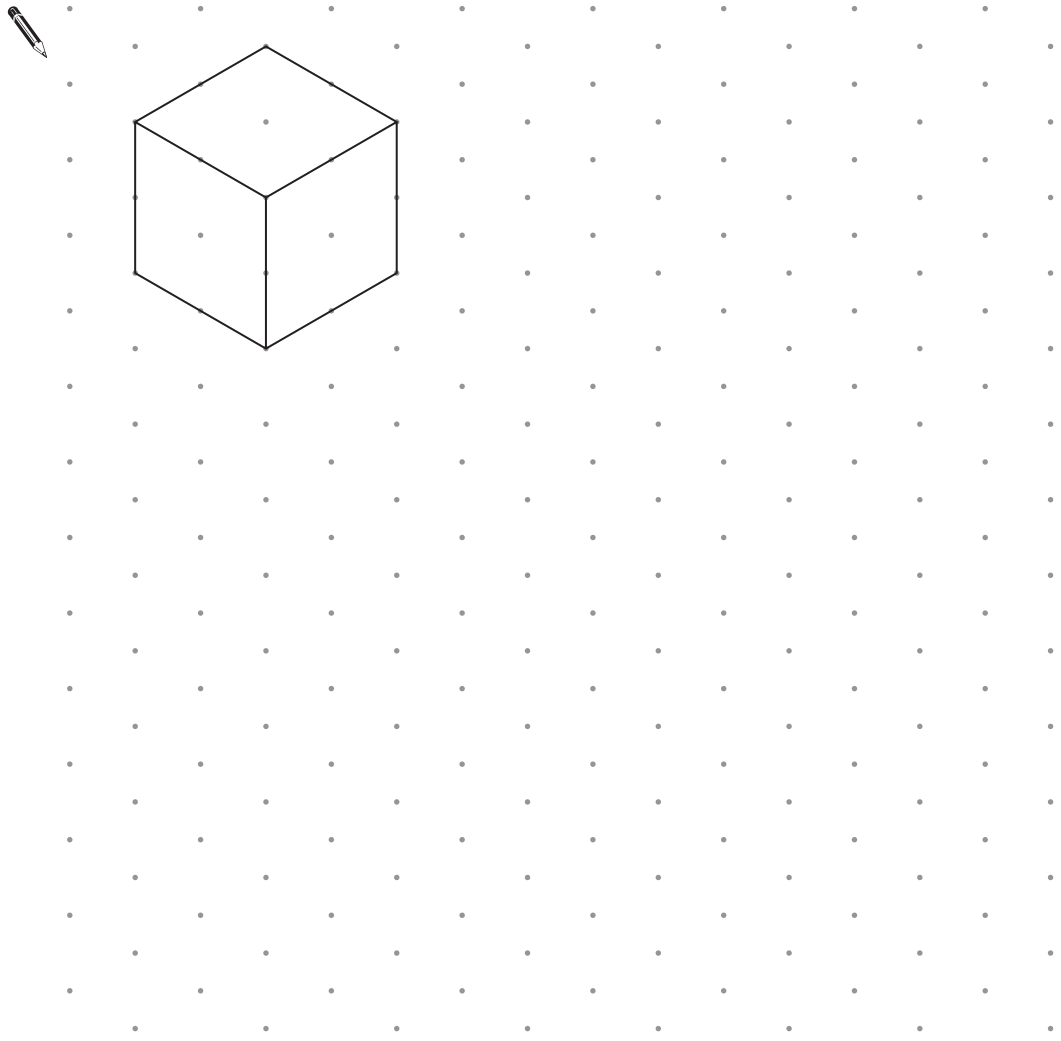
**4**

[Extra]

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

Draw a cuboid that has:

- the **same** volume
- **half** the height.



[2 marks]

**5** You can make only six **different** cuboids with **24 cubes**.

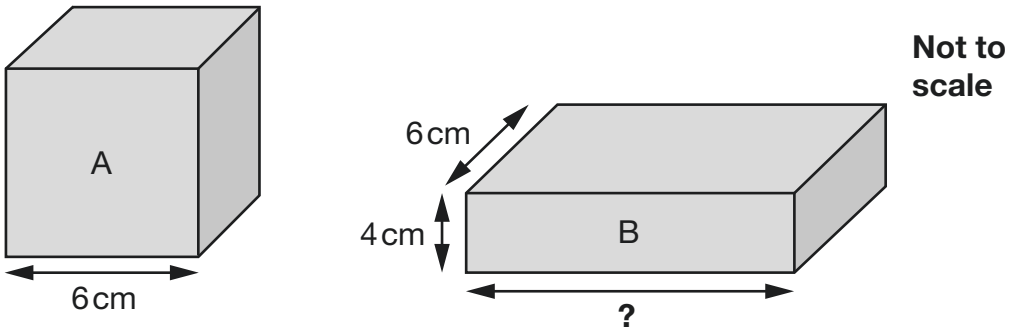
[Extra] Complete the table to show the dimensions.

| | Dimensions | | |
|---|---|---|---|
| Cuboid **E** | 1 | 1 | 24 |
| Cuboid **F** | 1 | 2 | 12 |
| Cuboid **G** | | | |
| Cuboid **H** | | | |
| Cuboid **I** | | | |
| Cuboid **J** | | | |

[2 marks]

**6** Cube A and cuboid B have the same volume.

[2017]



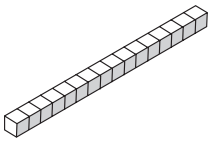
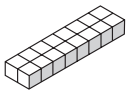
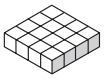

Calculate the missing length on **cuboid B**.

Show your method

[2 marks]

**7** You can make only four different cuboids with **16 cubes**.

[Extra]

| | Dimensions | | |
|---|---|---|---|
| Cuboid **A**  | 1 | 1 | 16 |
| Cuboid **B**  | 1 | 2 | 8 |
| Cuboid **C**  | 1 | 4 | 4 |
| Cuboid **D**  | 2 | 2 | 4 |

Which of the cuboids **A** and **D** has the **larger surface area**?

Tick (✓) the correct answer below.

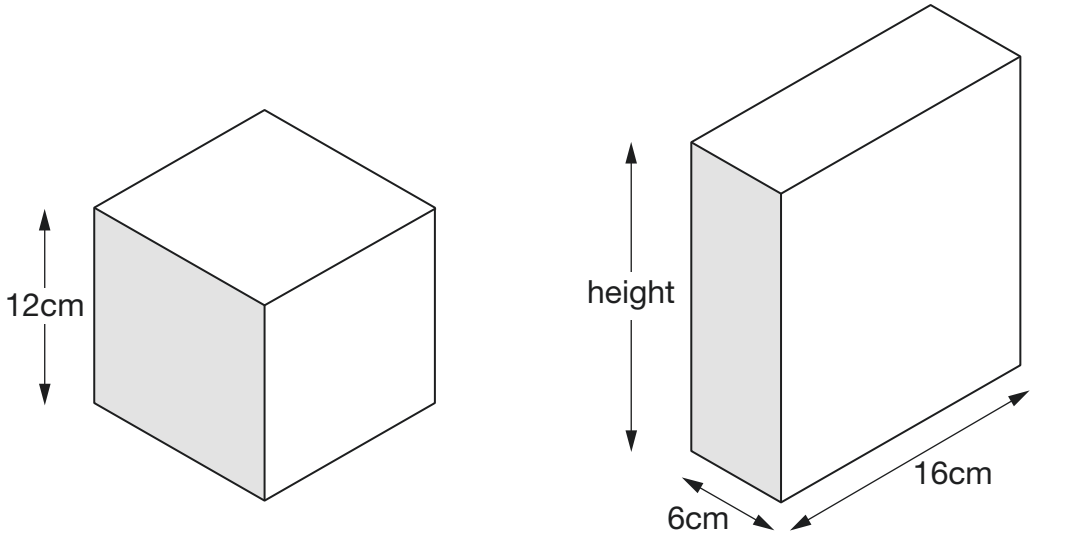
- Cuboid A ☐
- Cuboid D ☐
- Both the same ☐

Explain how you know.

[2 marks]

**8** The cube and cuboid have **equal volumes**.

[Extra]




**Not actual size**

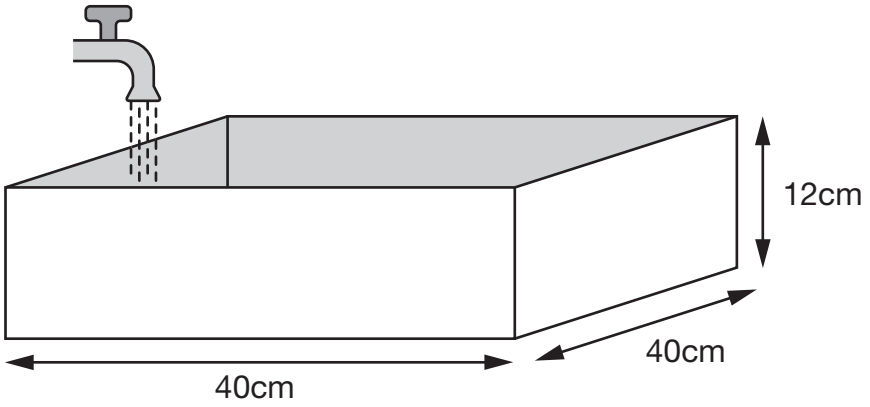
Calculate the height of the cuboid.

cm

[2 marks]

**9** [Extra]

Every second, 300cm$^3$ of water comes out of a tap into a cuboid tank.




**Not actual size**

The base of the tank is **40cm** by **40cm**

The height is **12cm**

How many seconds does it take to fill the tank?

Seconds

[2 marks]