

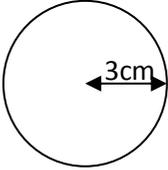
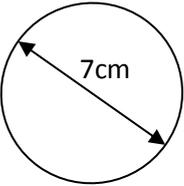
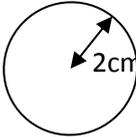
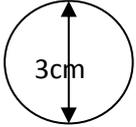
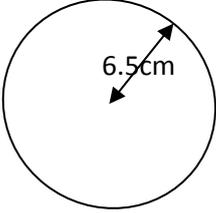
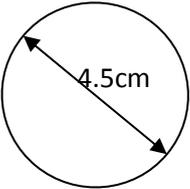
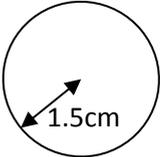
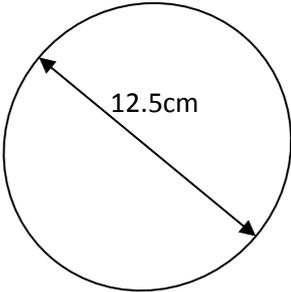
Year 8  
Foundation  
Homework  
Pack  
May 2020

**Circumference**  
 $= \pi \times \text{diameter}$   
 $= \pi \times \text{radius} \times 2$

LO: Calculating the area and circumference of a circle

**Area**  
 $= \pi \times \text{radius}^2$

Find the **circumference** and **area** and of these circles

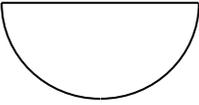
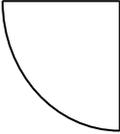
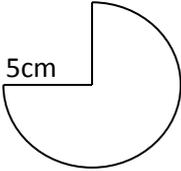
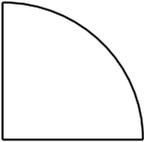
Circle	Circumference	Area
		
		
		
		
		
		
		
		

**Circumference**  
 $= \pi \times \text{diameter}$   
 $= \pi \times \text{radius} \times 2$

LO: Calculating the area and circumference of a circle

**Area**  
 $= \pi \times \text{radius}^2$

Find the **circumference** and **area** and of these circles

Circle	Circumference	Area
<p>10cm</p> 	Find the circumference of a whole circle and divide by 2. Add on 10cm	Find the area of the whole circle and divide by 2
<p>6cm</p> 	Find the circumference of the whole circle and divide by 4. Add straight lines.	Find the area of the whole circle and divide by 4.
<p>5cm</p> 	Find the circumference of the whole circle and divide by 4 and then times by 3. Add straight lines.	Find the area of the whole circle and divide by 4 and times by 3.
 <p>5.5cm</p>		

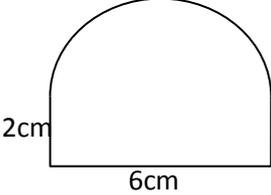
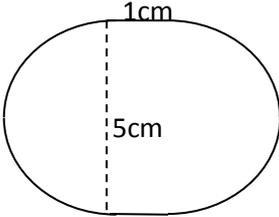
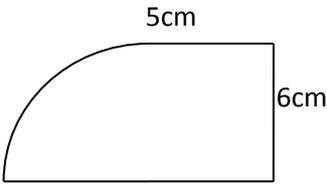
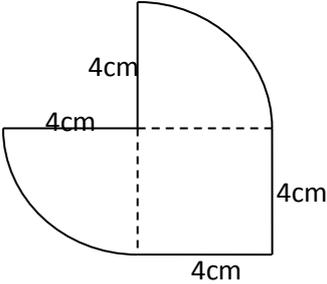
**Circumference**  
 $= \pi \times \text{diameter}$   
 $= \pi \times \text{radius} \times 2$

LO: Calculating the area and circumference of a circle

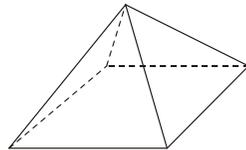
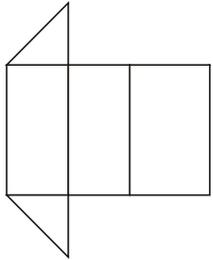
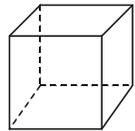
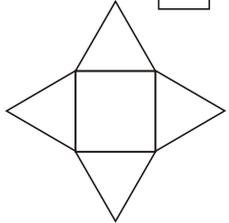
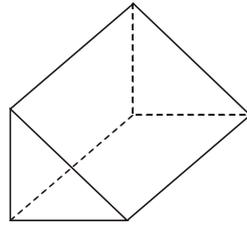
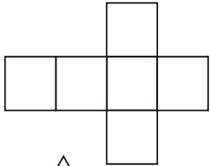
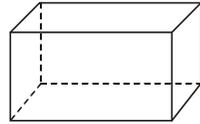
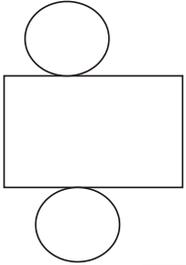
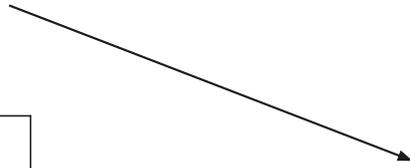
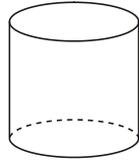
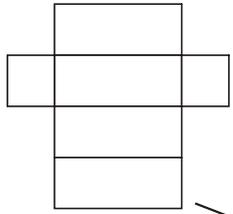
**Area**  
 $= \pi \times \text{radius}^2$

Find the **perimeter** and **area** and of these compound shapes.

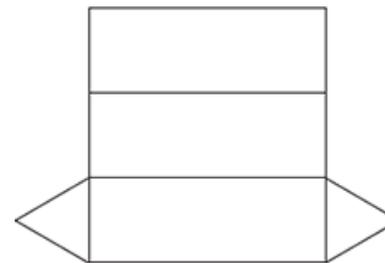
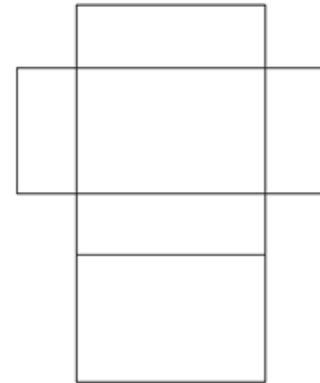
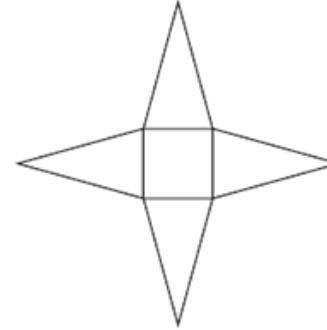
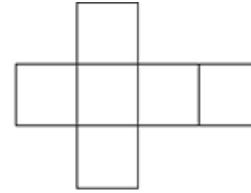
Recap area of squares and rectangles before you try these questions.

Circle	Circumference	Area
		
		
		
		

Match each net with a solid. The first one has been done.



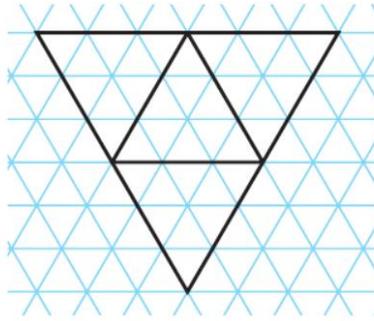
Draw an arrow from each of the other nets to its solid shape.



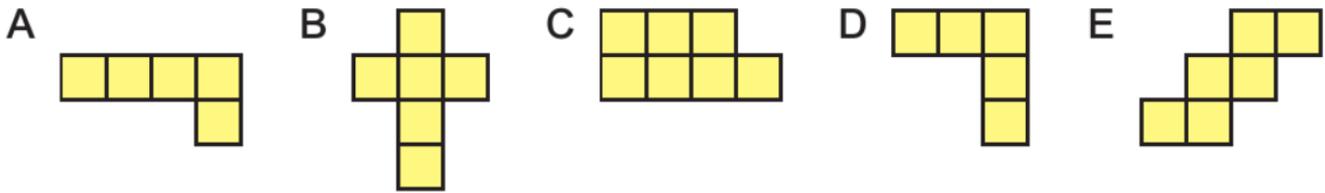
- Cuboid
- Pyramid
- Cylinder
- Cube
- Triangular prism



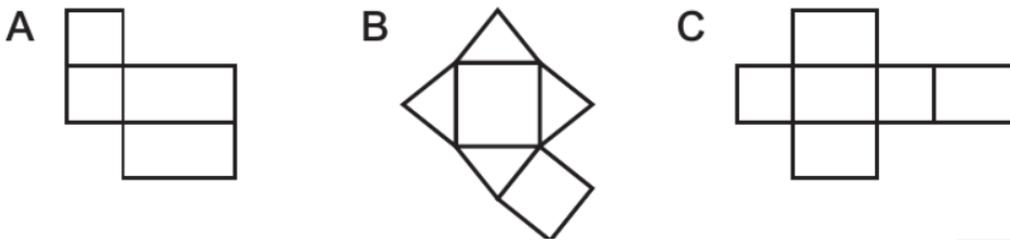
1. This net is drawn on centimetre triangular grid paper.
- What are the size of the angles of the triangular faces?
  - Describe the solid shape that is made when the net is folded up.



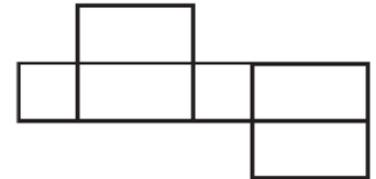
2. Which **two** of these could be the net of a cube?



3. Which of these is the net of a cuboid? Give a reason for your answer.

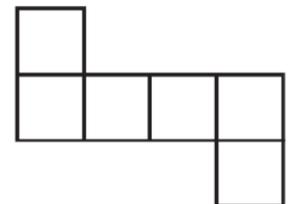


4. a) Draw a tick next to two edges that meet when the net is folded up to make a cuboid.

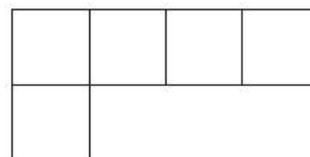


- b) Shade in two faces that are opposite when the net is folded up to make a cuboid

5. Miranda wants to label the net with the numbers 1 to 6 to make a dice. Copy the net and label it so that when it is folded up to make a cube, numbers on opposite faces add up to 7.



6. The diagram shows part of a net of a cube.

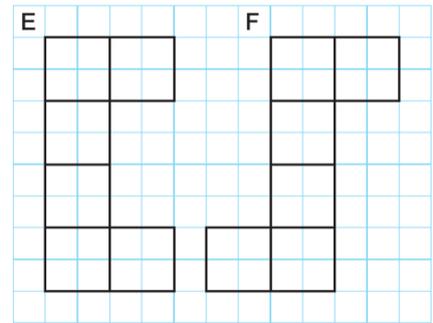


- (a) Add one square to the diagram to complete the net.

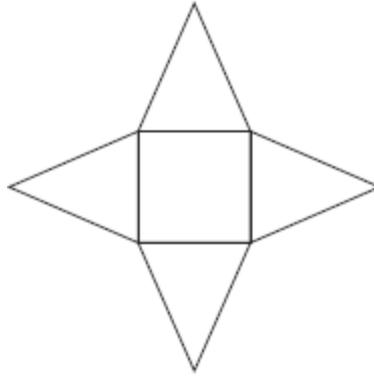
Two opposite faces of the cube are to be shaded.

- (b) On the diagram, shade two faces to show how this can be done.

7. a) Which of E or F will form a cube.  
 b) Draw one more net that you think will form a cube

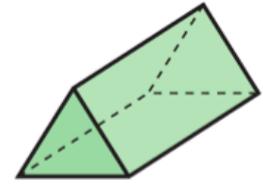


8. Write down the mathematical name of the shape made by each net.

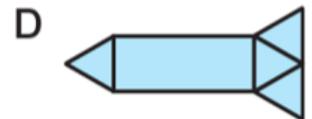
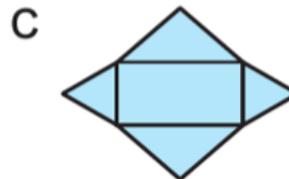
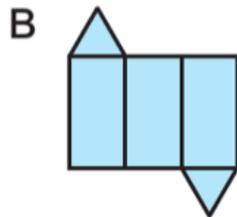
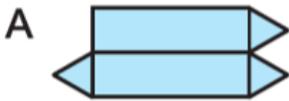


9. Here is a triangular prism.

- a) Write down the number of faces on a triangular prism, and the shape of each face.

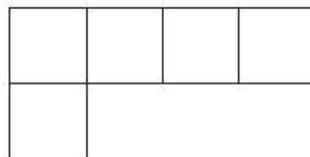


- b) Which of these shapes shows the net of a triangular prism?



- c) Draw a different net for this triangular prism.

10. The diagram shows part of a net of a cube.



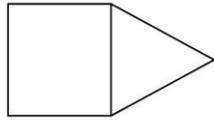
- (a) Add one square to the diagram to complete the net.

Two opposite faces of the cube are to be shaded.

- (b) On the diagram, shade two faces to show how this can be done.

# NETS – PROBLEM SOLVING

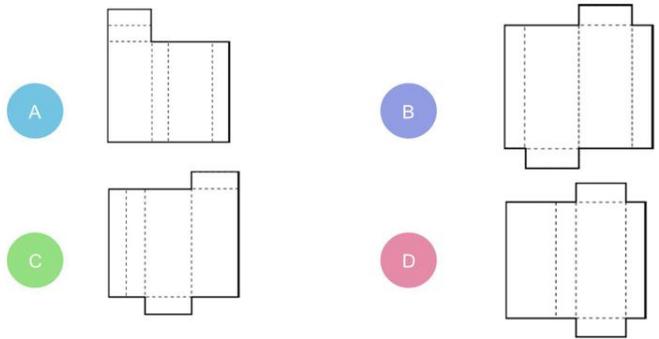
This is an incomplete net for a square based pyramid.



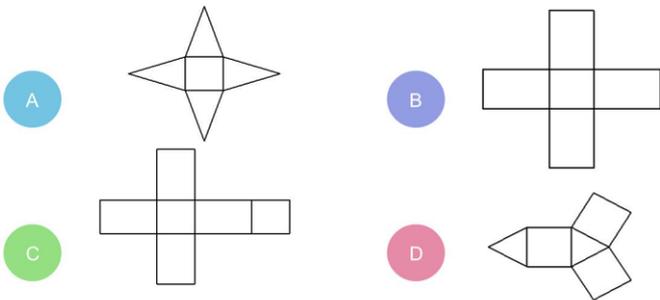
What shapes do you add to complete this net?

- A 3 triangles
- B 2 squares
- C 1 triangle and 3 squares
- D 1 triangle and 2 squares

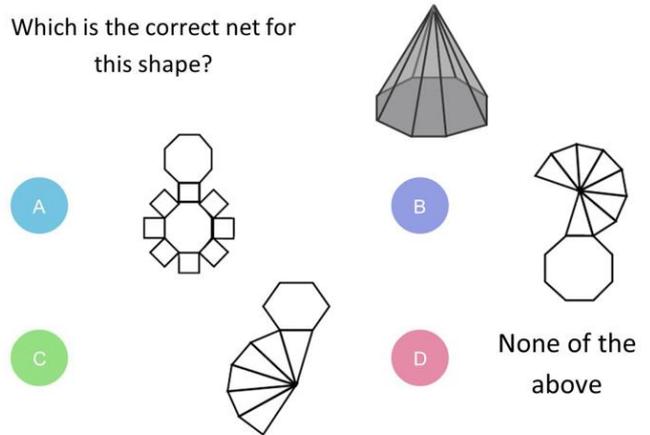
Which figure shows the net of a rectangular prism?



Which diagram is the net for a square based pyramid?



Which is the correct net for this shape?



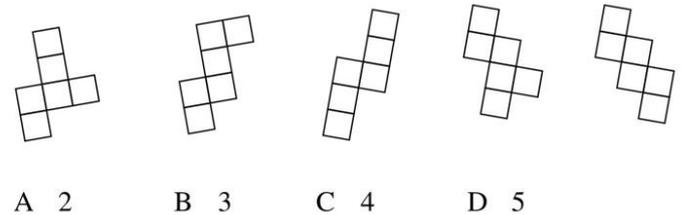
The diagram shows a rectangular envelope made by folding (and gluing) a single piece of paper.



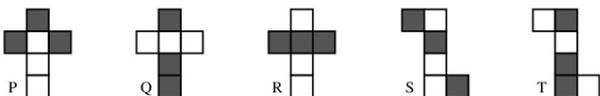
What could the original unfolded piece of paper look like? (The dashed lines are the fold lines.)



How many of the following nets could be folded to make a cube?



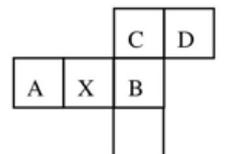
Each of the five nets P, Q, R, S and T is made from six squares. Both sides of each square have the same colour. Net P is folded to form a cube.



How many of the nets Q, R, S and T can be folded to produce a cube that looks the same as that produced by P?

- A 1
- B 2
- C 3
- D 4

If the net shown is folded to make a cube, which letter is opposite X?



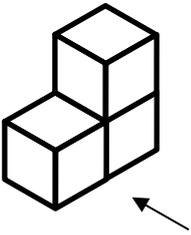
- A
- B
- C
- D

## Plans and elevations

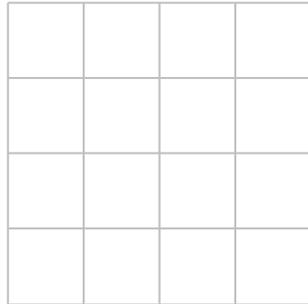
For each diagram draw the plan and the front and side elevations. Use HegartyMaths to help you.

On each diagram the arrow indicates the direction of the front elevation.

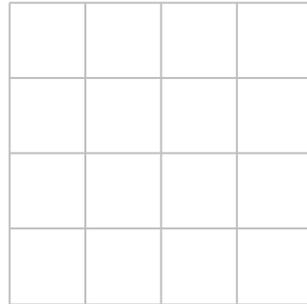
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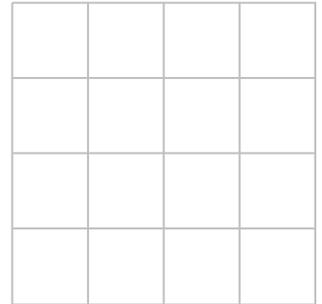
Plan



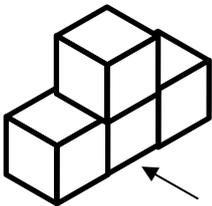
Front



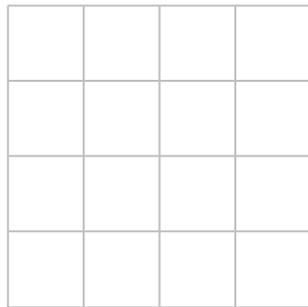
Side



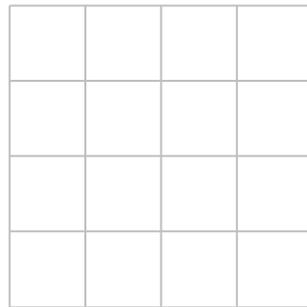
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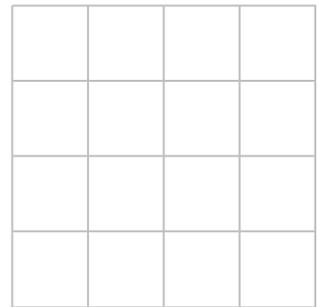
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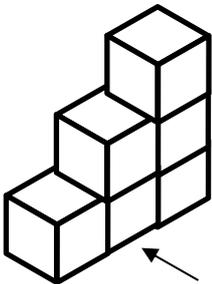
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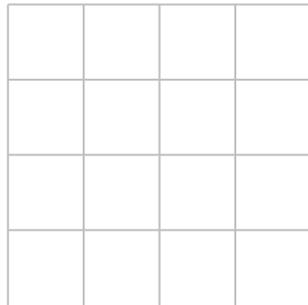
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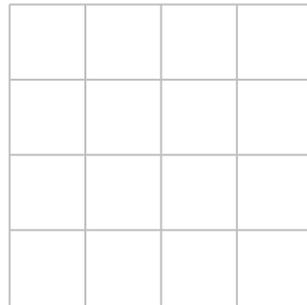
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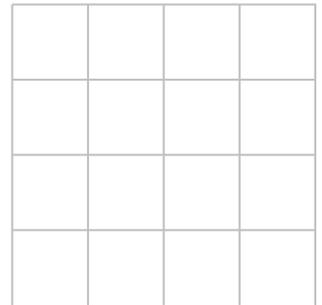
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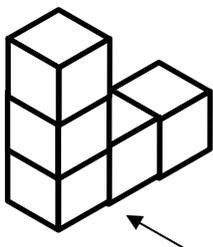
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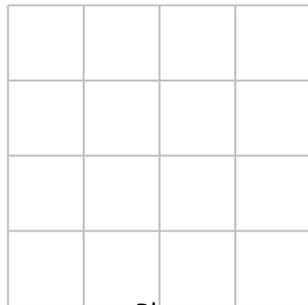
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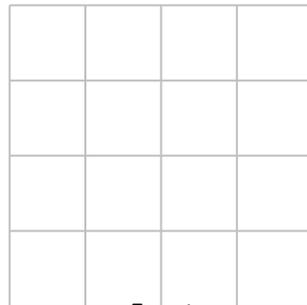
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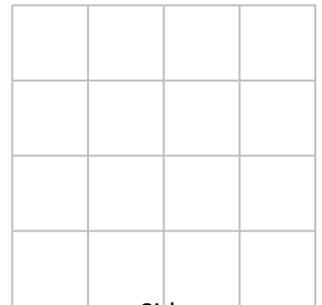
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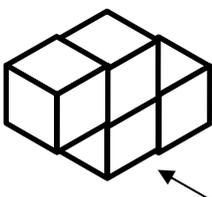
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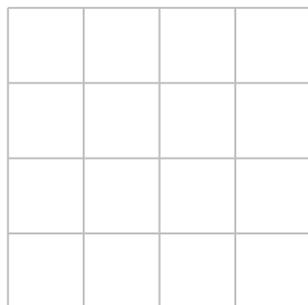
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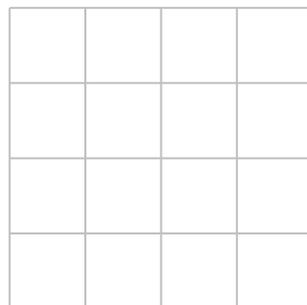
5.



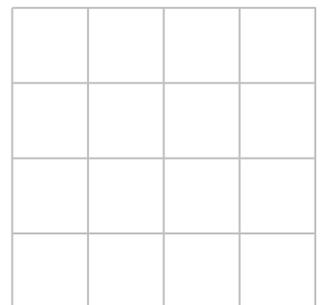
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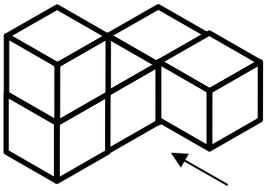
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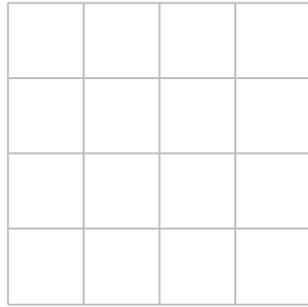
Side



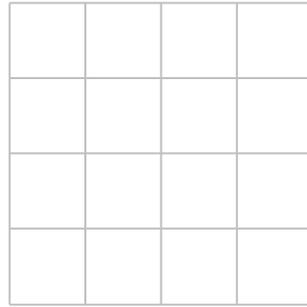
6.



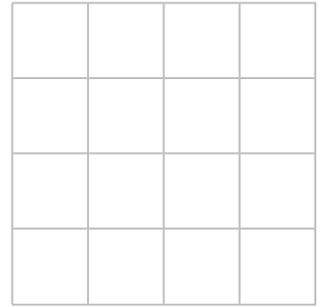
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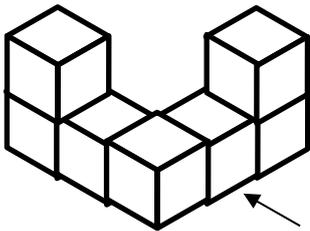
Front



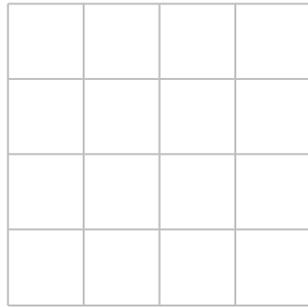
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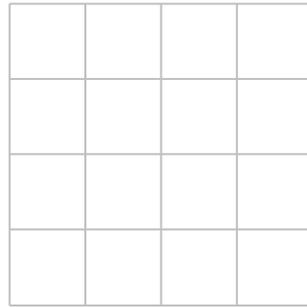
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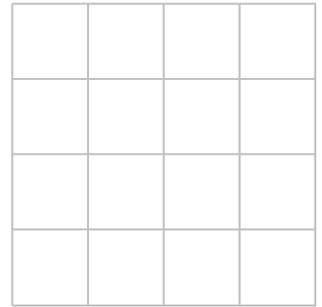
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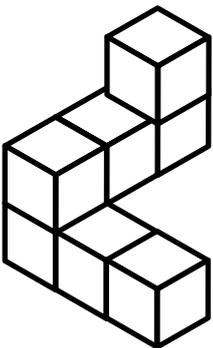
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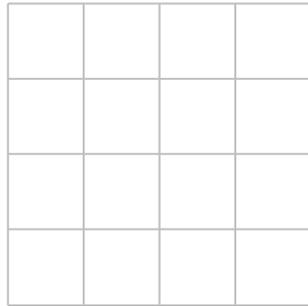
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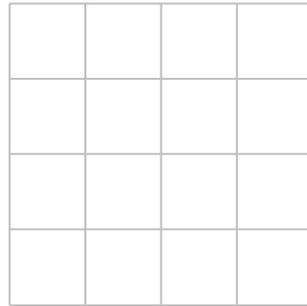
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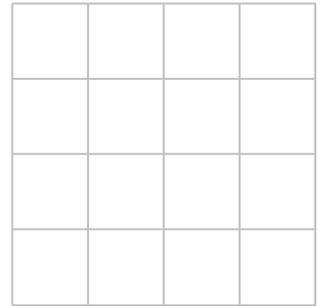
Plan



Front



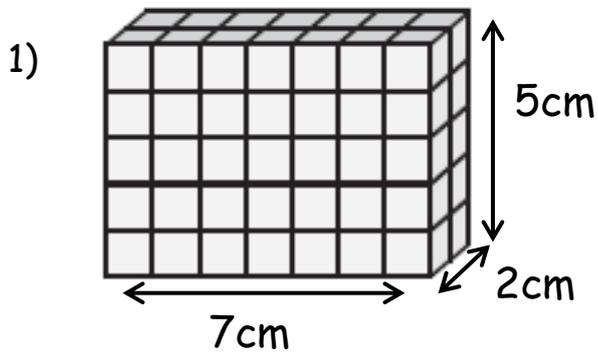
Side



## Volume of Cubes and Cuboids

L.O: TBAT find the volume of cube and cuboids

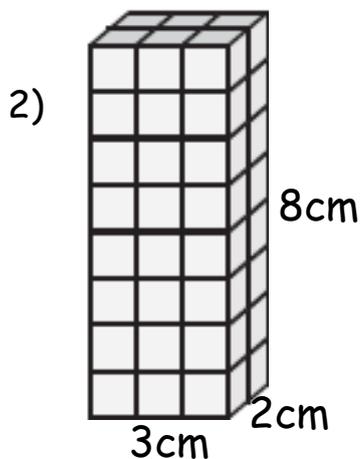
Hint: **length x width x height**  
to find the volume



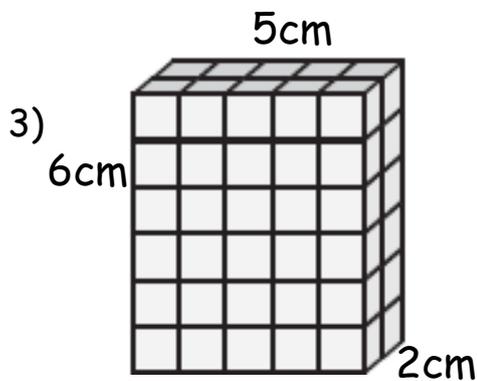
Length x width x height

$$5 \times 2 \times 7 =$$

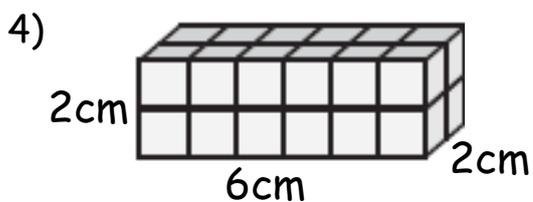
Volume = .....



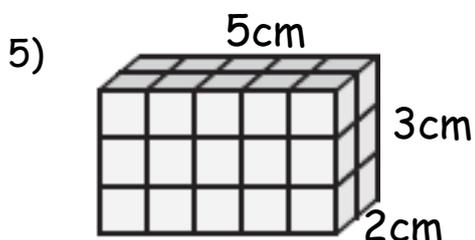
Volume = .....



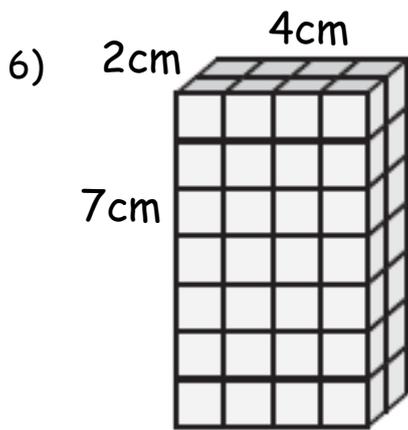
Volume = .....



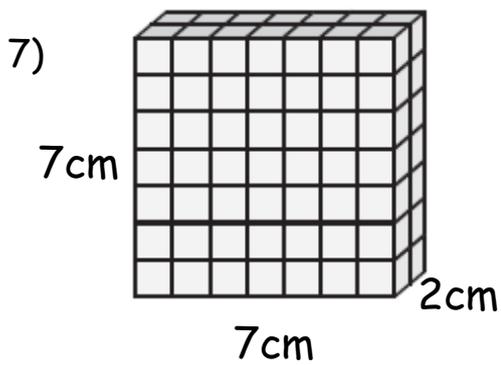
Volume = .....



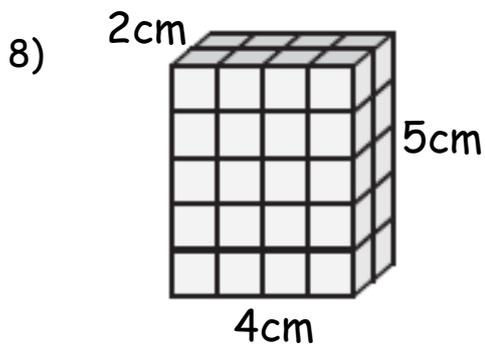
Volume = .....



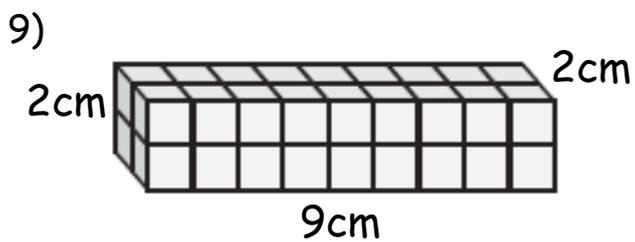
Volume = .....



Volume = .....



Volume = .....



Volume = .....

Extension Question: If the volume of a cuboid was  $54\text{cm}^3$ , with a length of 9cm and a height of 2cm, what is its width?

