

Day 1

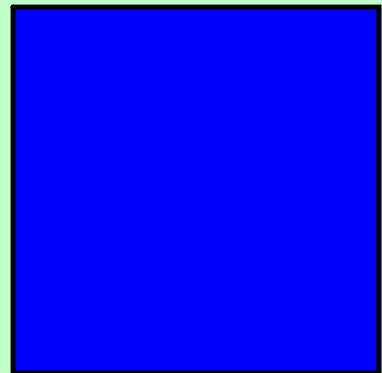
Fab four!

1.) $8 \times 1.26 =$

2.) 15% of $880 =$

3.) first 5 prime numbers =

4.) 465 divided by $15 =$



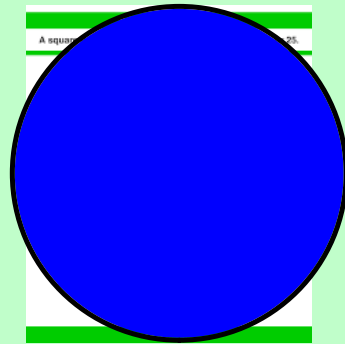
Day 2Fab four!

1.) $6 \times 2.06 =$

2.) $15\% \text{ of } 380 =$

3.) first 5 square numbers =

4.) $208 \text{ divided by } 13 =$



Day 3

Fab four!

1.) $15 \times 1.35 =$

2.) 15% of $730 =$

3.) first 3 cube numbers =

4.) 238 divided by $17 =$

Day 4

Fab four!

1.) $12 \times 2.25 =$

2.) 35% of $500 =$

3.) first 5 multiples of $12 =$

4.) 420 divided by $14 =$

Day 5

Fab four!

1.) $12 \times 1.32 =$

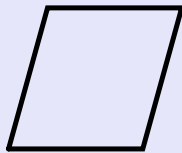
2.) 15% of $400 =$

3.) first 5 multiples of $13 =$

4.) 143 divided by $11 =$

- I can recognise angles where they are on a straight line.
- I can recognise angles where they meet at a point.
- I can find unknown angles in any triangles, quadrilaterals, and regular polygons.
- I can compare and classify geometric shapes based on their properties and sizes
- I can draw 2-D shapes using given dimensions and angles.
- I can illustrate and name parts of circles, including radius, diameter and circumference.
- I can recognise, describe and build simple 3-D shapes, including making nets.
- I know that the diameter of a circle is twice the radius.
- I can reflect simple shapes in the axes of the coordinate plane.
- I can draw and translate simple shapes on the coordinate plane.
- I can describe positions on the full coordinate grid.
- I can find missing angles.
- I can recognise angles where they are vertically opposite.

LO: I know properties of 2D shapes



What do we know about this shape?

With your partner write down 5 or more facts. *Use mathematical language.*

LO: I know properties of 2D shapes

shape vocabulary

LO: I know properties of 2D shapes

What do we need to know?

- *vertices
- *sides
- *angles
- *lines
- *names
- *parts of circle

Revise this language- you could use 'maths is fun' website to help you.

LO: I know properties of 2D shapes

What 2D Shape Am I?

Read the clues and work out which 2D shape I could be...

I have an equal number of sides. My internal angles total 180° . I have one right angle.

[Redacted]

I have one right angle and one set of parallel lines.

[Redacted]

I have no right angles and four equal sides.

[Redacted]

a) All my internal angles are equal and are $180^\circ - 36^\circ$ each.

[Redacted]

My two opposite angles are right angles. Of the two remaining angles, one is acute and the other obtuse.

[Redacted]

LO: I know properties of 2D shapes

Answers

What 2D Shape Am I?

Read the clues and work out which 2D shape I could be...

<p>I have an equal number of sides. My internal angles total 180°. I have one right angle.</p> <p>right-angled triangle</p>	<p>I have no right angles and four equal sides.</p> <p>rhombus</p>
<p>I have one right angle and one set of parallel lines.</p> <p>trapezium</p>	<p>a) All my internal angles are equal and are $180^\circ - 36^\circ$ each.</p> <p>decagon</p>
<p>My two opposite angles are right angles. Of the two remaining angles, one is acute and the other obtuse.</p> <p>kite</p>	

LO: I know properties of 2D shapes

What 3D Shape Am I?

Read the clues and work out which 3D shape I could be...

I have 5 vertices and all my faces are the same 2D shape.



2 of my faces have 6 edges, the other 6 faces each have 4 edges.



All my faces have 5 edges. I have 30 edges altogether and 20 vertices.



One of my faces is a pentagon, the others are triangles.



I have one flat face and one curved surface.

hemisphere

LO: I know properties of 2D shapes

What 3D Shape Am I?

Read the clues and work out which 3D shape I could be...

I have 5 vertices and all my faces are the same 2D shape.

tetrahedron

2 of my faces have 6 edges, the other 6 faces each have 4 edges.

hexagonal prism

All my faces have 5 edges. I have 30 edges altogether and 20 vertices.

dodecahedron

One of my faces is a pentagon, the others are triangles.

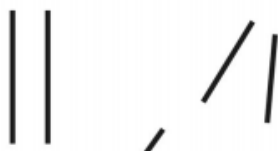
pentagonal pyramid

I have one flat face and one curved surface.

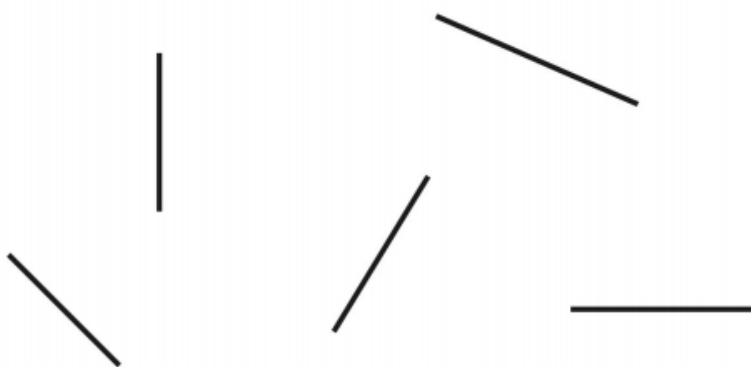
hemisphere

LO: I know properties of 2D shapes

Can you circle the pairs of parallel lines?



Can you draw lines which are perpendicular to each of these?



LO: I know properties of 2D shapes


25.3.19

Answer the questions on your chosen spice level. You will need to copy the drawings or table onto your paper.

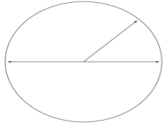
Mild

LQ: Do I know properties of 2D shapes?



1.) Describe the name and properties of this shape in as much details as you can.

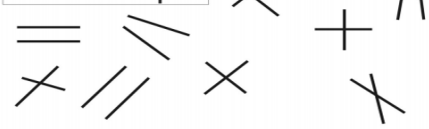


2.) Label the parts of the circle. Then describe the relationship between the parts of the circle.



3.) Can you label all the lines which are parallel or perpendicular? Use arrows for parallel lines and a right angle sign for perpendicular lines.

eg.  



LO: I know properties of 2D shapes

Answer the questions on your chosen spice level. You will need to copy the drawings or table onto your paper.

Spicy

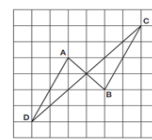
LO: I know properties of 2d shapes

a) Write the names of these shapes in the correct places in this Carroll diagram:

square rectangle right-angled triangle regular pentagon
 equilateral triangle regular octagon semi-circle parallelogram

	polygon	not a polygon
at least one right angle		
no right angles		

Q4. The diagram shows four lines drawn on a square grid. The lines are AB, BC, CD and DA.



Which two of the lines are **parallel**? Circle them in the list below.

AB BC CD DA

Which two of the lines are **perpendicular**? Circle them in the list below.

AB BC CD DA

Q5. Here are four statements:

For each statement put a tick (✓) if it is **possible**. Put a cross (✗) if it is **impossible**.

- A triangle can have 2 acute angles.
- A triangle can have 2 obtuse angles.
- A triangle can have 2 parallel sides.
- A triangle can have 2 perpendicular sides.

Label the parts of the circle.

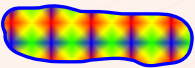
Then describe the relationship between the parts.



LO: I know properties of 3D shapes.

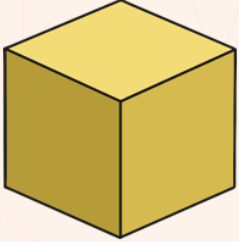
Which 3d shapes do we know?

LO: I know properties of 3D shapes.



Cubes have:


- 6 faces;
- 12 edges
- 8 vertices;
- edges that are all the same length.

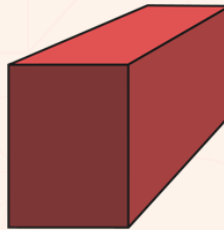


LO: I know properties of 3D shapes.

Cuboid

Cuboids have:

- 6 faces;
- 12 edges
-  vertices;
- edges that are **not** all the same length.

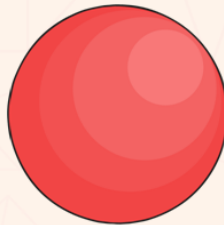


LO: I know properties of 3D shapes.

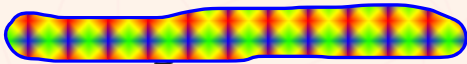
Sphere

Spheres:


- are perfectly round;
- have no edges;
- have no vertices.
- 1 curved surface




LO: I know properties of 3D shapes.



Triangular prisms have:



- 5 faces;
- 2 triangular faces;
- 3 rectangular faces;

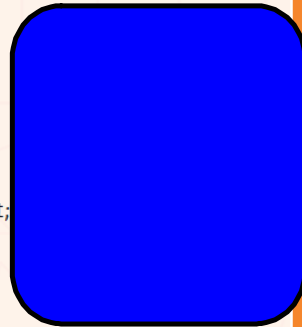


LO: I know properties of 3D shapes.

Square-Based Pyramid

Square-based pyramids have:

- a square base;
- 4 triangular faces that make a sharp point;
- 5 faces.



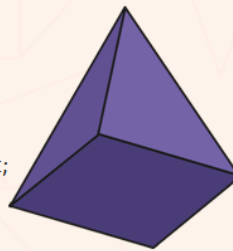
Can you draw this shape?

LO: I know properties of 3D shapes.

Square-Based Pyramid

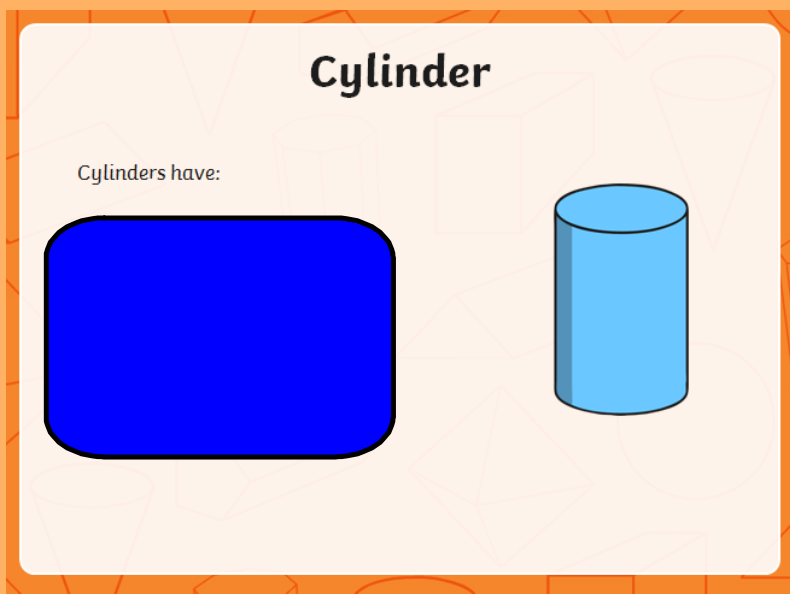
Square-based pyramids have:

- a square base;
- 4 triangular faces that make a sharp point;
- 5 faces.



Does yours look the same?

LO: I know properties of 3D shapes.



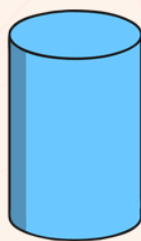
How would you describe the properties of this shape?

LO: I know properties of 3D shapes.

Cylinder

Cylinders have:

- 2 flat and circular faces;
- 1 curved surface;
- **no** vertices.



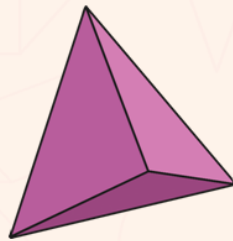
How would you describe the properties of this shape?

LO: I know properties of 3D shapes.

Tetrahedron

Tetrahedra have:

- 4 flat and triangular faces;
- 4 vertices;
- 6 edges.

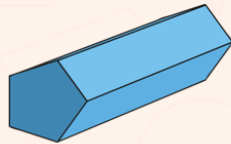


LO: I know properties of 3D shapes.

Pentagonal Prism

Pentagonal prisms have:

- 7 faces;
- 2 pentagonal faces;
- 5 rectangular faces;
- 15 edges;
- 10 vertices



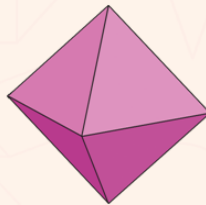
Similar to hexagonal prism
& octagonal prism

LO: I know properties of 3D shapes.

Octahedron

Octahedra have:

- 8 triangular faces;
- 12 edges;
- 6 vertices.

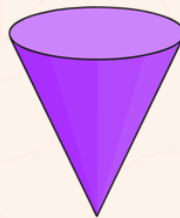


LQ: Do I know properties of 3D shapes?

Cone

Cones have:

- 1 flat face which is a circle;
- 1 vertex;
- 1 edge;
- 1 curved surface.

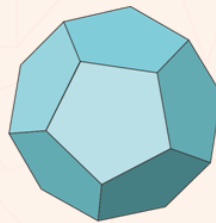


LO: I know properties of 3D shapes.

Dodecahedron

Dodecahedra have:

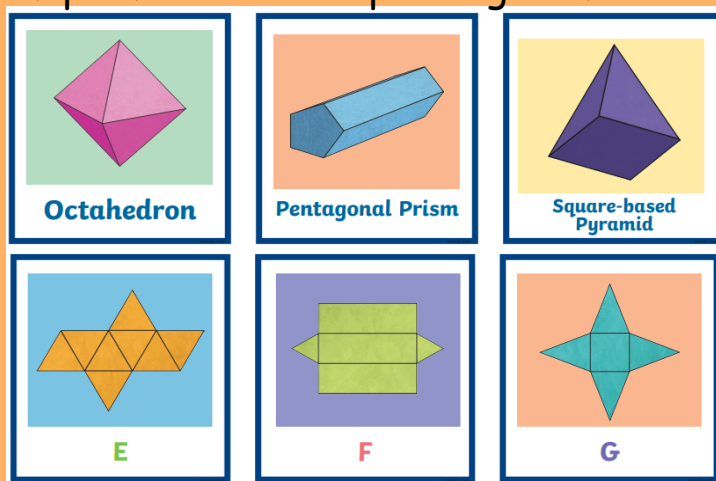
- 12 faces;
- 30 edges;
- 20 vertices.



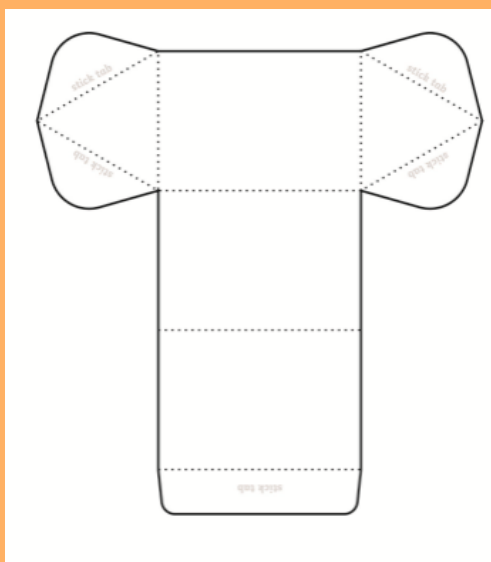
LO: I know properties of 3D shapes.

3D shape match-

Does each shape have a corresponding net? Are the nets correct?



LO: I know properties of 3D shapes.



Which shape do you think this net would create when you folded it up?
Explain your answer.

Then write a description of any chosen 3D shape, listing all its properties. Have a good at drawing your 3d shape too.

LO: I know properties of 3D shapes.

Sorting 3D shapes

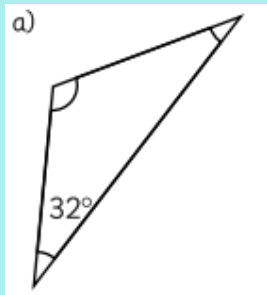
<https://mathsframe.co.uk/en/resources/playgame/115>



LO: I can find missing angles.

What do we know about angles?

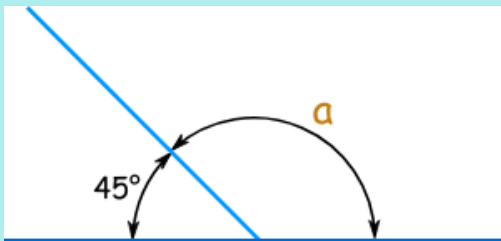
LO: I can find missing angles.



angles in a triangle =

so....

LO: I can find missing angles.

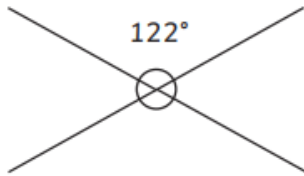


angles on a straight line =

so....

LO: I can find missing angles.

1.

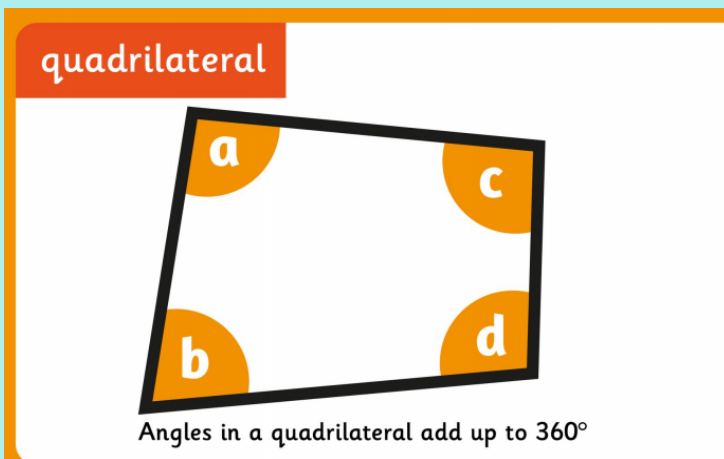


angles around a point =

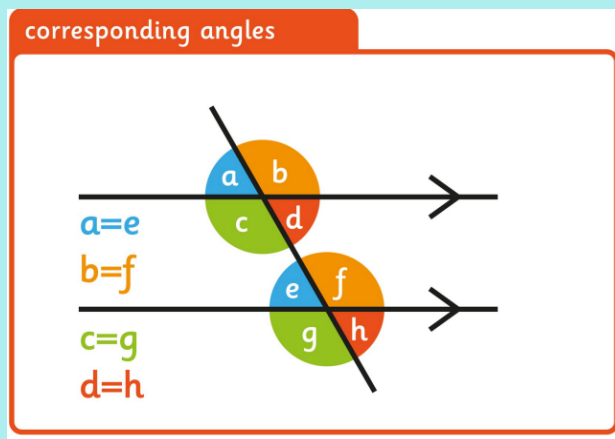
opposite angles =

so....

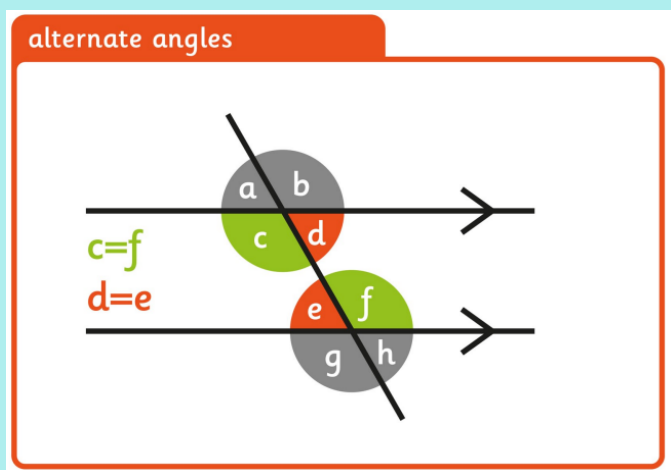
LO: I can find missing angles.



LO: I can find missing angles.



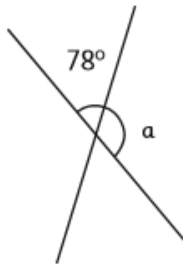
LO: I can find missing angles.



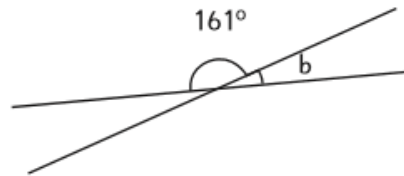
Can you spot the pattern?

LO: I can find missing angles.

1. $a =$



2. $b =$



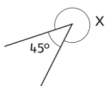
LO: I can find missing angles.

Write out all your calculations.

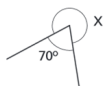
Mild

■ Calculate the missing angle X. Do not measure!

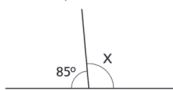
1)



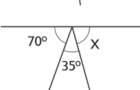
2)



3)



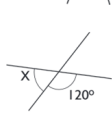
4)



5)

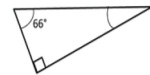


6)



Spicy

1. Daisy calculated that the acute angle was 34° .
Is she correct?



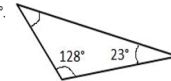
Yes

No

Explain your reasoning

2. Lucy calculated that the missing angle was 19° .

Is she correct?



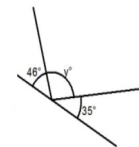
Yes

No

Explain your reasoning

3. Harry said, "The missing angle has to be an obtuse angle."

Is he correct?



Yes

No

Explain your reasoning

LO: I can calculate the volume of a cube and rectangular prisms.

Volume

The [volume of a cuboid](#) is found using the formula:

$$\text{Volume} = \text{Length} \times \text{Width} \times \text{Height}$$

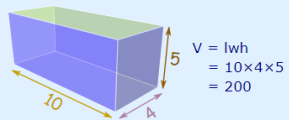
Which can be shortened to:

$$V = l \times w \times h$$

Or more simply:

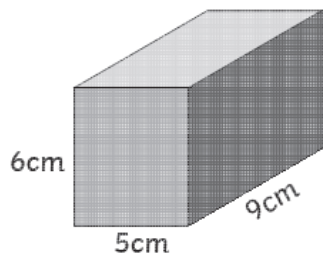
$$V = lwh$$

Example: Find the volume of this cuboid



LO: I can calculate the volume of a cube and rectangular prisms.

2.

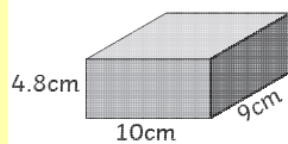


Volume =

LO: I can calculate the volume of a cube and rectangular prisms.

What if it has a decimal?

4.

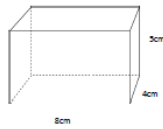


Volume =

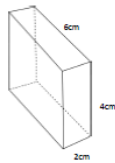
LO: I can calculate the volume of a cube and rectangular prisms.

Volume

1. What is the volume of this cuboid?



2. Find the volume of this cuboid.



3. The length, width and height of a cuboid are: 5cm, 2cm and 3cm. What is its volume?

4. Find the missing measurements in this table:

Length	Width	Height	Volume
10cm	4cm	3cm	
	6cm	2cm	60cm ³
8cm	2cm		48cm ³
10m		6m	180m ³
9mm	2mm		72mm ³

5. a) A cuboid has a volume of 72cm³. If the length, width and height are all whole numbers, how many different sets of measurements can you find?
 b) How many can you find for a cuboid with volume 96cm³?

6. What is the volume of a cube which has an edge measuring 2cm?
 7. One face of a cube has an area of 25cm². What is its volume?
 8. The surface area of a cube is 96cm². What is the length of one side? What is its volume?
 9. A cube has a volume of 216cm³. What is the length of one side?
 10. Kloggs Cereal Company is wanting to sell its new breakfast cereal—Choco Crispy Poppers. A 500g portion will take up 700cm³. The box manufacturer makes 3 sizes of cardboard boxes:

Box	Length (cm)	Width (cm)	Height (cm)	
A	40	4	4	
B	25	5	6	
C	30	6	4	

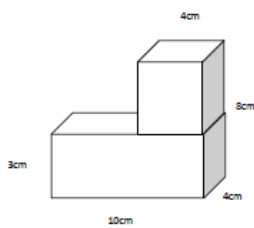
Which box would be most suitable for a 500g portion of Choco Crispy Poppers?

LO: I can calculate the volume of a cube and rectangular prisms.

11. A cuboid has 3 different sized faces. The areas of 2 of the faces are 84cm^2 and 56cm^2 . The volume of the cuboid is 672cm^3 . Find

- the length, width and height of the cuboid.
- the area of the third face.

12. Find the volume of this shape.



LO: I can calculate the volume of a cube and rectangular prisms.

12. Find the volume of these shapes:

The image shows four composite shapes labeled a, b, c, and d, each with its dimensions labeled in centimeters.

- Shape a:** A composite shape consisting of a tall rectangular prism on the left and a shorter rectangular prism on the right. The tall prism has a height of 12 cm and a width of 5 cm. The shorter prism has a height of 3 cm and a width of 10 cm. The total width of the base is 15 cm.
- Shape b:** A composite shape consisting of a tall rectangular prism on the left and a shorter rectangular prism on the right. The tall prism has a height of 15 cm and a width of 4 cm. The shorter prism has a height of 2 cm and a width of 7 cm. The total width of the base is 3 cm.
- Shape c:** A composite shape consisting of a tall rectangular prism on the left and a shorter rectangular prism on the right. The tall prism has a height of 7 cm and a width of 7 cm. The shorter prism has a height of 6 cm and a width of 10 cm. The total width of the base is 6 cm.
- Shape d:** A composite shape consisting of a tall rectangular prism on the left and a shorter rectangular prism on the right. The tall prism has a height of 18 cm and a width of 20 cm. The shorter prism has a height of 7 cm and a width of 11 cm. The total width of the base is 6 cm.

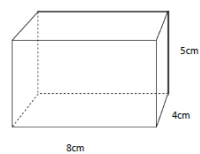
LO: I can calculate the volume of a cube and rectangular prisms.

Answers

Volume

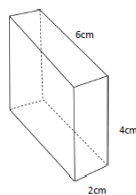
1. What is the volume of this cuboid?

160cm³



2. Find the volume of this cuboid.

48cm³



3. The length, width and height of a cuboid are: 5cm, 2cm and 3cm. What is its volume? 30cm³

LO: I can calculate the volume of a cube and rectangular prisms.

Answers

4. Find the missing measurements in this table:

Length	Width	Height	Volume
10cm	4cm	3cm	120cm ³
5cm	6cm	2cm	60cm ³
8cm	2cm	3cm	48cm ³
10m	3cm	6m	180m ³
9mm	2mm	4cm	72mm ³

5. A cuboid has a volume of 72cm³. If the length, width and height are all whole numbers, how many different sets of measurements can you find?

Answers for Question 5:

72 × 1 × 1	96 × 1 × 1
36 × 2 × 1	48 × 2 × 1
24 × 3 × 1	32 × 3 × 1
18 × 4 × 1	24 × 4 × 1
18 × 2 × 2	24 × 2 × 2
12 × 6 × 1	16 × 6 × 1
12 × 3 × 2	16 × 3 × 2
9 × 8 × 1	12 × 8 × 1
9 × 4 × 2	12 × 4 × 2
6 × 4 × 3	8 × 6 × 2
	8 × 4 × 3
	6 × 4 × 4

LO: I can calculate the volume of a cube and rectangular prisms.

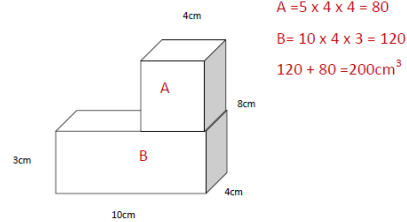
Answers

- 6. What is the volume of a cube which has an edge measuring 2cm? 8cm^3
- 7. One face of a cube has an area of 25cm^2 . What is its volume? 125cm^3
- 8. The surface area of a cube is 96cm^2 . What is the length of one side? What is its volume? 4cm
- 9. A cube has a volume of 216cm^3 . What is the length of one side? 6cm
- 10. Kloggs Cereal Company is wanting to sell its new breakfast cereal—Choco Crispy Poppers. A 500g portion will take up 700cm^3 . The box manufacturer makes 3 sizes of cardboard boxes:

Box	Length (cm)	Width (cm)	Height (cm)	Volume cm^3
A	40	4	4	640
B	25	5	6	750
C	30	6	4	720

Which box would be most suitable for a 500g portion of Choco Crispy Poppers?

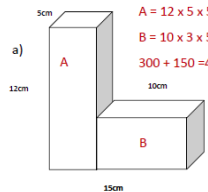
- 11. A cuboid has 3 different sized faces. The areas of 2 of the faces are 84cm^2 and 56cm^2 . The volume of the cuboid is 672cm^3 . Find
 - a) the length, width and height of the cuboid. $12\text{cm} \times 8\text{cm} \times 7\text{cm}$
 - b) the area of the third face. 96cm^2
- 12. Find the volume of this shape.



LO: I can calculate the volume of a cube and rectangular prisms.

Answers

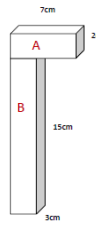
12. Find the volume of these shapes:

a) 

$$A = 12 \times 5 \times 5 = 300$$

$$B = 10 \times 3 \times 5 = 150$$

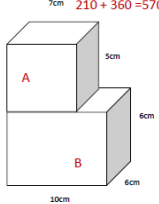
$$300 + 150 = 450\text{cm}^3$$

b) 

$$A = 7 \times 2 \times 3 = 42$$

$$B = 15 \times 3 \times 4 = 180$$

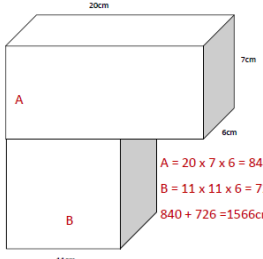
$$42 + 180 = 222\text{cm}^3$$

c) 

$$A = 7 \times 5 \times 6 = 210$$

$$B = 10 \times 6 \times 6 = 360$$

$$210 + 360 = 570\text{cm}^3$$

d) 

$$A = 20 \times 7 \times 6 = 840$$

$$B = 11 \times 11 \times 6 = 726$$

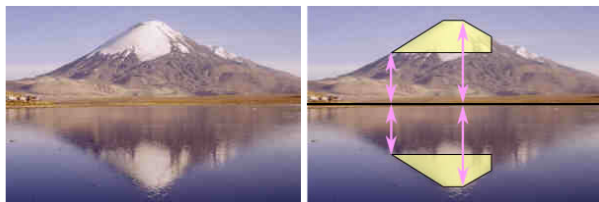
$$840 + 726 = 1566\text{cm}^3$$

LO: I can reflect and translate shapes

28.3.19

Reflection

Reflections are everywhere ... in mirrors, glass, and here in a lake.
... what do you notice ?



Every point is the **same distance** from the central line !

... and ...

The reflection has **the same size** as the original image

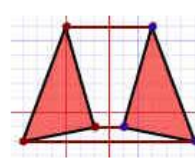
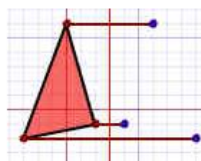
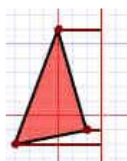
LO: I can reflect and translate shapes

28.3.19

How Do I Do It Myself?

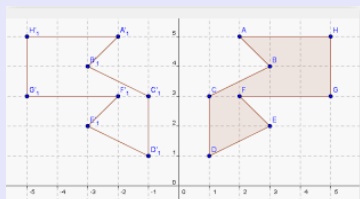
Just approach it step-by-step. For **each corner** of the shape:

1. Measure from the point to the mirror line (must hit the mirror line at a [right angle](#))
2. Measure the same distance again on the other side and place a dot.
3. Then connect the new dots up!



LO: I can reflect and translate shapes

- 1.) Fold an A4 page (or whatever size paper you have).
- 2.) On one side draw a shape pattern.
- 3.) If you have a ruler, use it to measure your lines carefully. then reflect the shape pattern on the other side. Use a ruler to try and get the measurements exactly the same.



P.s. i know most of you don't have squared paper- just try your best! :)

LO: I can reflect and translate shapes

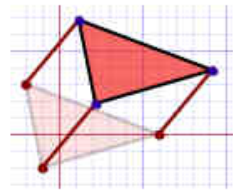
In Geometry, "Translation" simply means **Moving ...**

... without rotating, resizing or anything else, **just moving.**

To Translate a shape:

Every point of the shape must move:

- the **same distance**
- in the **same direction.**



LO: I can reflect and translate shapes

Have a go at translating and reflecting shapes on this game.

It is a little confusing to start but play around and you'll get the idea! :)

<https://www.mathplayground.com/ShapeMods/index.html>

