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2D and 3D Shapes

Lesson Intentions: Monday 18th March 2024

Part 1: 2D Shapes

- Sort 2D and 3D shapes using properties including lines of symmetry, length, right angles and other angles – including rectangles and triangles. (EL3.M19)
- Draw 2D shapes and demonstrate an understanding of lines of symmetry and knowledge of the relative sizes of angles. (L1.M24)
- Calculate the area and perimeter of simple shapes including those that are made up of a combination of rectangles. (L1.M22)

Part 2: 3D Shapes

- Sort 2D and 3D shapes using properties including lines of symmetry, length, right angles and other angles – including rectangles and triangles. (EL3.M19)
- Calculate the volume of cubes and cuboids. (L1.M23)
- Interpret plans, elevations and nets of simple 3D shapes. (L1.M25)

In this lesson we will look at UNSDG 9 – Industry, Innovation and Infrastructure

United Nations Sustainable Development Goals


Recap

Measurements Recap: Pizza Recipe

https://www.youtube.com/watch?v=p0Q5paOBubk

- You are about to watch a video recipe for pizza.
- Pay close attention to the measurements you hear and see.
- Complete the worksheet, writing down the correct quantities with the correct units (e.g. 500g of flour).
- This recipe also includes a price comparison of takeaway pizza vs home-made pizza. Write down the amounts of money in the correct format (e.g. the sauce for this pizza cost £0.60 or 60p).
- Take a moment to read through the questions on the worksheet before the video starts…so you know what to look out for.

Pizza Recipe Worksheet

Don’t forget to include the units!

- What is the weight of the yeast in the sachet?.....
- What volume of tepid water is the yeast added to?.....
- What weight of strong flour is added to the mixer?.....
- How much does the dough cost (for 4 pizza bases)?.....
- How long does the dough need to rise for?.....
- How long does the dough need to prove for, once in the tin?..
- How much does the sauce cost (for the 4 bases)?.....
- How long do the pizzas need to go in the oven for?.....
- What temperature should the oven be set to?.....
- How much does the takeaway pizza cost?.....
- How much does one of Jamie’s pizza cost?.....

Answer

Pizza Recipe Worksheet

Don’t forget to include the units!

- What is the weight of the yeast in the sachet?.....
- What volume of tepid water is the yeast added to?.....
- What weight of strong flour is added to the mixer?.....
- How much does the dough cost (for 4 pizza bases)?.....
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- How much does the sauce cost (for the 4 bases)?.....
- How long do the pizzas need to go in the oven for?.....
- What temperature should the oven be set to?.....
- How much does the takeaway pizza cost?.....
- How much does one of Jamie’s pizza cost?.....

Answer
7g
600ml
1kg
78p (or £0.78)
1 hour
15-20 minutes
57p (or £0.57)
20 minutes
190C
£12.00
£1.73

Section 2: Measure, Shape & Space
Part 1: 2D Shapes

2D Shapes

Shape

NOUN a geometric figure such as a square, triangle or rectangle

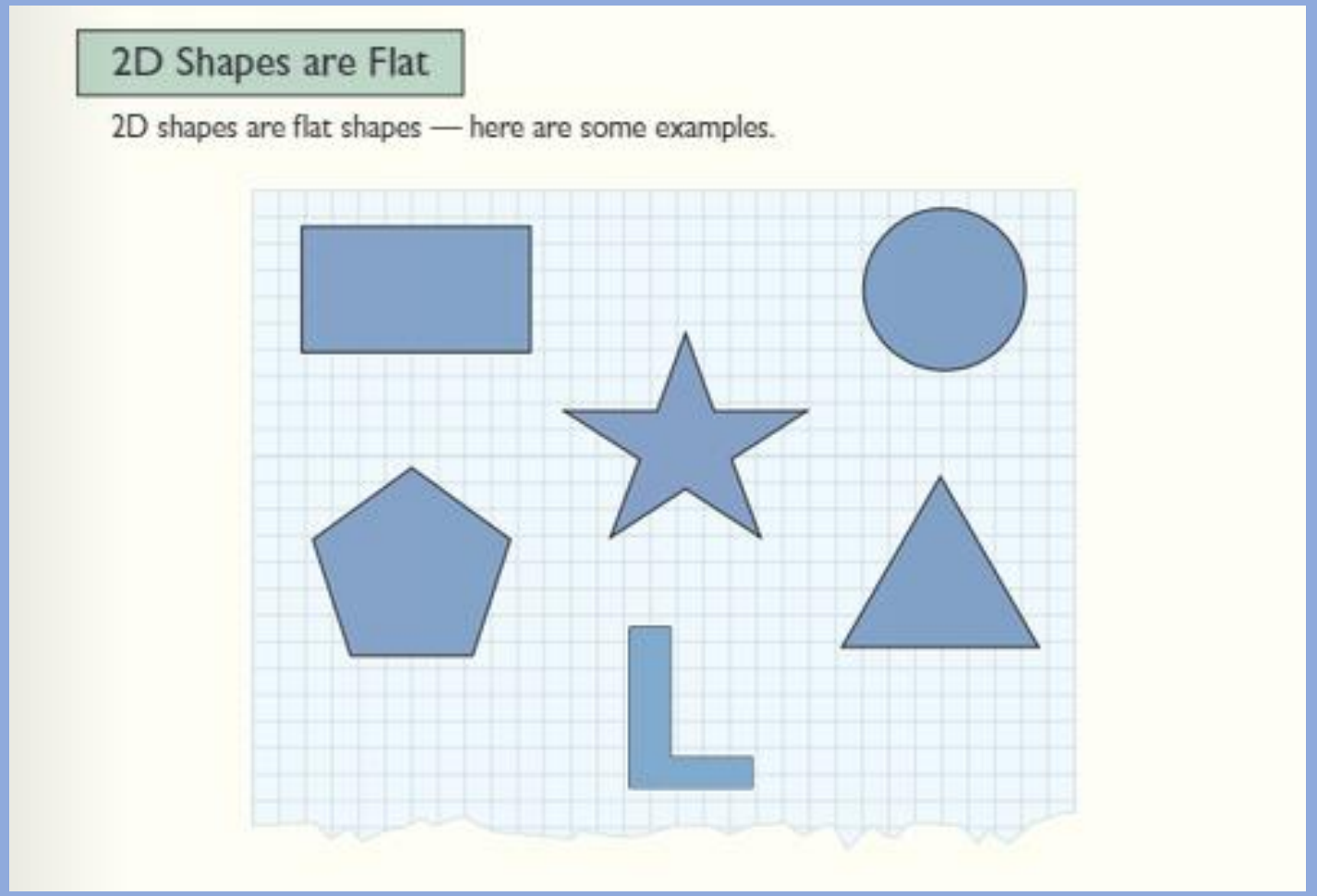
From the Old English ‘gesceap’ – external form.

Geometry

NOUN [mass noun] the branch of mathematics concerned with the properties and relations of points, lines, surfaces, solids, and higher dimensional analogues.

From the Latin ‘geometria’.

2D Shapes - Two Dimensional (CGP EL3 p.65)
The shapes have 2 dimensions – length and width (but no depth or thickness)

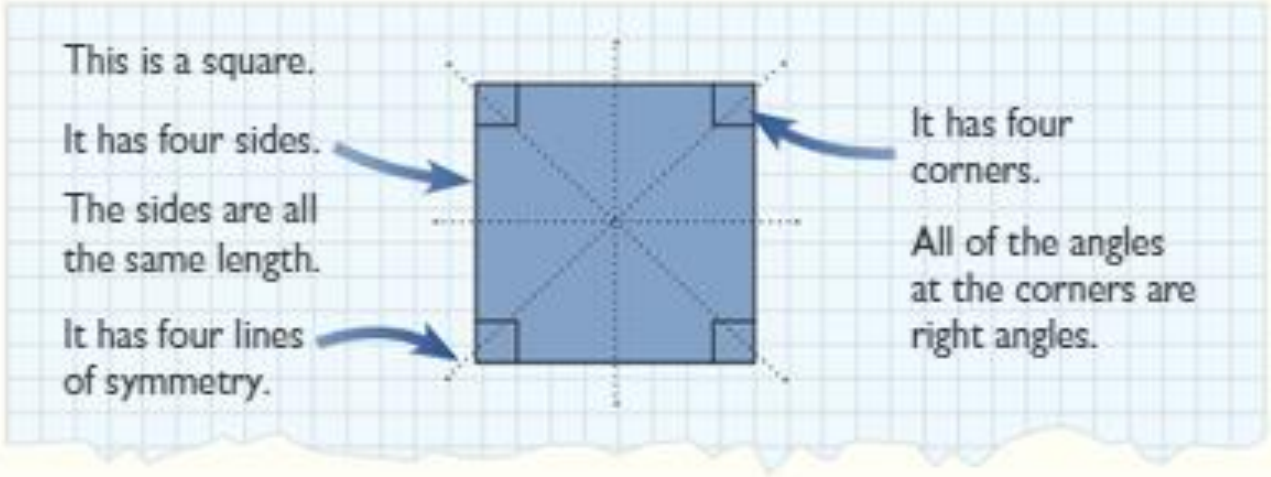


2D Shapes - Squares (CGP EL3 p.65)
A square is a quadrilateral – a 4-sided shape

A Square is a 2D Shape

1) Squares have four straight sides.
2) All the sides are the same length.
3) Squares also have four corners.
4) All the angles at the corners are right angles.

A right angle is a square corner (see page 62).



Note: The internal angles of a quadrilateral (square or rectangle) always add up to **360 degrees**.

Game: 2D Shape Identification

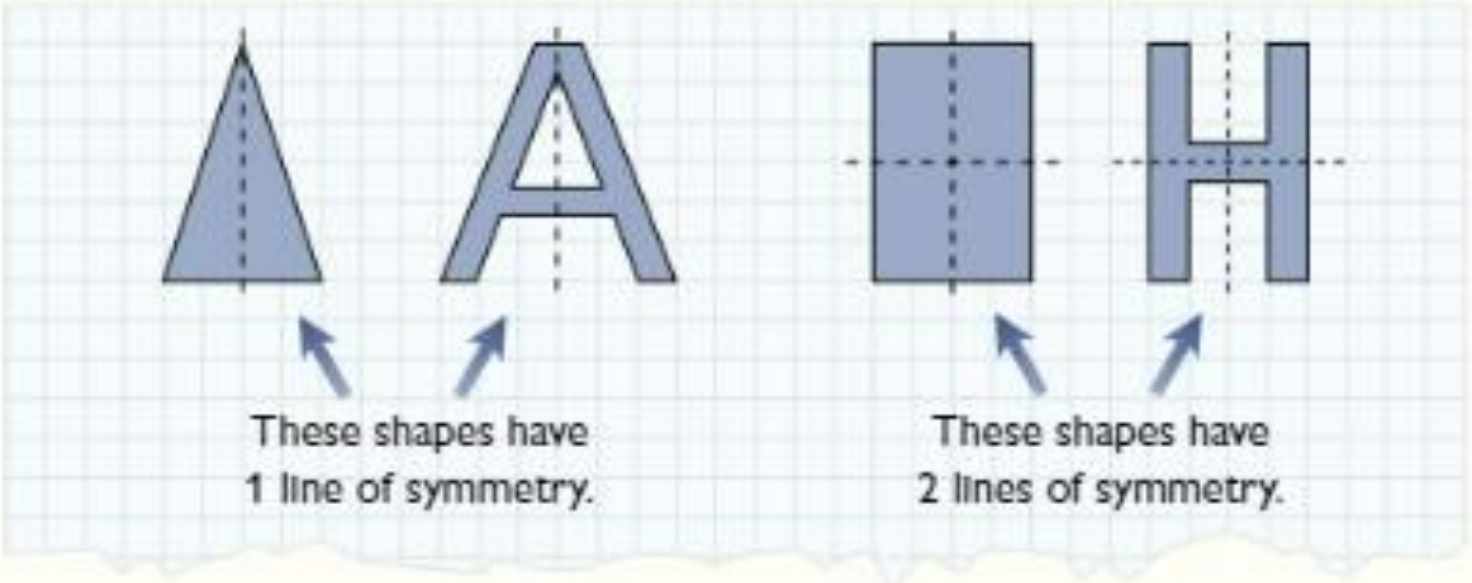
Try to get them right in the fastest time!

00:00

2D Shapes - Symmetry (CGP L1 p.69)

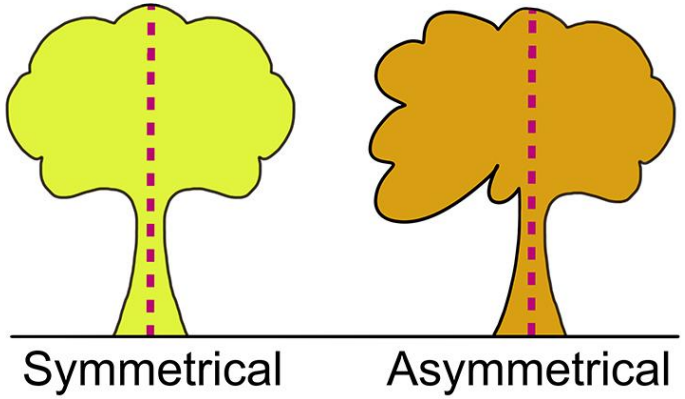
Some Shapes Have Lines of Symmetry

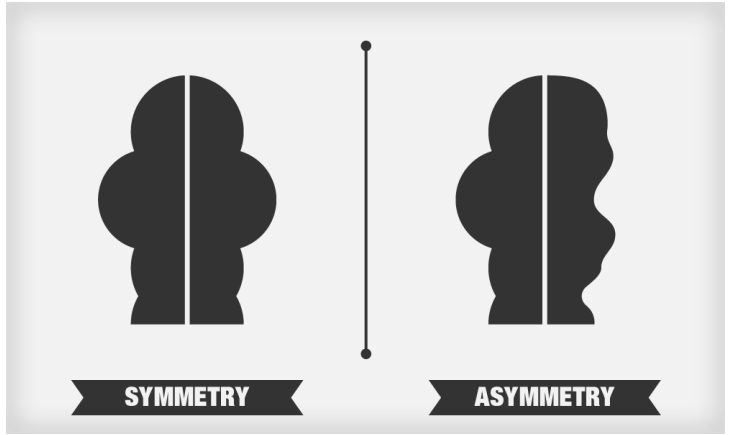
1) Shapes with a line of symmetry have two halves that are mirror images of each other.
2) You could fold a shape along this line and the sides would fold exactly together.
3) Some shapes have more than one line of symmetry.

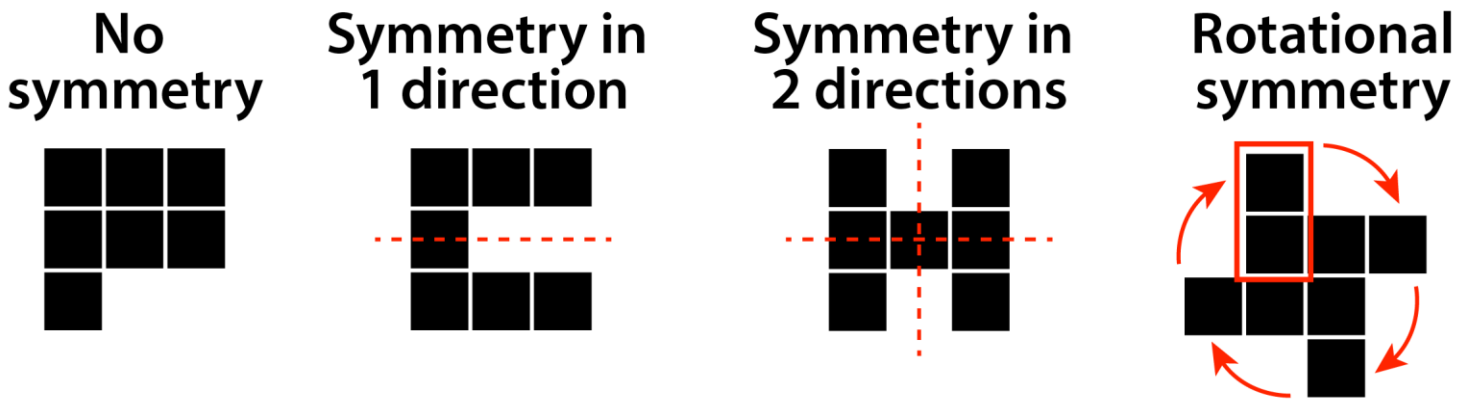


Note: Some shapes have no symmetry, and we call these **'asymmetric'.**

Symmetrical and Asymmetrical Shapes







Note: Rotational symmetry is covered in L2 and higher maths.

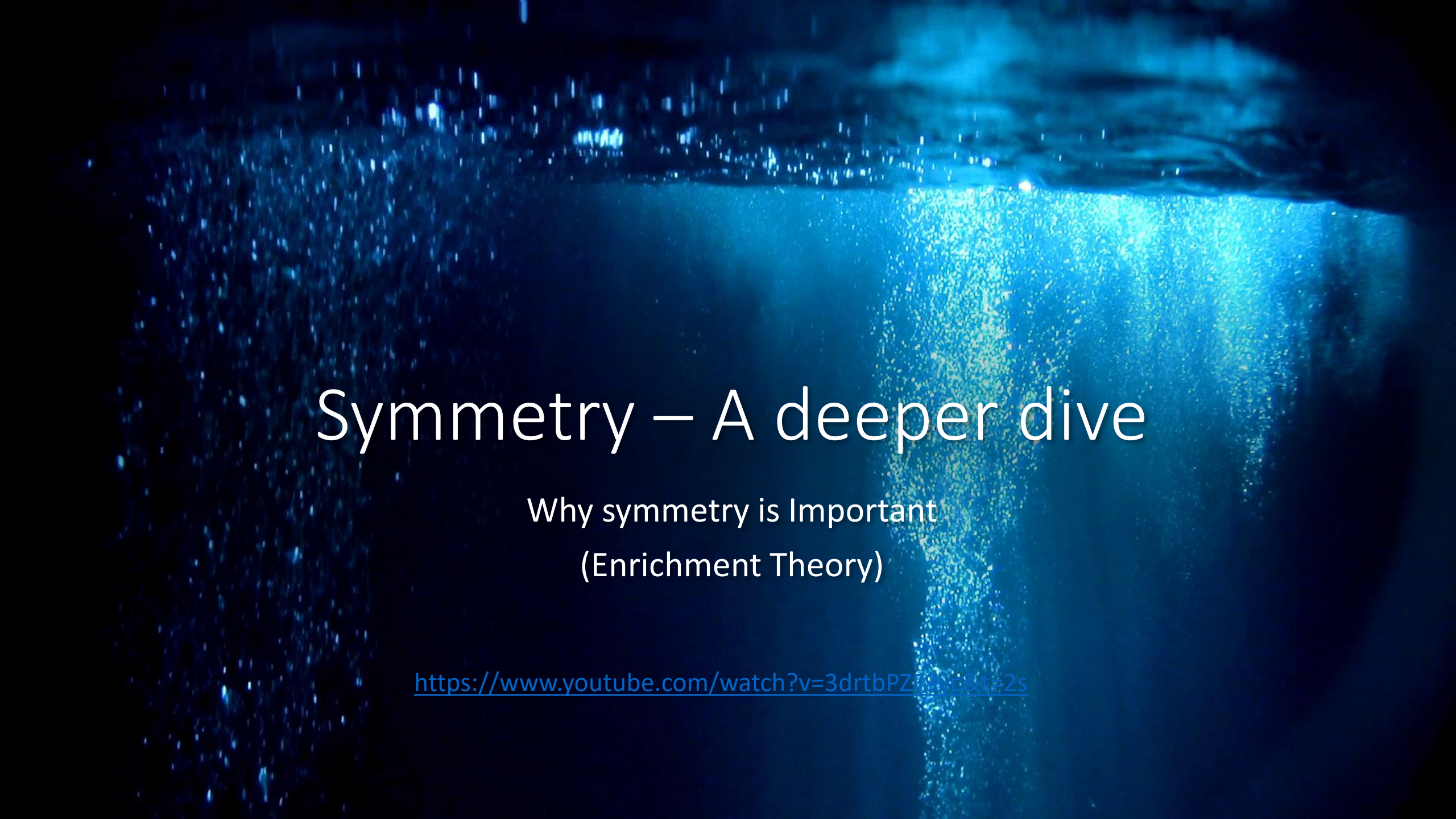
https://www.youtube.com/watch?v=YFzktJNmnPU&t=74s

Game: Symmetry Quiz


04:59

Game: Symmetry Quiz

What was your score?



Symmetry – A deeper dive

Why symmetry is Important

(Enrichment Theory)

https://www.youtube.com/watch?v=3drtbPZ[illegible]t=2s

Properties of 2D Shapes

2D Shapes - Triangles (CGP L1 p.69)

Triangles are 3-sided shapes.

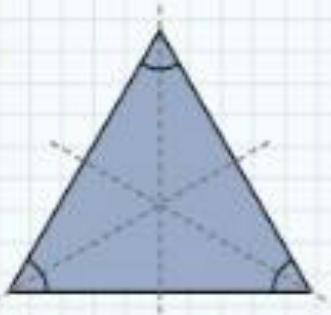
They have different names depending on how many of their sides are the same length.

Equilateral triangle

All sides are the same length

All angles are the same size

3 lines of symmetry

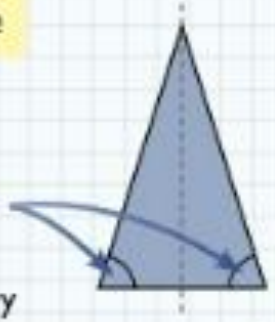


Isosceles triangle

Two sides are the same length

Two angles are the same size

1 line of symmetry

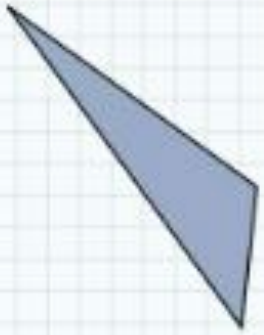


Scalene triangle

All sides are different lengths

All angles are different sizes

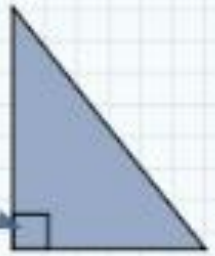
0 lines of symmetry



Right-angled triangle

Can be either isosceles or scalene

Has one right angle (a square corner)

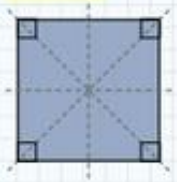


See page 76 for more on angles.

Note: The internal angles of a triangle always add up to **180 degrees**.

2D Shapes - Quadrilaterals (CGP L1 p.70)

Square



All sides are the same length

All angles are right angles

4 lines of symmetry

Rectangle

2 pairs of equal sides

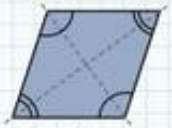
All angles are right angles

2 lines of symmetry

There are some other common types of quadrilaterals below.

You can identify some of them by the number of parallel sides. Parallel sides are always exactly the same distance apart — they never meet each other.

Rhombus



This is like a square that's been pushed over.

All sides are the same length. Opposite sides are parallel

Opposite angles are equal

2 lines of symmetry

Parallelogram

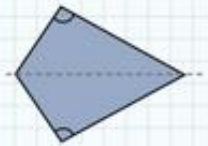
This is like a rectangle that's been pushed over.

2 pairs of equal, parallel sides

Opposite angles are equal

0 lines of symmetry

Kite

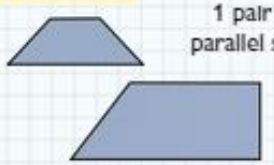


2 pairs of equal sides

1 pair of equal angles

1 line of symmetry

Trapezium

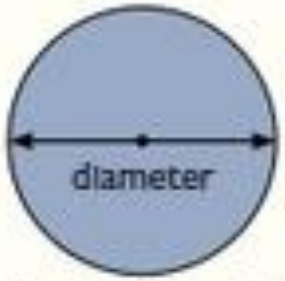


1 pair of parallel sides

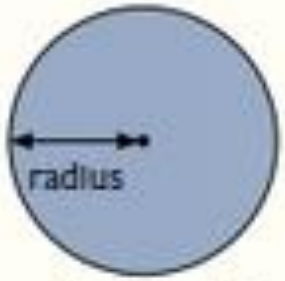
Note: The internal angles of a quadrilateral always add up to **360 degrees**.

2D Shapes - Circles (CGP L1 p.70)

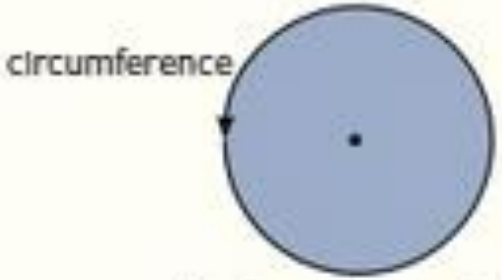
Lengths in circles have special names:



The diameter is the distance from one side to the other, passing through the centre.



The radius is the distance from the side to the centre. It's half of the diameter.



The circumference is the distance around the circle (so it's the perimeter).

Use a pair of compasses if you need to draw a circle.

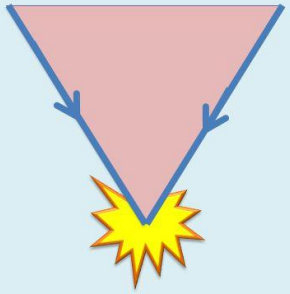
2D Shapes have Sides and Vertices

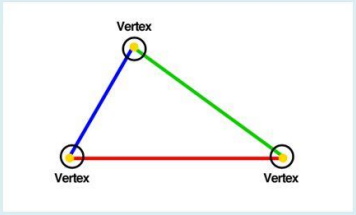
2D Shapes

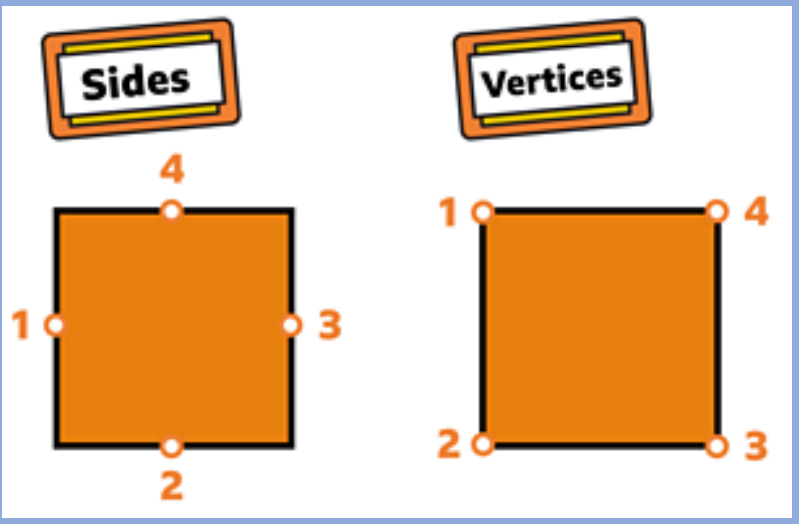
Name	Sides	Vertices
triangle	3	3
circle	1	0
square	4	4
rectangle	4	4
pentagon	5	5
hexagon	6	6
oval	1	0
rhombus	4	4
trapezium	4	4
parallelogram	4	4

Vertices (corners)

The point where 2 sides meet.







Game: Shape Riddles


02 :00

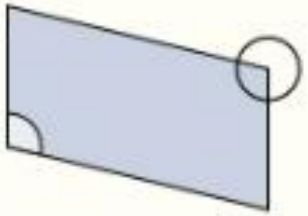
Game: Shape Riddles

What was your score?

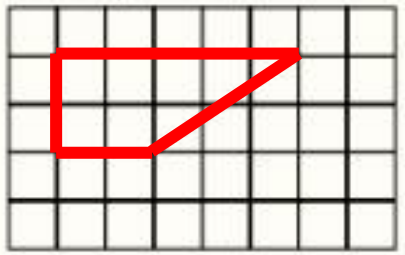
Shapes Practice Questions CGP L1 p.71

b)

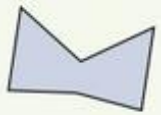
c)



Q5 For example:



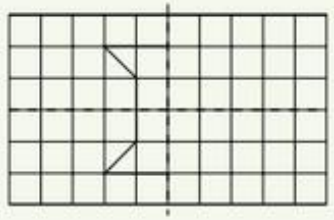
1) Draw the line (or lines) of symmetry on the shapes below:

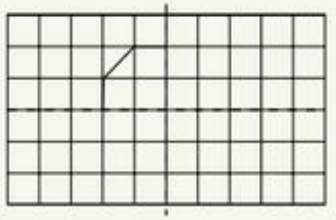
a) 

b) 

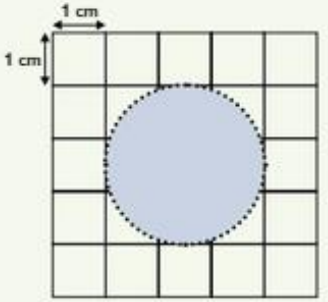
c) 

2) Complete the shapes below so they are symmetrical in the lines of symmetry shown.

a) 

b) 

3) Judy is designing a logo in the shape of a circle, shown on the right. The perimeter of the logo is 9.42 cm.



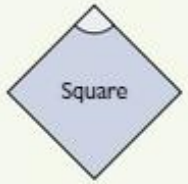
a) What is the circumference of Judy's logo?

.....

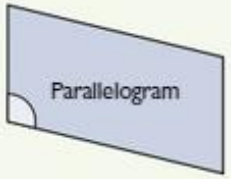
b) What is the diameter of Judy's logo?

.....

4) One of the angles in each of the shapes below has been highlighted. Circle all the angles that are the same size as the highlighted one.

a) 

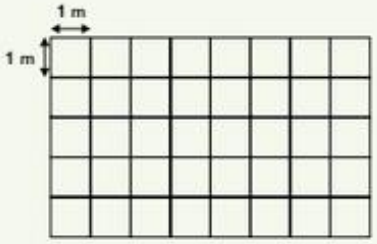
b) 

c) 

5) Padma has bought a new rug in the shape of a trapezium.

- The rug has no lines of symmetry.
- Exactly two of the sides are each 2 m long.
- It has two right angles.

Draw a diagram on this grid of what the shape of the rug might look like.



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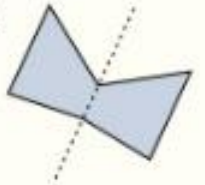
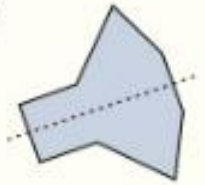
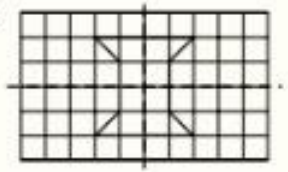
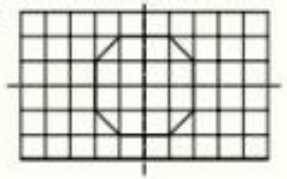
Q1 a) 

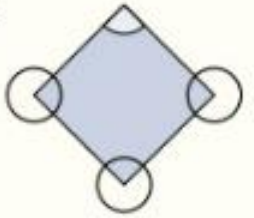
b) 

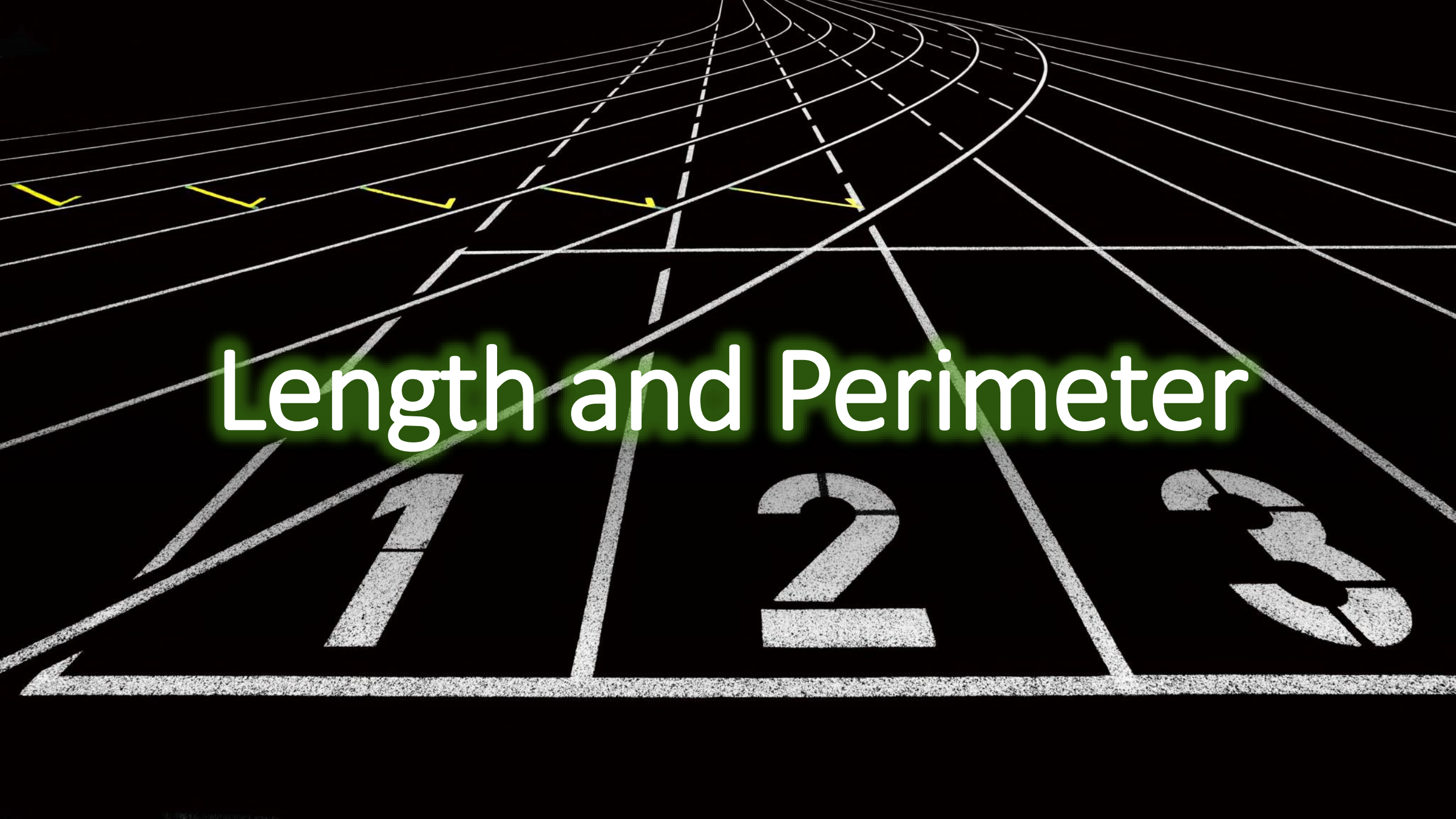
c) 

Q2 a) 

b) 

Q3 a) 9.42 cm b) 3 cm

Q4 a) 


Length and Perimeter

Perimeter

NOUN the continuous line forming the boundary of a closed geometrical figure: e.g. *the perimeter of a rectangle*

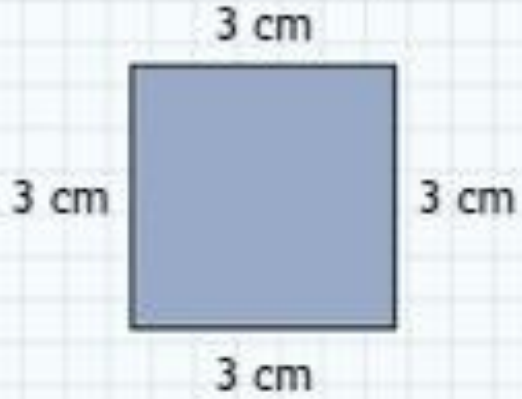
From the Latin ‘perimetros’ – peri (around) and metros (measure)

Length and Perimeter (CGP L1 p.60)

Finding the Perimeter of a Shape

The perimeter is the distance around the outside of a shape.

To find a perimeter, you add up the lengths of all the sides.



To work out the perimeter of this square just add up the lengths of all the sides.

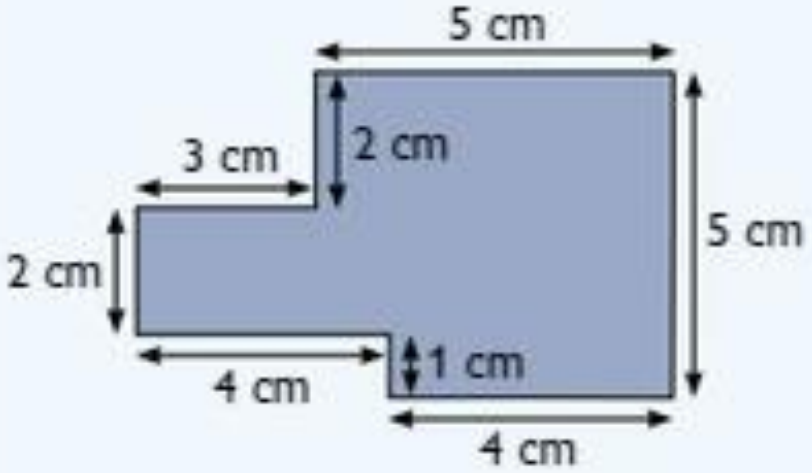
Perimeter = 3 cm + 3 cm + 3 cm + 3 cm
= 12 cm

Don't forget the units.

Length and Perimeter (CGP L1 p.60)

EXAMPLE:

Find the perimeter of the shape below.



Just add up the lengths of all the sides — be careful not to miss any.

Perimeter = 5 cm + 5 cm + 4 cm + 1 cm + 4 cm + 2 cm + 3 cm + 2 cm

= **26 cm**

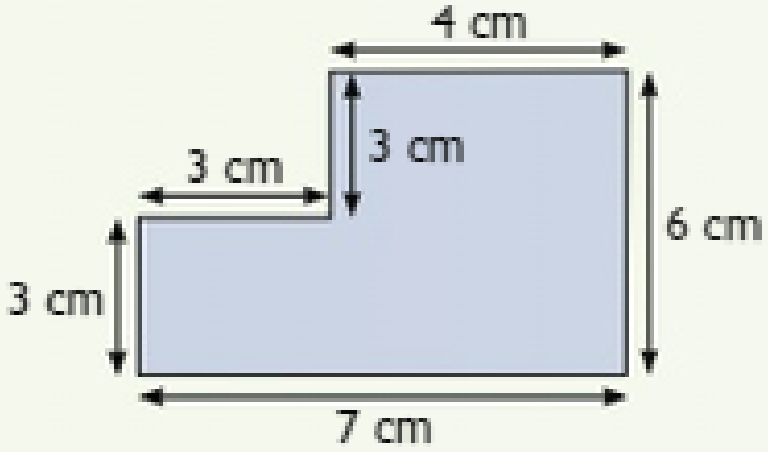
Perimeter Practice Questions (CGP L1 p.60)

1) Find the perimeter of each of the following shapes.

a)

.....

b)



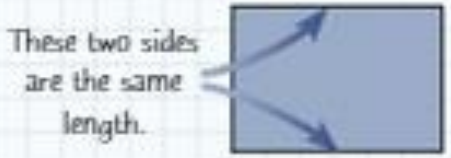
.....

Perimeter with Unknown Side (CGP L1 p.61)

If you're only given the lengths of some of the sides, you'll have to work out the rest before you can calculate the perimeter. Sometimes this is fairly simple.

This rectangle has 4 sides, but you're only given the lengths of 2 of them.

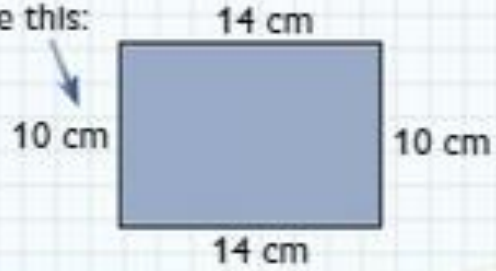
For rectangles, sides that are opposite each other are the same length.



So you can label the rectangle like this:

Then just add all the sides together to find the perimeter:

$14 + 10 + 14 + 10 = 48$ cm



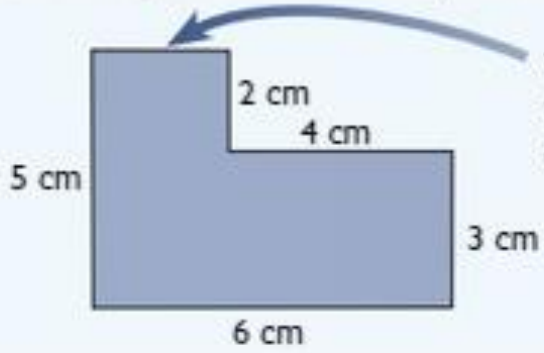
If your test is on-screen, it could help to do a quick sketch of the shape on paper.

Perimeter with Unknown Side (CGP L1 p.61)

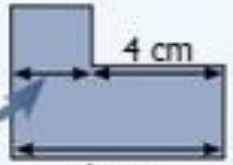
It's a bit harder to find the lengths of unknown sides if you're not dealing with rectangles.

EXAMPLE:

What is the perimeter of the shape below?



You need to work out the length of the top side of the shape before you can find the perimeter of the shape.



The top side is the same length as this distance.
This distance, plus 4 cm, must equal 6 cm.

So to work out the length you don't know, take away 4 cm from 6 cm:

$$6\text{ cm} - 4\text{ cm} = 2\text{ cm}$$

The unknown top side must be 2 cm long.

Now you can just work out the perimeter as usual...

Perimeter = 6 cm + 5 cm + 2 cm + 2 cm + 4 cm + 3 cm = **22 cm**

Perimeter Practice Questions (CGP L1 p.62)

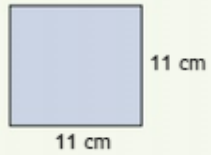
Practice Questions

1) Calculate the perimeter of the following shapes.

a)

.....

b)



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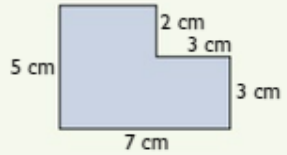
2) Calculate the perimeter of the following shapes.

a)



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.....

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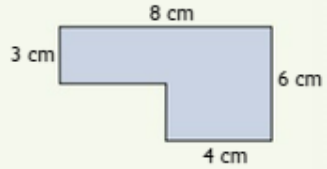
b)



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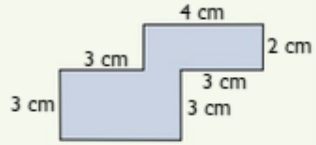
c)



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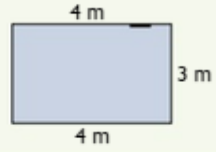
3) Quentin is fitting a skirting board in his living room. A sketch of his living room is shown below. The door to the room is 0.75 m wide and doesn't need skirting board attached to it. Calculate the length of skirting board that Quentin needs to buy.



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04:59

Perimeter Practice Questions (CGP L1 p.62)

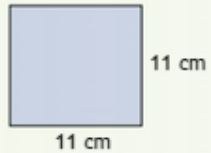
Practice Questions

1) Calculate the perimeter of the following shapes.

a)

24 m

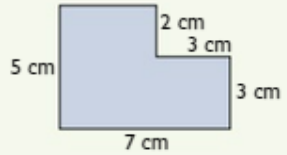
b)



44 cm

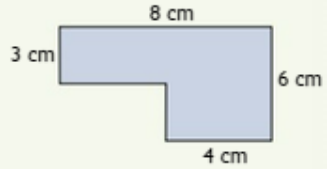
2) Calculate the perimeter of the following shapes.

a)



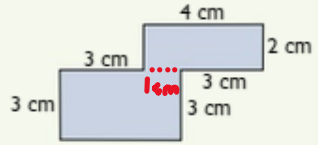
2+3+3+7+5+4
(7-3)
= 24 cm

b)



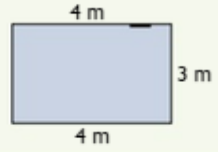
3+8+6+4+3+4
(6-3) (8-4)
= 28 cm

c)



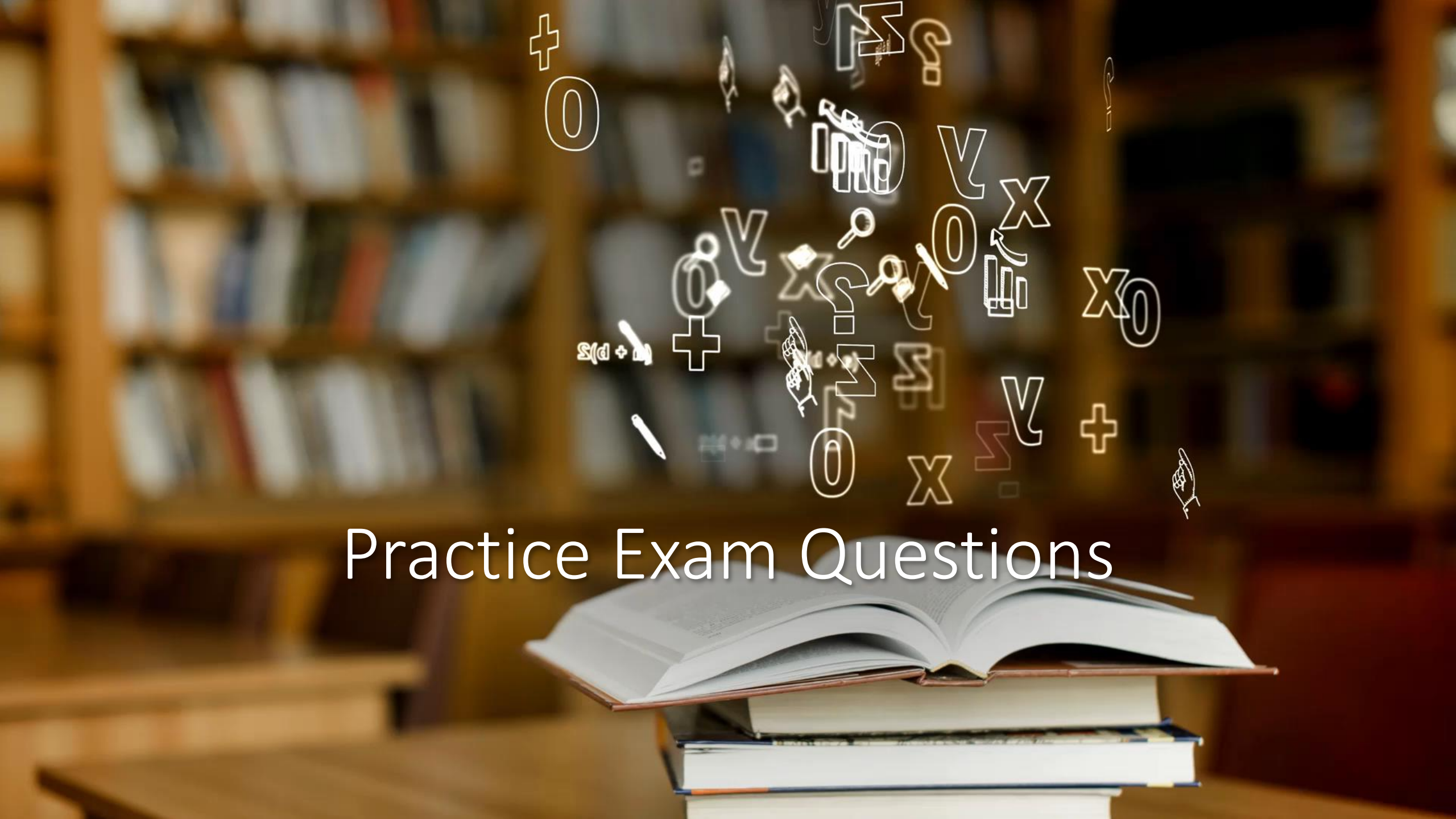
4+2+3+3+4+3+3+2
(3+1)
= 24 cm

3) Quentin is fitting a skirting board in his living room. A sketch of his living room is shown below. The door to the room is 0.75 m wide and doesn't need skirting board attached to it. Calculate the length of skirting board that Quentin needs to buy.



3+4+4+3 = 14 m

14 - 0·75 = 13·25 m



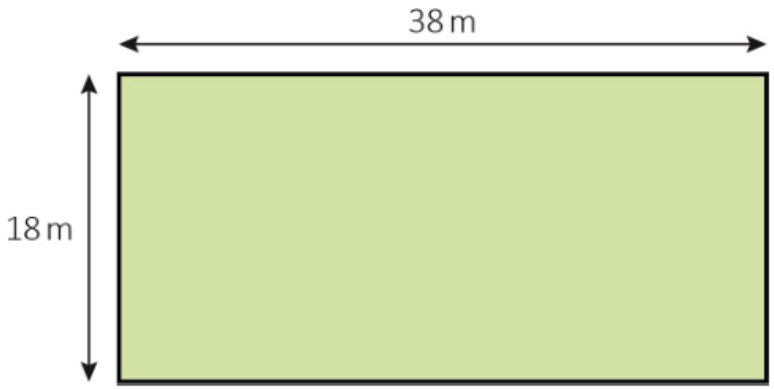
Practice Exam Questions

Always Read the Question

And always re-read the questions at the end.

Practice Exam Question – L1 Calculator

4 (c) Before the first match starts, the perimeter of the football pitch needs to be marked out.



Not drawn accurately

Calculate the perimeter of the pitch.

[1 mark]

Your answer: **m**

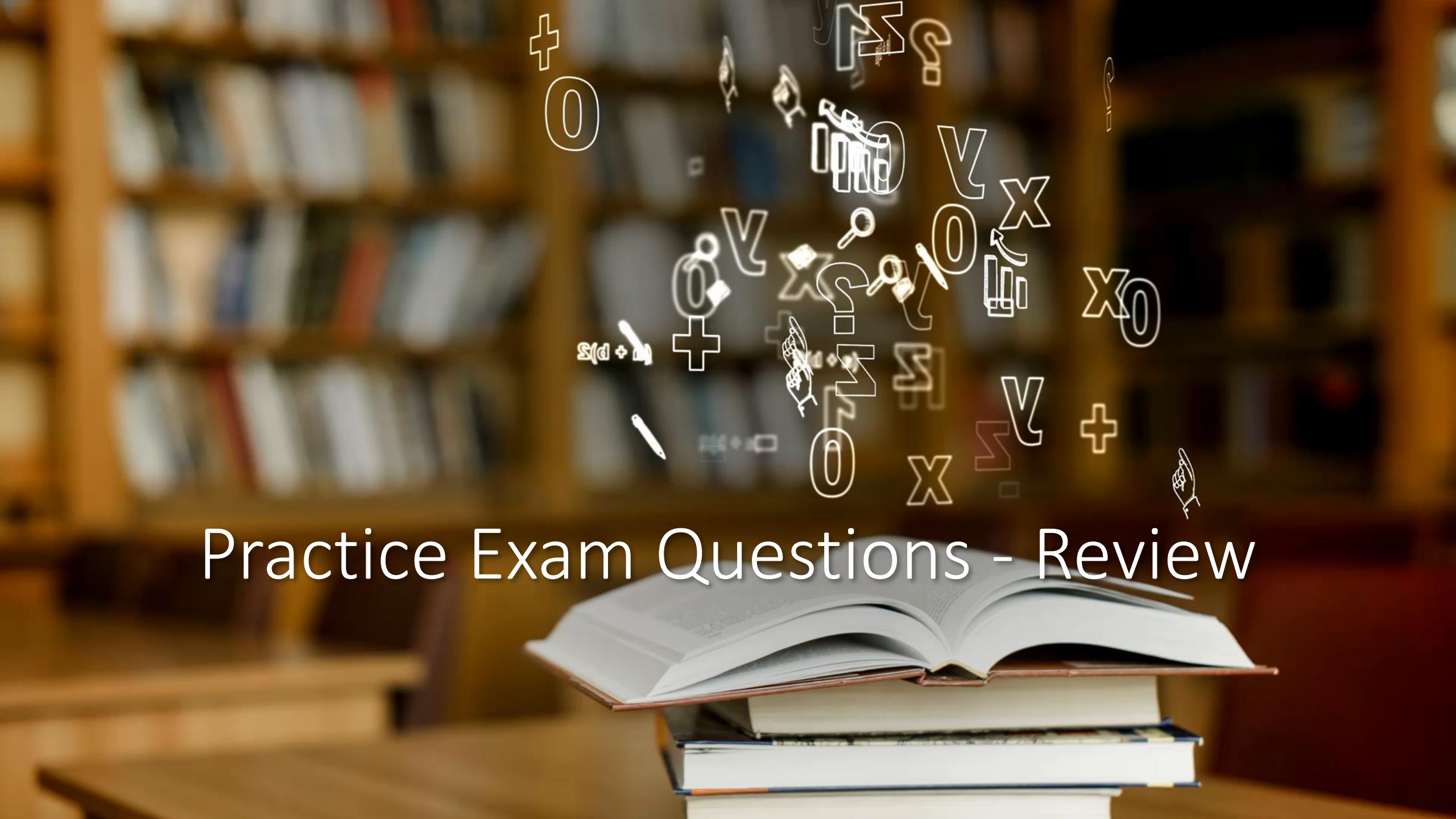
Practice Exam Question – L1 Calculator

4 (d) Shaz needs to mark out the centre spot of the rectangular football pitch.

She uses the lines of symmetry and marks where they meet.

Draw the lines of symmetry on the diagram below.

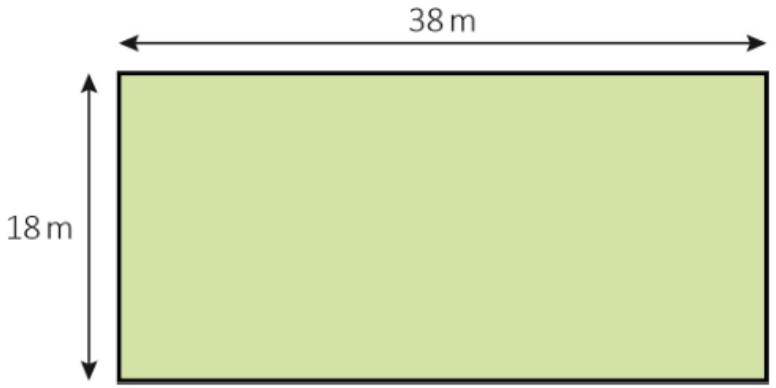
[1 mark]



Practice Exam Questions - Review

Practice Exam Question – L1 Calculator

4 (c) Before the first match starts, the perimeter of the football pitch needs to be marked out.



Not drawn accurately

Calculate the perimeter of the pitch.

[1 mark]

38 + 38 + 18 + 18 = 112

Your answer: 112 **m**

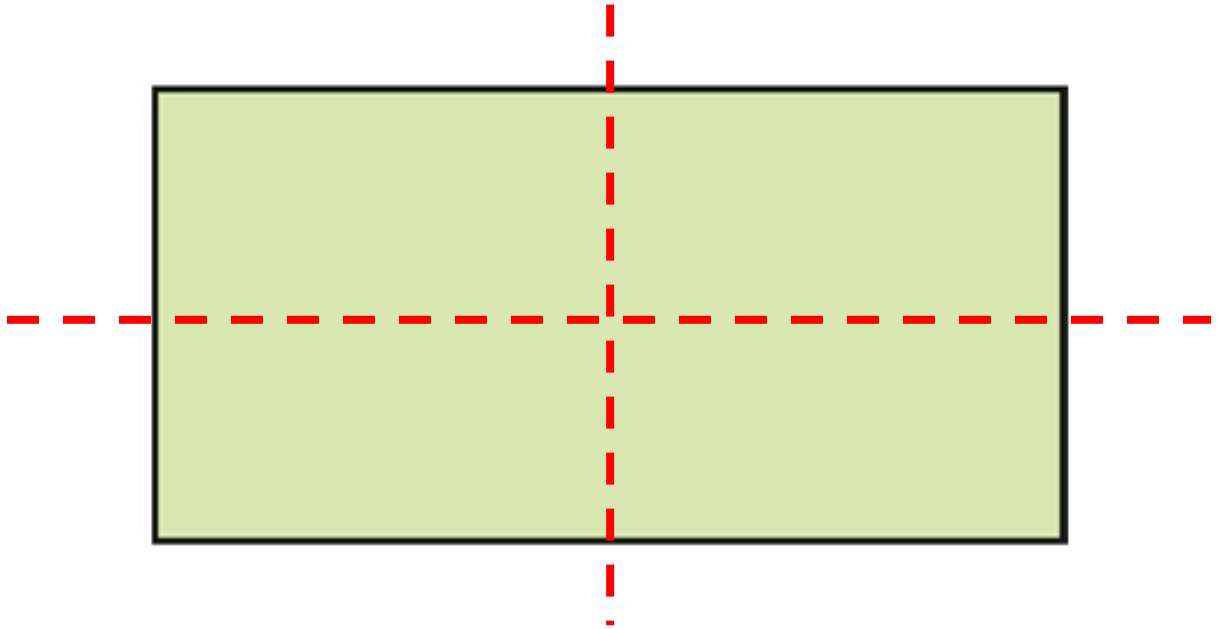
Practice Exam Question – L1 Calculator

4 (d) Shaz needs to mark out the centre spot of the rectangular football pitch.

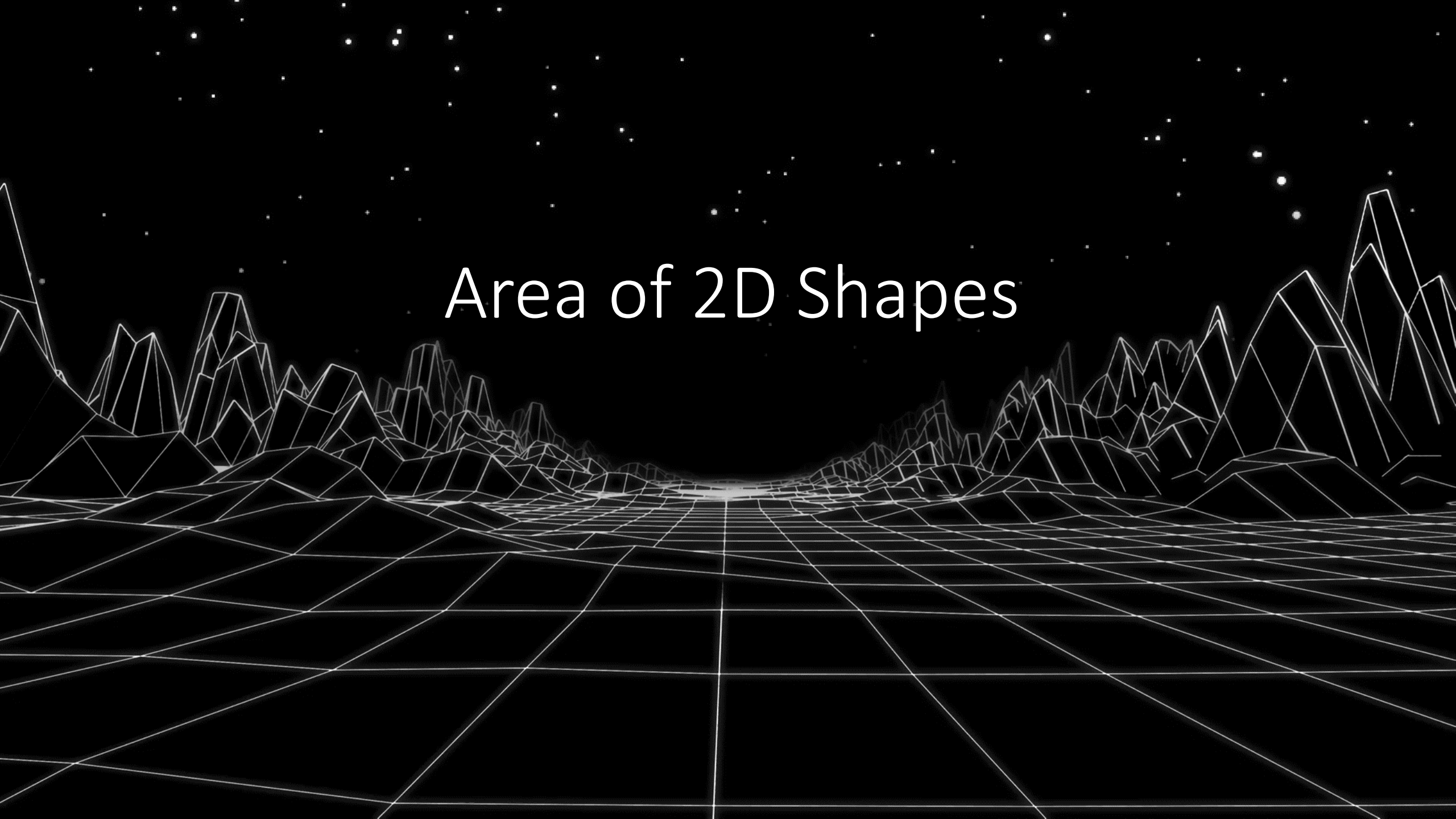
She uses the lines of symmetry and marks where they meet.

Draw the lines of symmetry on the diagram below.

[1 mark]



Note: To ensure an accurate diagram, use a ruler to measure halfway along each side.


Area of 2D Shapes

Area

NOUN the extent or measurement of a surface or piece of land.

e.g. the area of a triangle

e.g. the room is twelve square feet in area

From the Latin ‘area’ – vacant piece of level ground

Area: Counting Squares (CGP L1 p.63)

You Can Find the Area of Shapes by Counting...

1) Area is how much surface a shape covers.

2) If a shape's on a square grid, count how many squares it covers to find its area.

3) The squares may have sides one centimetre long.
If so, each square is 1 centimetre squared. This is written as 1 cm^2.

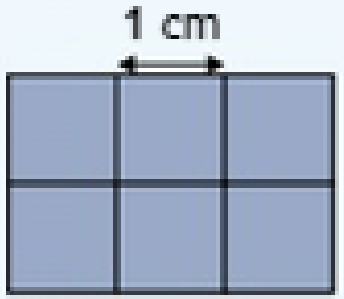
EXAMPLE:

Find the area of the rectangle on the right.

There are 6 squares and each square has sides 1 cm long.

So the area of the shape is **6 cm^2**.

cm^2 are the units.



4) If you're dealing with area, the units will be something squared.
For example, cm^2, m^2, mm^2.

Area: Multiplying (CGP L1 p.63)

...or by Multiplying

1) You can work out the area of rectangles by multiplying.
2) You need to know the lengths of the sides, then just multiply them together.

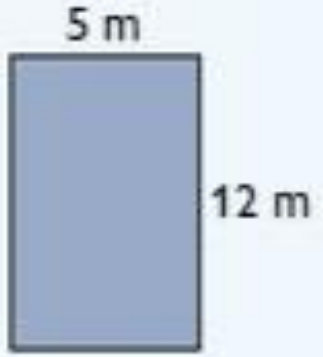
EXAMPLE 1:

Calculate the area of this rectangle.

Area = 12 m × 5 m

Area = **60 m²**

The lengths are in metres (m) this time, so the units for the area are metres squared (m^2).



Area: Multiplying (CGP L1 p.63)

EXAMPLE 2:

Sophie is buying a new carpet for her dining room. The room is 6 m long and 5 m wide. What area of carpet does she need to buy?

Answer: 6 m × 5 m = **30 m²**

You could draw a sketch of the room if it helps you.

Area: Splitting Shapes to Simplify (CGP L1 p.64)

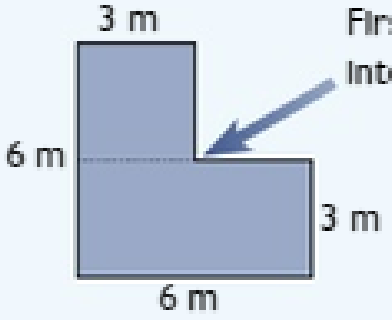
Sometimes You Need to Split Shapes Up to Find the Area

It's a bit trickier to find the area of a shape that isn't a rectangle...

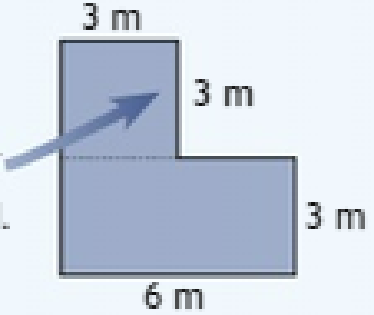
...but you can sometimes do it by splitting the shape up into rectangles.

EXAMPLE:

Work out the area of the shape below.



First split the shape into two rectangles...



...then work out the length of any other sides that you need.

You can then calculate the area of each rectangle and add them together to find the total area of the shape.

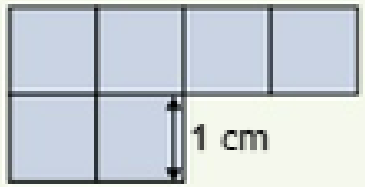
Area of top rectangle: $3 \times 3 = 9\ m^2$
Area of bottom rectangle: $3 \times 6 = 18\ m^2$
Total area: $9\ m^2 + 18\ m^2 = \mathbf{27\ m^2}$

If your test is on-screen, it could help to do a quick sketch of the shape on paper.

Area: Practice Questions (CGP L1 p.64)

1) Find the area of each of the shapes below. Don't forget to give the units.

a)

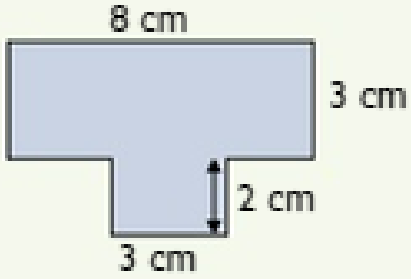


.....

b)

.....

c)



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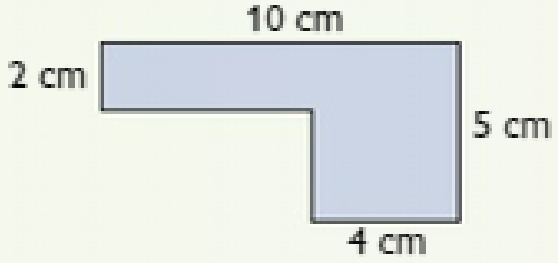
.....

.....

d)



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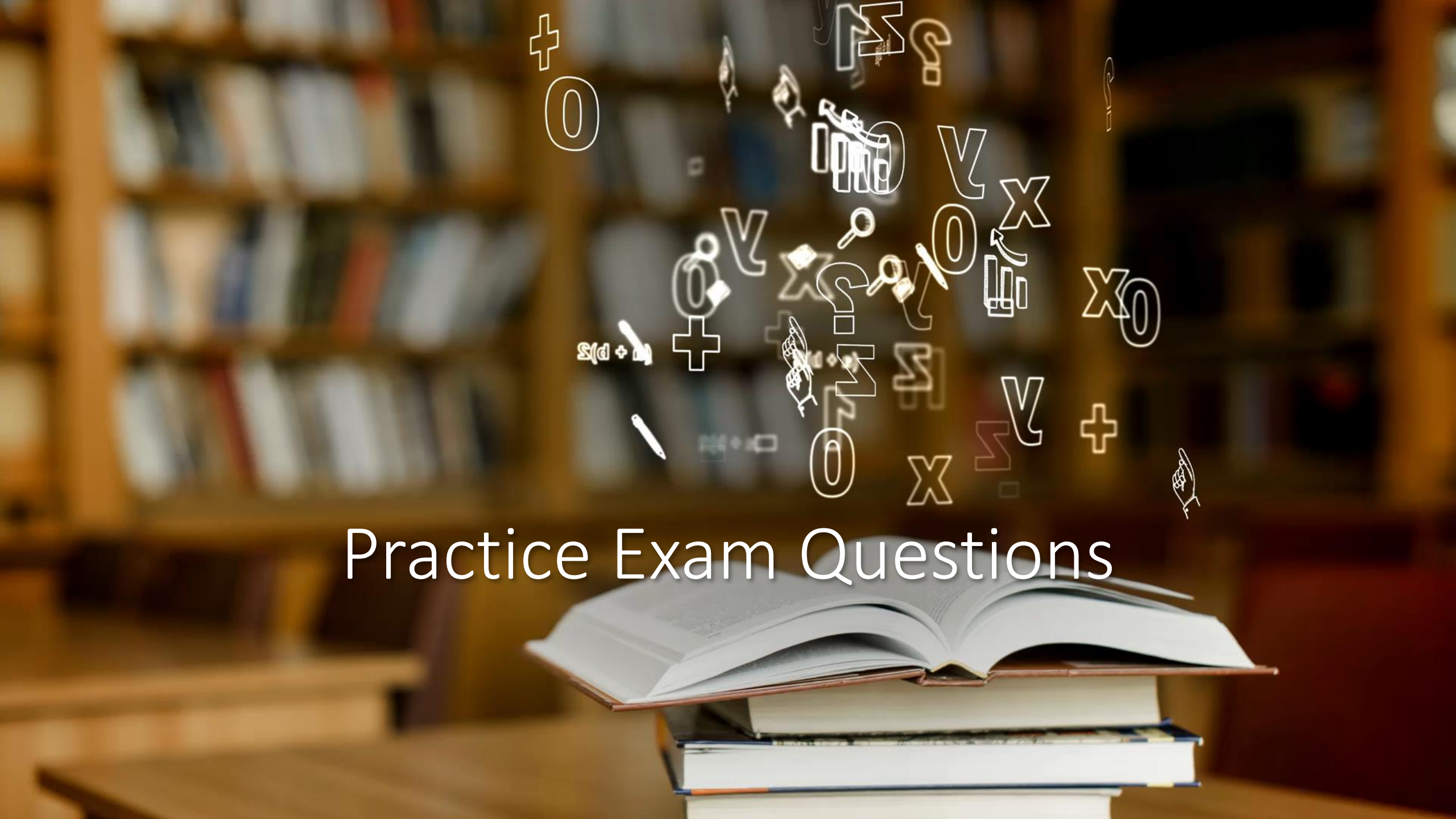


Practice Exam Questions

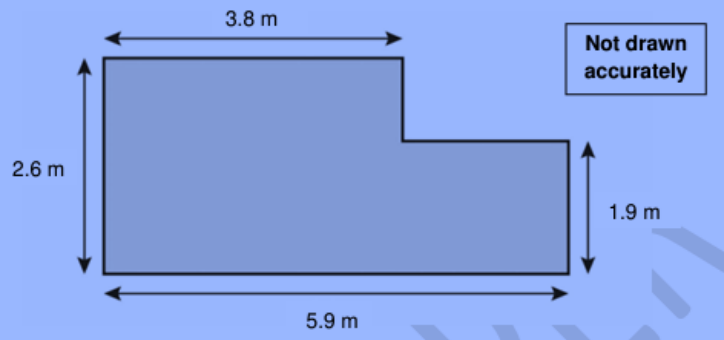
Always Read the Question

And always re-read the questions at the end.

Practice Exam Question – L1 Calculator

2 (d) Andy paints a wall in his kitchen.

He rounds all wall dimensions to the nearest whole number then uses the rounded numbers to estimate the area of the wall.

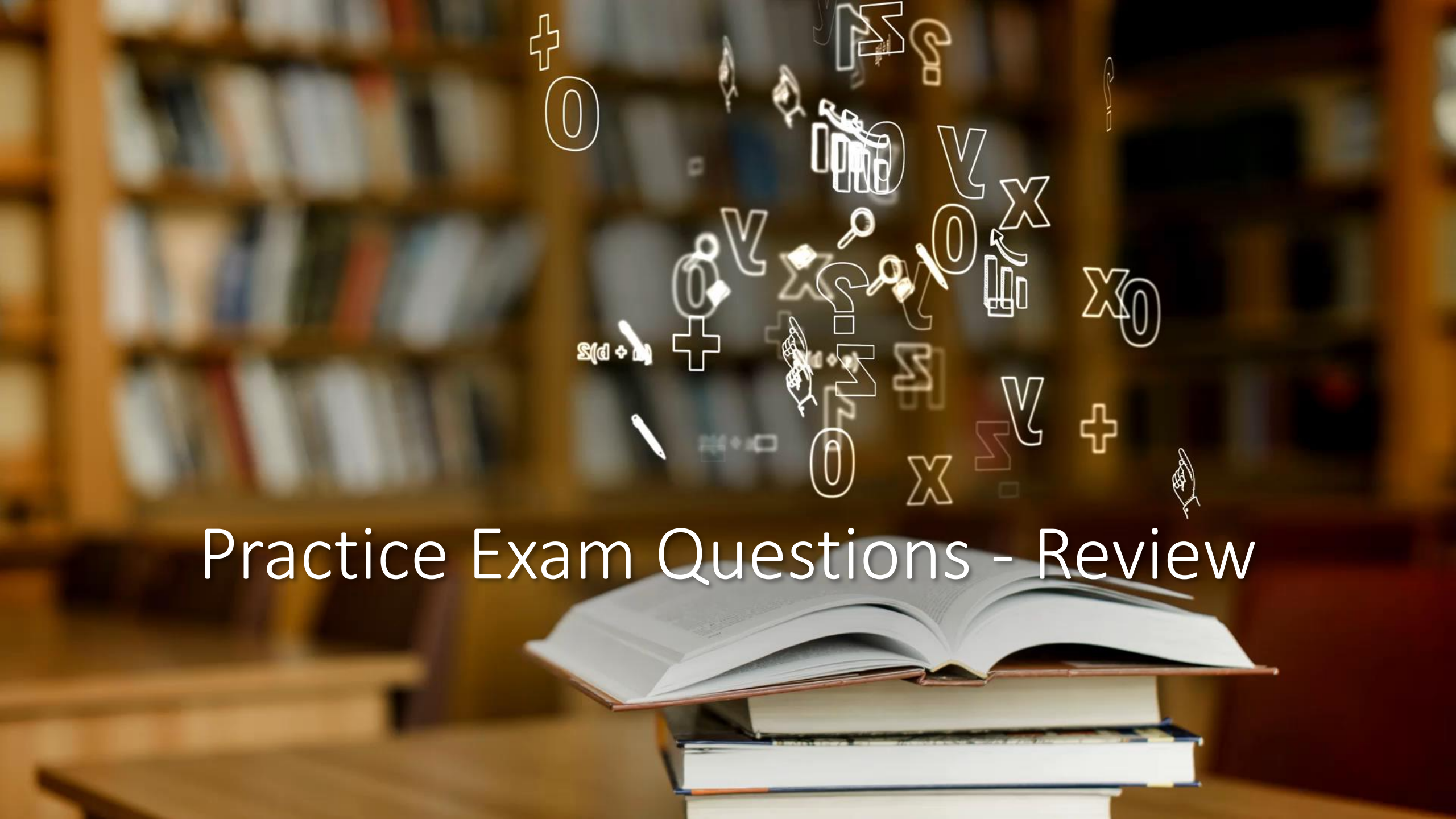


What value should Andy get for the total area of the wall using this method?

[4 marks]

Your answer: m^2


04:59

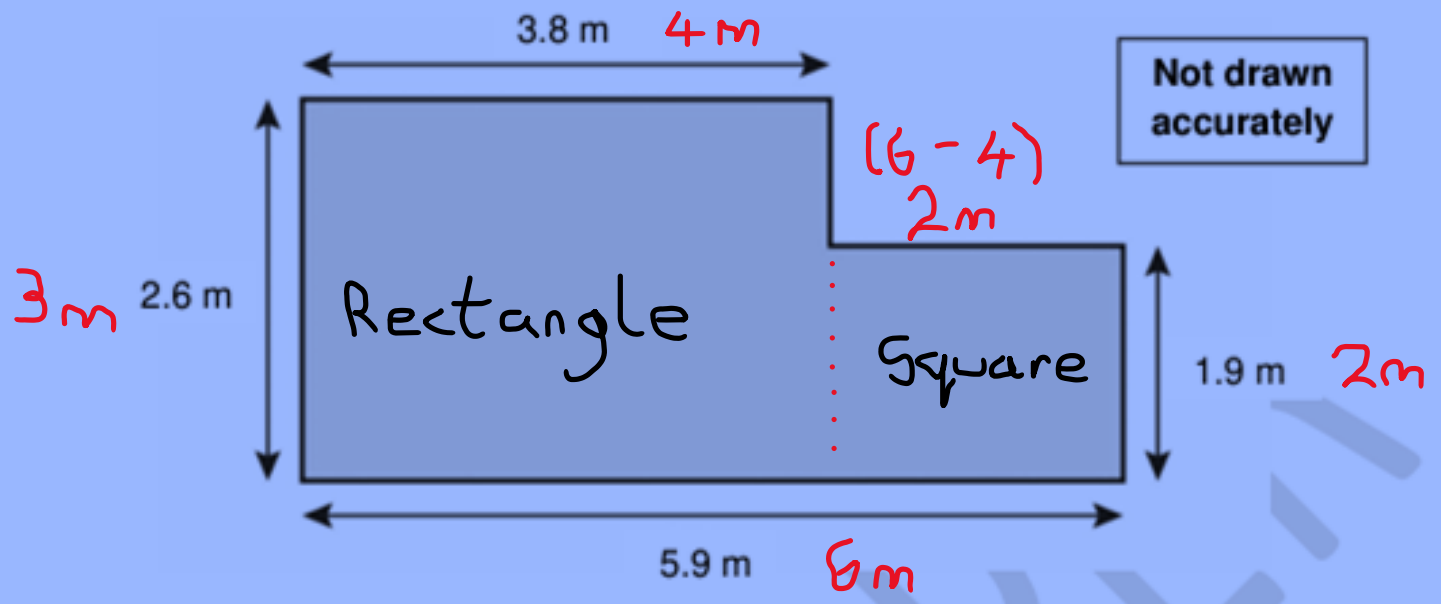


Practice Exam Questions - Review

Practice Exam Question – L1 Calculator

2 (d) Andy paints a wall in his kitchen.

He rounds all wall dimensions to the nearest whole number then uses the rounded numbers to estimate the area of the wall.



What value should Andy get for the total area of the wall using this method?

[4 marks]

1. Round up all of the measurements to the nearest whole number as the question says.
2. Split the shape of the wall into two quadrilaterals – you should get a rectangle and a square in this case.
3. Work out the length of the missing side.
4. Work out the area of the rectangle:
   3m x 4m = $12m^2$
5. Work out the area of the square:
   2m x 2m = $4m^2$

   Add these together:

   $12m^2 + 4m^2 = \mathbf{16m^2}$

End of Part 1

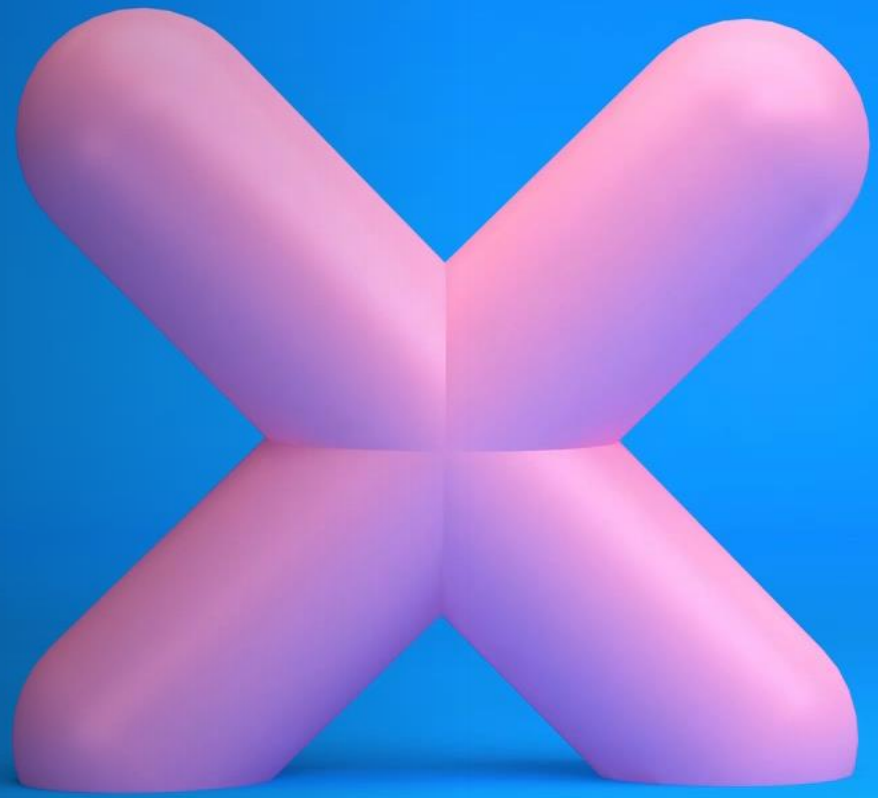

13

Part Two

Take 5 minutes for yourself…

Section 2: Measure, Shape & Space
Part 2: 3D Shapes

3D Shapes

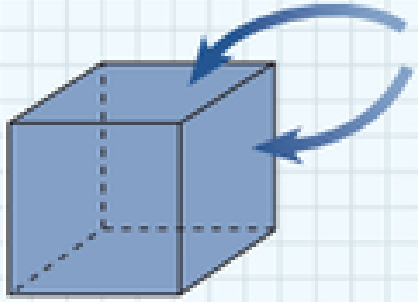


3D Shapes (CGP EL3 p.68)

3D Shapes are Solid

1) 3D shapes are solid shapes.
2) They can have flat sides (faces) and curved sides.
3) They have edges (the join between two sides) and corners (the sharp points where edges meet).
4) You need to know these 3D shapes...

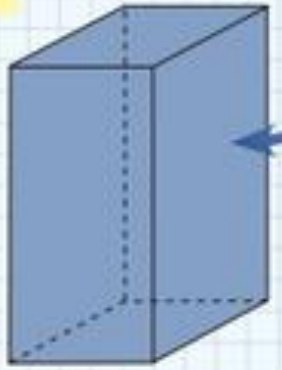
Cube



1) A cube has six identical faces. All the faces are squares.
2) A cube has eight corners.
3) All the angles at the corners are right angles.

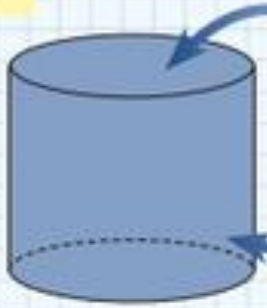
3D Shapes (CGP EL3 p.68)

Cuboid



1) A cuboid has six faces. All the faces are rectangles or squares.
2) A cuboid has eight corners.
3) All the angles at the corners are right angles.

Cylinder



1) The flat sides of a cylinder are circles.
2) A cylinder has no corners.
3) It has one curved side.

Game: 3D Shapes – Names and faces


04:59

Game: 3D Shapes – Names and faces

What was your score?


Volume

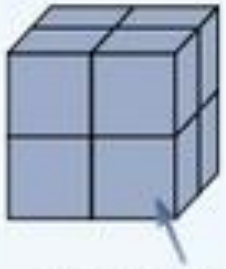
Volume – Counting Blocks (CGP L1 p.67)

You Can Calculate the Volume of a Shape by Counting...

1) Volume is how much 3D space something takes up.
2) Sometimes you can calculate the volume of a shape by counting cubes.
3) The units for volume will be something 'cubed'.
   For example, cm^3 (centimetres cubed) or m^3 (metres cubed).

EXAMPLE:

What is the volume of the shape below?  = 1 cm^3



This shape is made up of 8 cubes.

Each cube has a volume of 1 cm^3.

So the total volume of the shape is **8 cm^3**.

There are 8 cubes here — there's one at the back you can't see.

Volume – Multiplying (CGP L1 p.67)

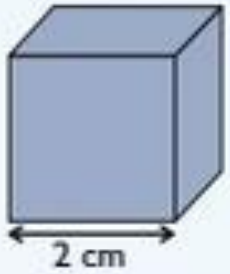
...or by Multiplying

1) You can work out the volume of shapes even if they aren't broken down into cubes.

2) For some shapes, you just need to know the length, the width and the height. Then you just multiply them together.

EXAMPLE 1:

Calculate the volume of this cube.



The flat sides of a cube are identical squares, so:

Length = 2 cm Width = 2 cm Height = 2 cm

Volume = length × width × height

= 2 cm × 2 cm × 2 cm

= **8 cm³**

It doesn't matter which sides you call the length, width and height. You'll get the same answer regardless.

3) The units are cm^3 in the example above, because you've multiplied three lots of cm together. If the sides were measured in m, the units for volume would be m^3.

Volume – Multiplying (CGP L1 p.68)

EXAMPLE 2:

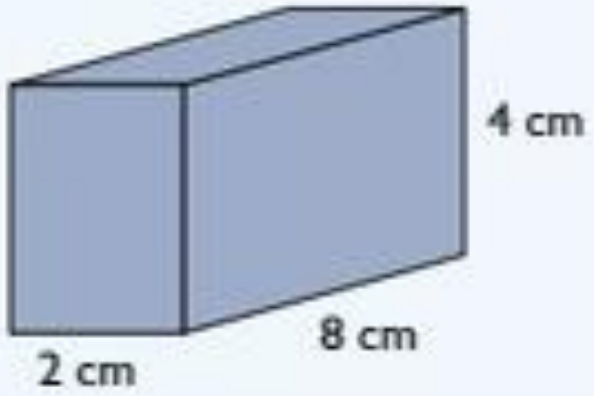
Calculate the volume of the cuboid on the right.

Length = 8 cm Width = 2 cm Height = 4 cm

Volume = length × width × height

= 8 cm × 2 cm × 4 cm

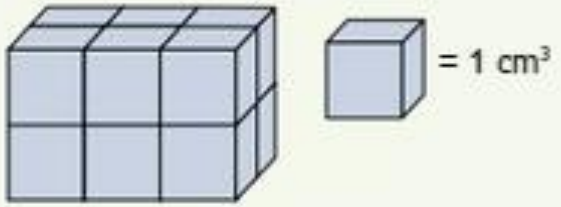
= **64 cm³**



Volume – Practice Questions (CGP L1 p.68)

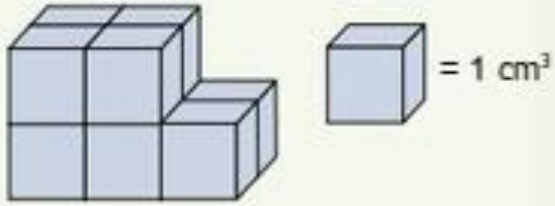
1) What are the volumes of the shapes below?

a)



.....

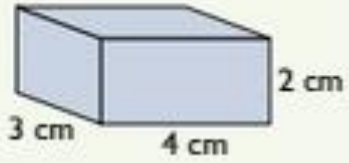
b)



.....

2) Calculate the volumes of the shapes below.

a)



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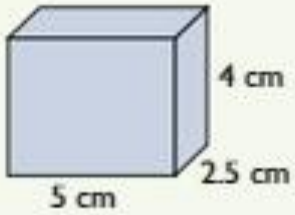
b)



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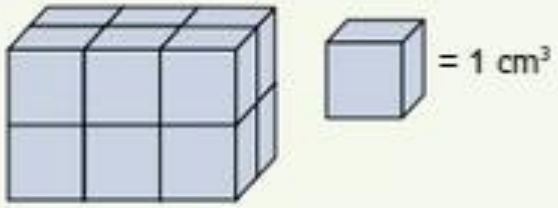
04:59

Volume – Practice Questions (CGP L1 p.68)

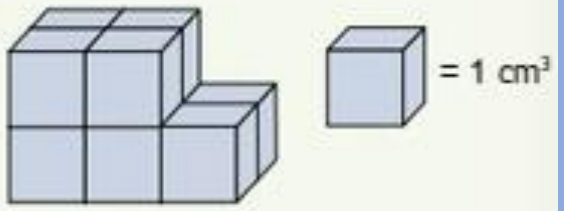
1) What are the volumes of the shapes below?

a)



12 cm³

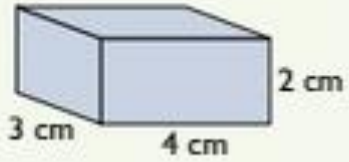
b)



10 cm³

2) Calculate the volumes of the shapes below.

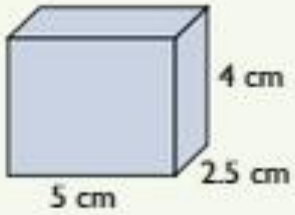
a)



4 × 2 × 3

24 cm³

b)



4 × 2·5 × 5

50 cm³


One of the UNSDGs features cubes in its icon…

United Nations Sustainable Development Goals

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

BUILD RESILIENT INFRASTRUCTURE, PROMOTE INCLUSIVE AND SUSTAINABLE INDUSTRIALIZATION AND FOSTER INNOVATION

GLOBAL MANUFACTURING

GROWTH SLOWED FROM

2021 7.4%

2022 3.3%

DUE TO

- INFLATION
- ENERGY PRICE SHOCKS
- SUPPLY DISRUPTIONS
- GLOBAL ECONOMIC DECELERATION

ENERGY-RELATED CO_2 EMISSIONS

REACHED

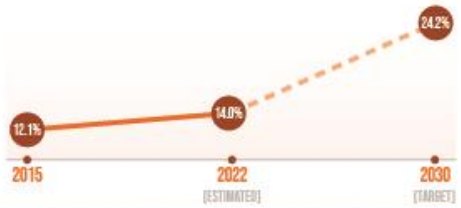
36.8 BILLION

METRIC TONS IN 2022

A RECORD HIGH

LDCs ARE LIKELY TO MISS THEIR 2030 TARGET OF DOUBLING MANUFACTURING SHARE OF GDP

MANUFACTURING VALUE AS A SHARE OF GDP IN LDCs



MEDIUM-HIGH AND HIGH-TECHNOLOGY INDUSTRIES EXPERIENCED STRONG GROWTH IN 2022

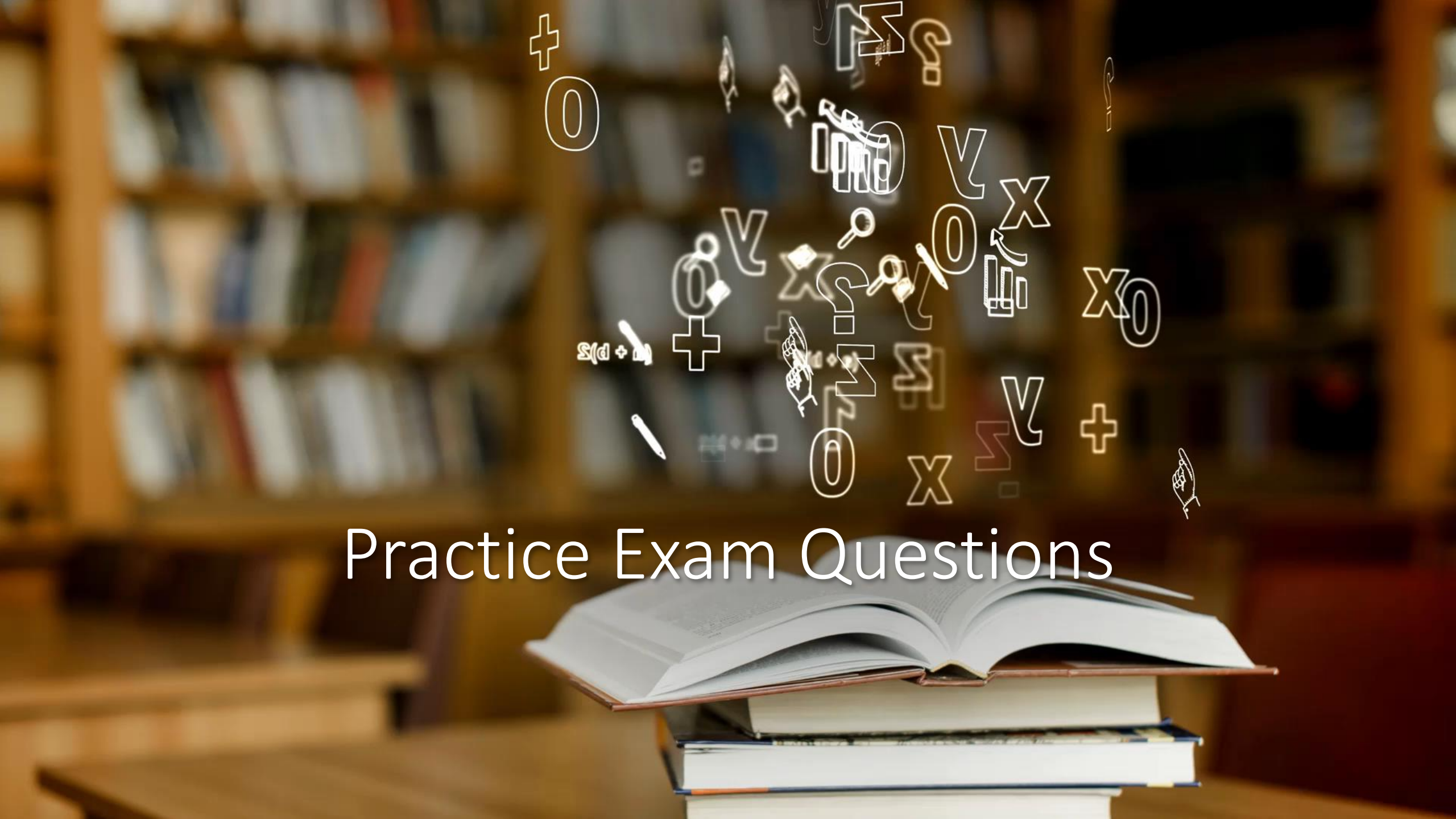
BUT WITH REGIONAL VARIATION

SHARE IN TOTAL MANUFACTURING

95% OF THE WORLD HAS MOBILE BROADBAND ACCESS (3G OR HIGHER) [2022]

BUT COVERAGE IS ONLY 82% IN SUB-SAHARAN AFRICA AND 68% IN OCEANIA*


NDUSTRY, INNOVATION
AND INFRASTRUCTURE
9 INDUSTRY, IN
AND INFRASTRU
9 INDUSTRY, INNOVATION
AND INFRASTRUCTURE



Practice Exam Questions

Always Read the Question

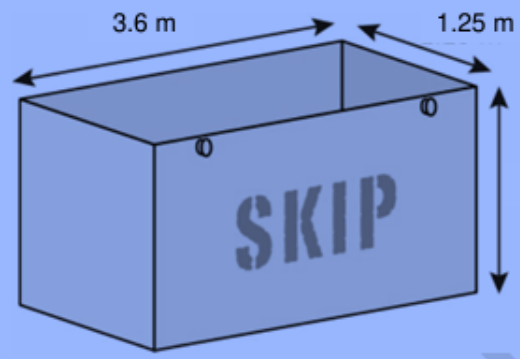
And always re-read the questions at the end.

Practice Exam Question – L1 Calculator

2 (b) Andy hires a skip.

The skip is cuboid.

It is 1.25 m wide, 3.6 m long and 1.6 m deep.



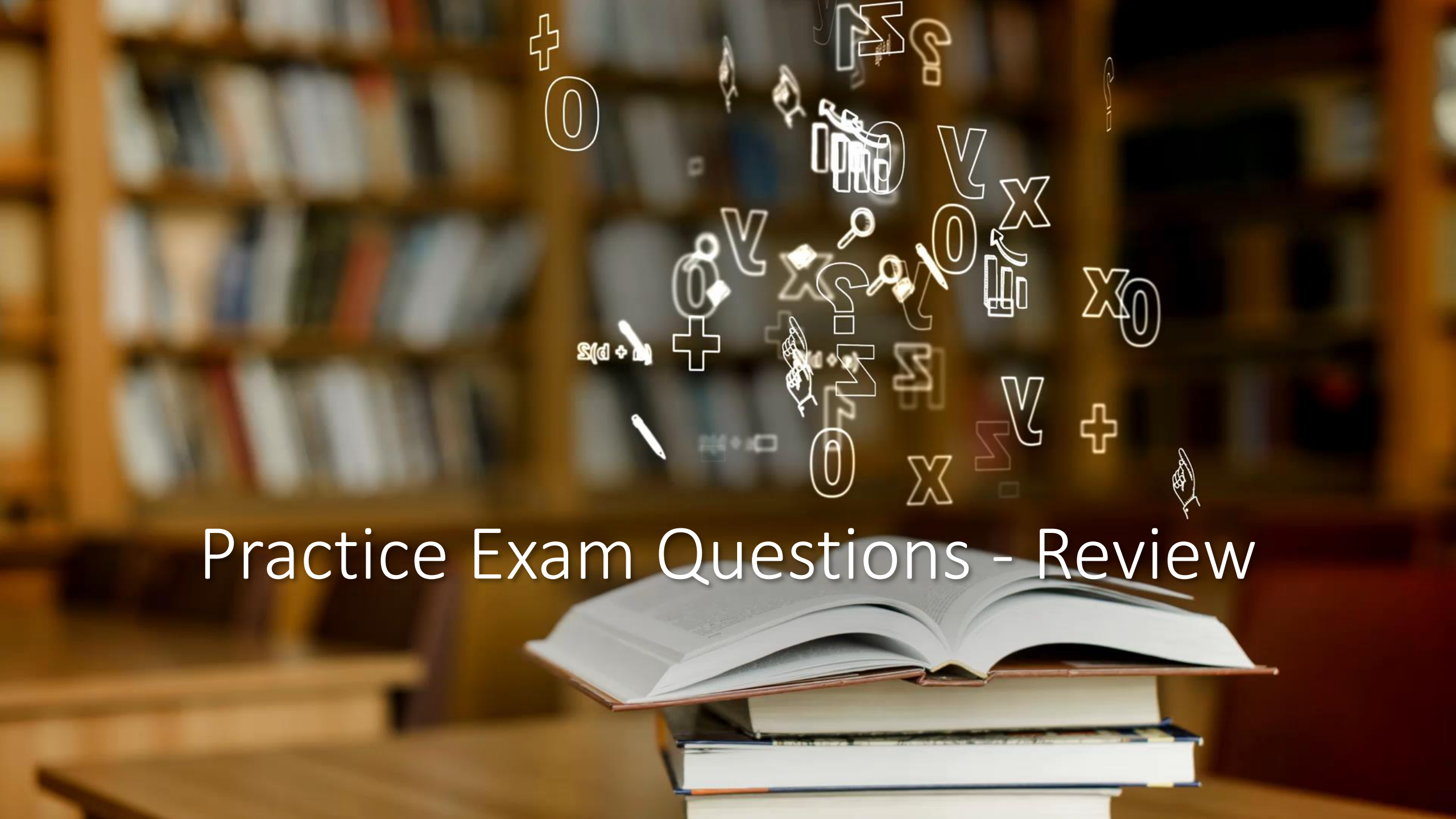
Not drawn accurately

What is the volume of the skip in m^3?

[2 marks]

Your answer: m^3


02 :00



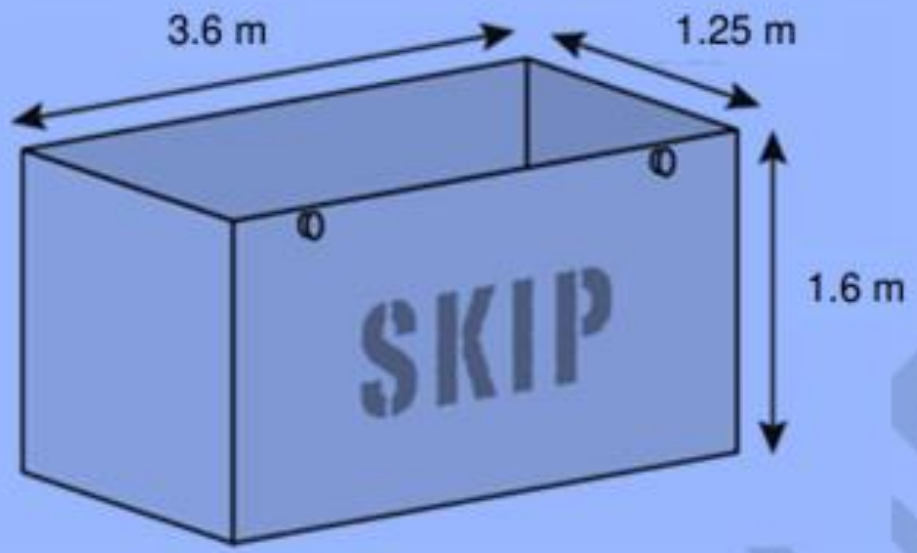
Practice Exam Questions - Review

Practice Exam Question – L1 Calculator

2 (b) Andy hires a skip.

The skip is cuboid.

It is 1.25 m wide, 3.6 m long and 1.6 m deep.



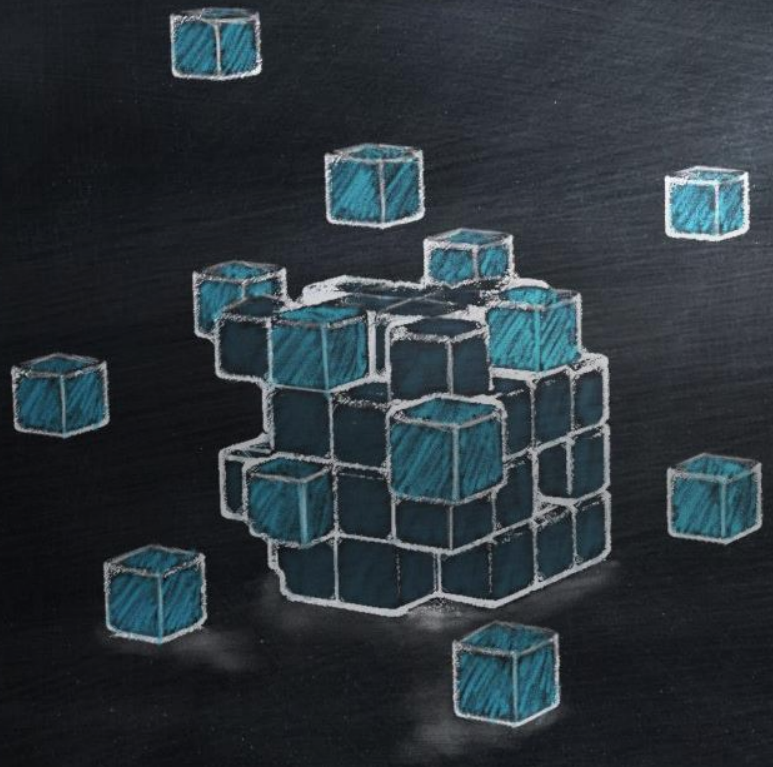
Not drawn accurately

What is the volume of the skip in m^3?

[2 marks]

$1.25 \times 3.6 \times 1.6$

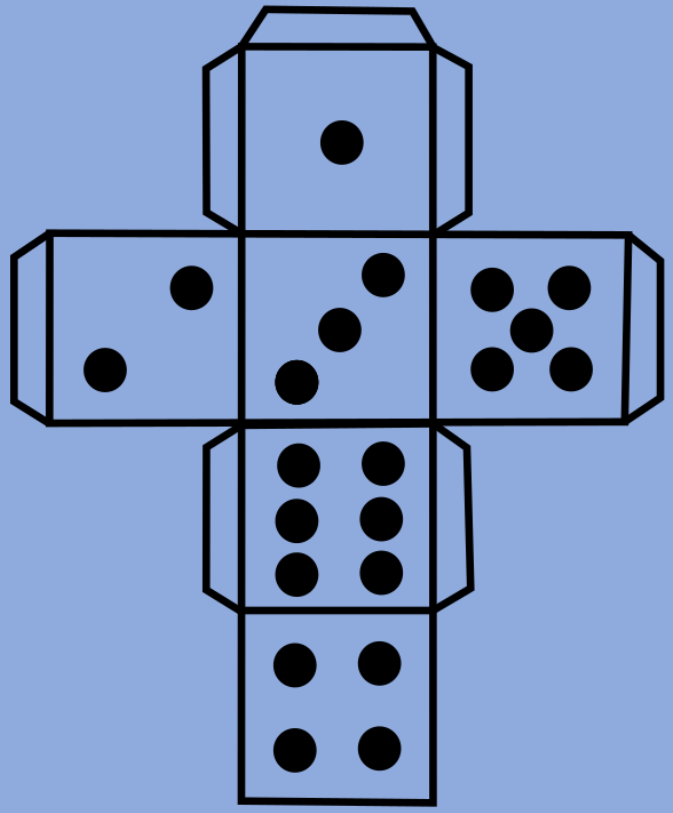
$= 7.2\ m^3$



Make a Cube

Activity

Using the template provided make yourself a cube



Quiz: 2D and 3D Shapes


04:59

Quiz: 2D and 3D Shapes

What was your score?

Private Study
2D and 3D Shapes

Entry Level 3 Students: Read through pages 63 - 69 of your CGP textbook, answering all questions as you go.

Level 1 Students: Read through pages 60 - 71 of your CGP textbook, answering all questions as you go.

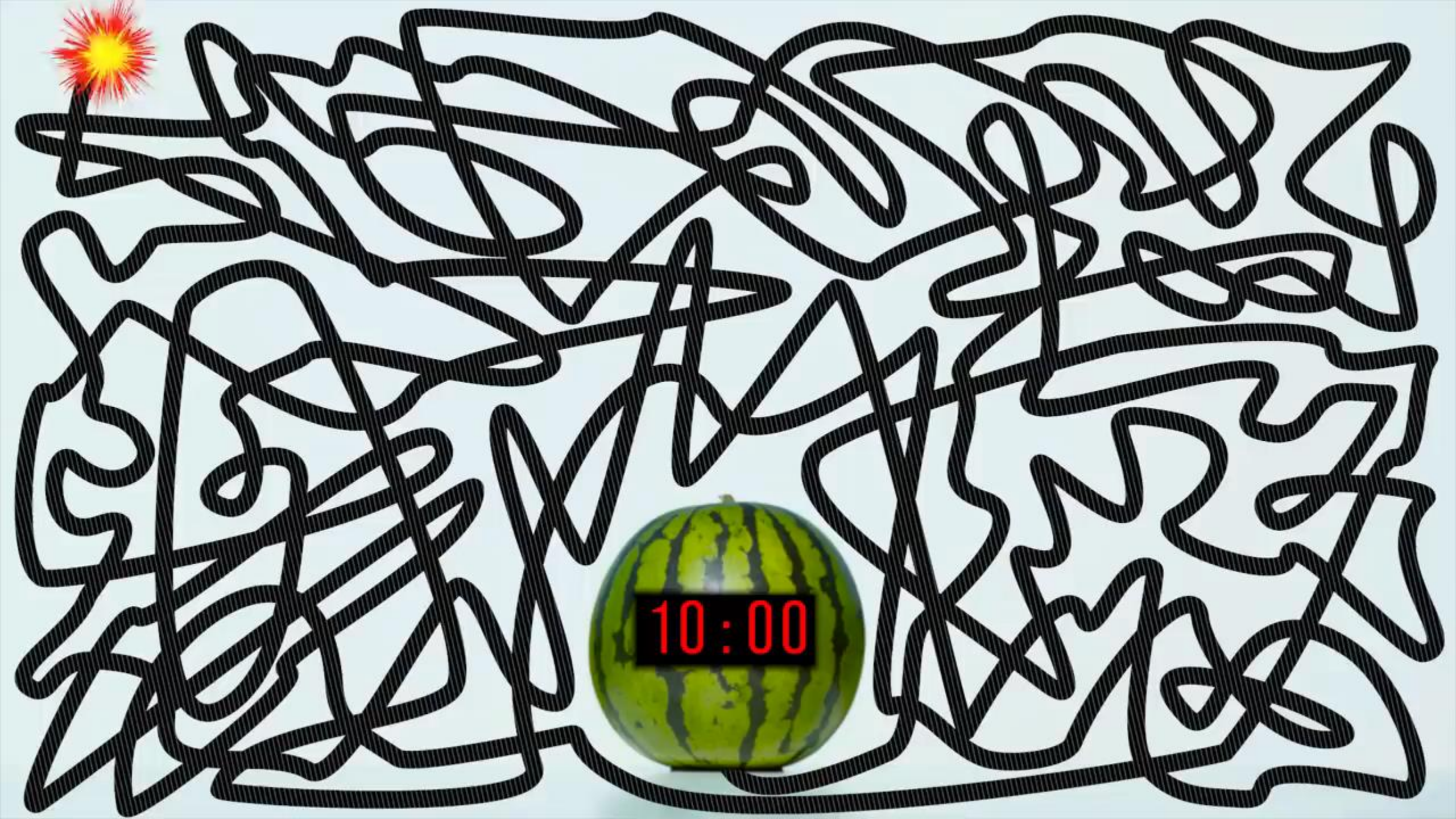
Level 2 Students: Read through pages 70 - 84 of your CGP textbook, answering all questions as you go.

Don’t worry if you don’t finish, just do as much as you can.

If you need help, ask one of the staff.

Revision Q and A:

- Some of us may have missed lessons for a variety of reasons.
- If there are gaps in your CGP textbook for Unit 1: Number. Please work through these and ask staff for help if needed.
- Start at the beginning of Unit 1 and work forward completing gaps.
- If you are concerned that you are behind, don't forget that all of the resources are available online.
- Click on: www.reachoutcf.com/maths-resources
- Here you will find all of the lesson PowerPoint presentations. Please note the videos will not play onscreen but you can click on the links.


10 : 00

My Skills Forward

- If you have completed all questions in your textbook, let's now look at NCFE My Skills Forward.
- Grab a laptop and visit the following link:

https://www.myskillsforward.co.uk

- Your login details are:

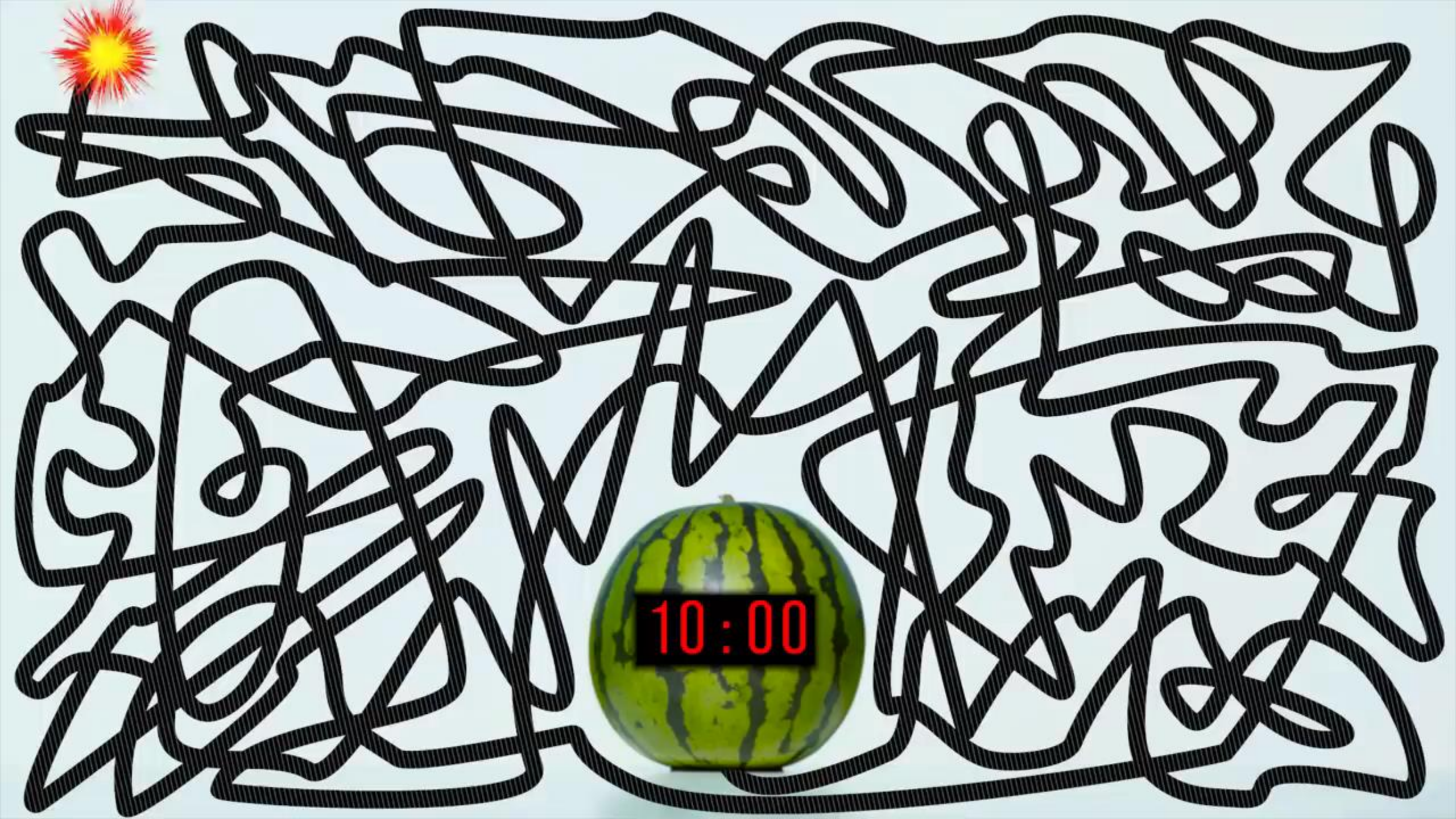
  Username: Your full name with no spaces

  Password: Letmein1

- Starts at the beginning of Section 1: Number and work through the exercises.
- Please ask for help where needed and let me know if there are areas in this section that you would like to revise.

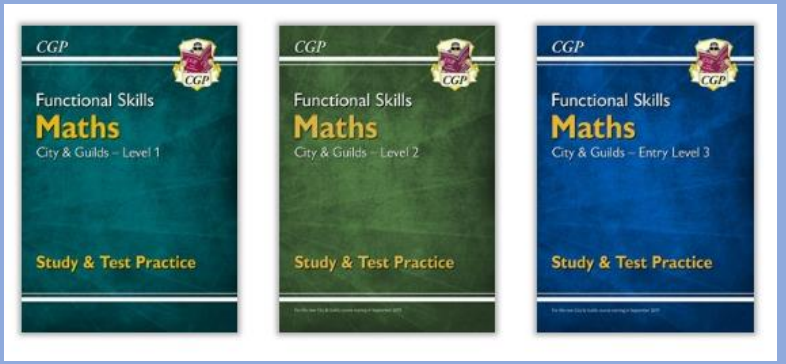

02 :00


04:59

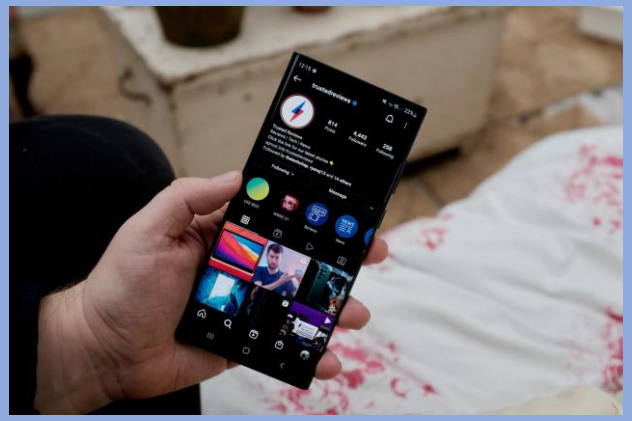

10 : 00

Introductions

- The CGP textbooks are a fantastic resource for your revision.

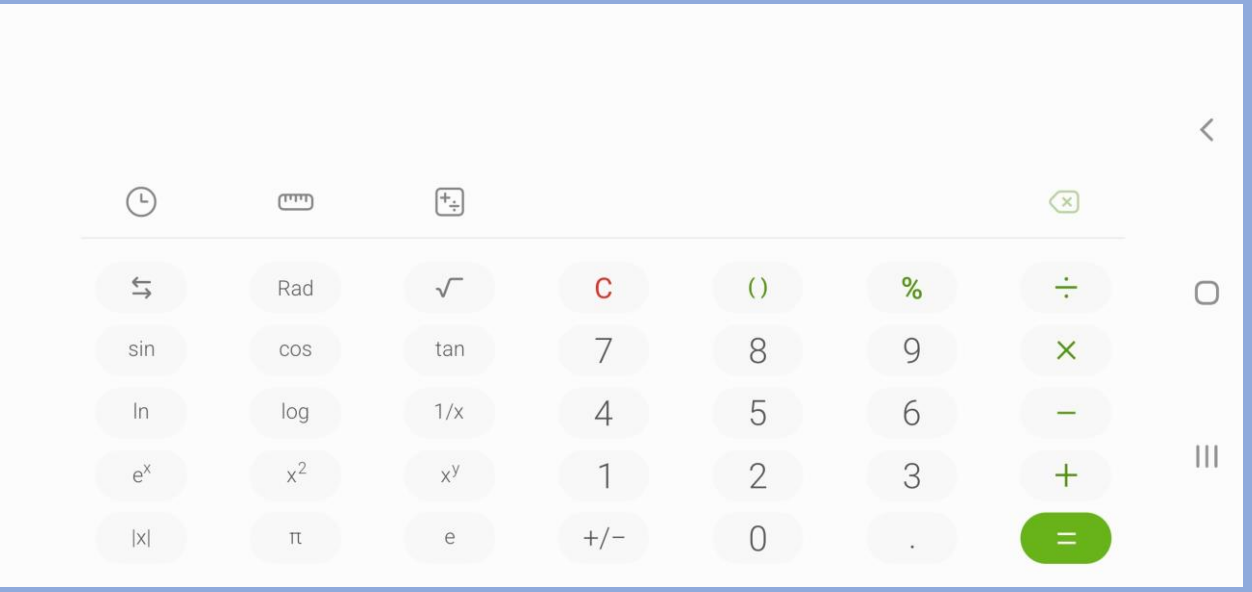


- You can use your phone when prompted, and as a calculator, but please keep it on silent during the lesson.

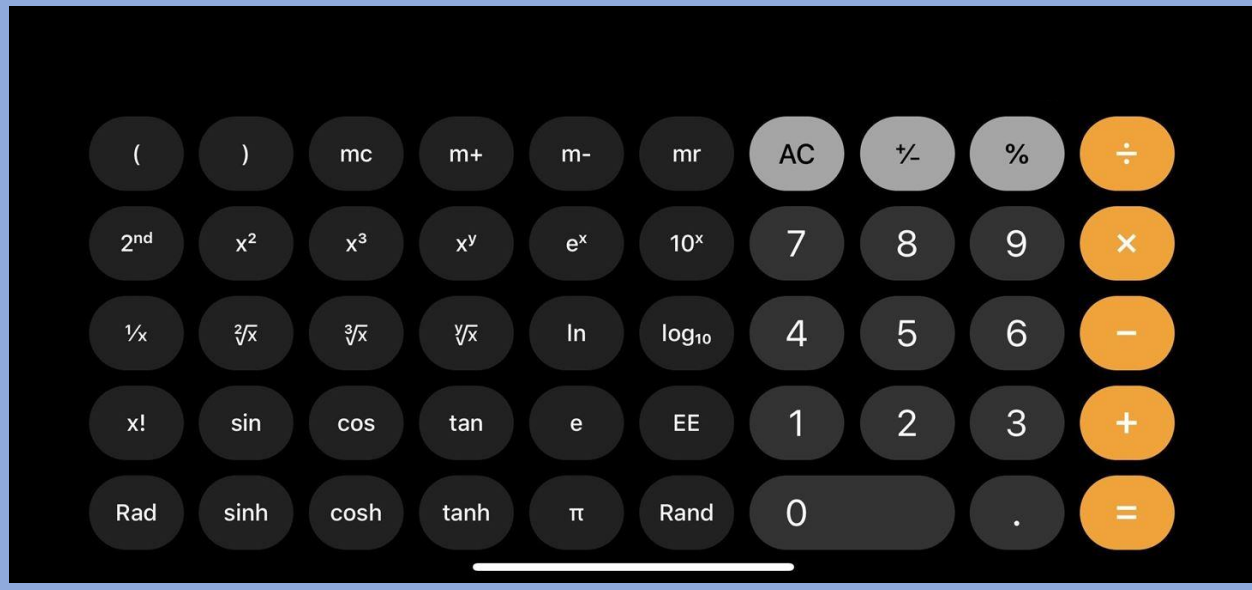


- Please make a note of your scores for interactive games as they let me know how well you are progressing.

Android



Apple



Rotate your phone in the calculator app to reveal additional functions.

Accessibility – For home study

- You can use your phone to read text for you.
- Download the app Google Lens.
- Select the Text option from the bottom of the screen.
- Take a picture of the text.
- Click the Listen button.
- The text will be read to you.
- Note: Apps can sometimes make mistakes so be careful to watch the moving highlights on the screen.

Download

https://play.google.com/store/apps/details?id=com.google.ar.lens&hl=en_GB&gl=US

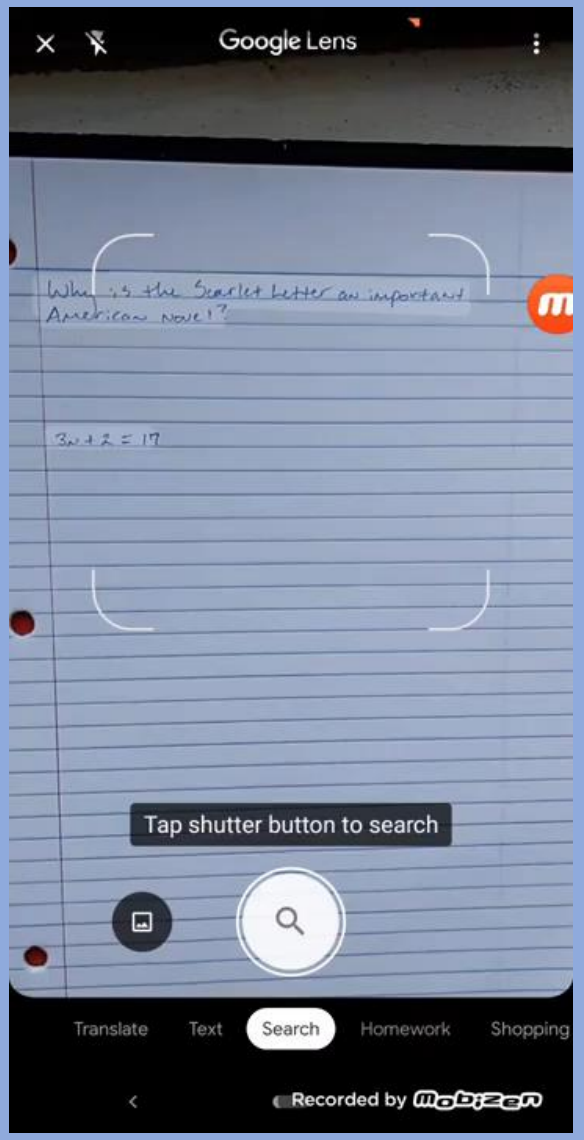
Using Google Lens

https://www.youtube.com/watch?v=dkvo50_UAqU

Google Lens can help with your homework!

The Google Lens Homework Help – TracSoft Inc
https://www.youtube.com/watch?v=SOC-d4VDKOY

- Always attempt questions first before using the application.
- If you do use Google Lens to solve a Maths problem, make sure you follow through the solution carefully, making sure you understand the steps it is showing you.
- You won't be able to use Google Lens in an exam, so once again, make sure you understand the process it is showing you.
- And don't forget…ALWAYS READ THE QUESTION…the question may ask for a written answer e.g. Bob does the following calculation…was he right? (Answer Yes or No with a sentence).



Your partner is Evil!

We all know that our partners are the product of time and money (particularly when dating!). Mathematically, a product is another way of saying multiplication.

Partner = Time x Money

We all know that Time is Money. Time = Money

Partner = Money x Money = $Money^2$

You may have heard that Money is the root of all Evil. Money = $\sqrt{Evil}$

Therefore: **Partner = $(\sqrt{Evil})^2$ = Evil**