
Pasty

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Entry Level 3 →

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- Past Papers

Level 1 →

Weight, Capacity, Temperature and Time

Pasty Making

Lesson Intentions: Monday 11th March 2024

Part 1: Weight, Capacity, Temperature and Time

- Compare measures of weight including grams and kilograms (E3.M16)
- Use and compare measures of length, capacity, weight and temperature using metric or imperial units to the nearest labelled or unlabelled division. (E3.M14)
- Compare measures of capacity in ml and litres. (E3.M17)
- Convert between units of length, weight, capacity, money and time, in the same system. (L1.M20)
- Read, measure and record time using a.m. and p.m. (E3.M12)
- Read time from analogue clocks and 24 hour digital clocks in hours and minutes. (E3.M13)

Part 2: Pasty Making Practical

- In the second session we will join the other Maths group and make pasties in the kitchen.

In this lesson we will look at UNSDG 2 – Zero Hunger

United Nations Sustainable Development Goals


Recap

Weight

NOUN [mass noun] a body's relative mass or quantity of matter contained by it, giving rise to a downward force; the heaviness of a person or thing.

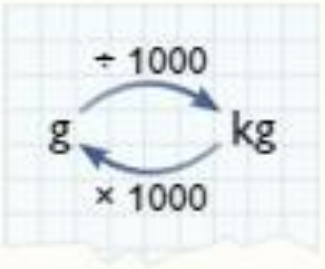
Physics the force exerted on the mass of a body by a gravitational field.

Weight: CGP L1 p.52

Units of Weight

1) Weight is how heavy something is.
   Grams (g) and kilograms (kg) are common units for weight. → 1 kg = 1000 g

2) To change between g and kg, multiply or divide by 1000.



EXAMPLE:

How many grams are there in 12 kg?

Answer: You're going from kg to g, so multiply by 1000.

$12 \times 1000 = \mathbf{12\,000}$ g

Weight: CGP L1 p.52

EXAMPLE 1:

Roan has a bad back. His doctor told him not to lift more than 3000 g at a time.
Roan has bought one bag of flour, two bags of rice and four chocolate bars.

Can Roan carry all of his shopping back safely?

1) First you need everything in the same units, so change the weight of the flour into grams. → 1.5 kg × 1000 = 1500 g.

2) Next, work out the weight of the rice and chocolate.

Don't forget — he's bought 2 bags of rice and 4 chocolate bars. →
Rice: 500 g × 2 = 1000 g
Chocolate: 38 g × 4 = 152 g

3) Then work out the total weight. → 1500 g + 1000 g + 152 g = 2652 g

2652 g is less than 3000 g, so Roan **can** carry his shopping back safely.

Capacity

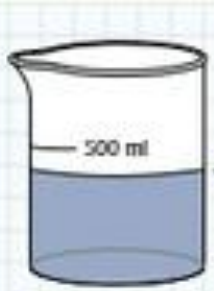
NOUN the maximum amount that something can contain.

From the Latin ‘capacitas’ – take or hold

Capacity and Volume CGP L1 p.54

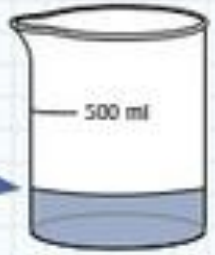
Volume is the amount of 3D space something takes up.

Capacity is how much something will hold.



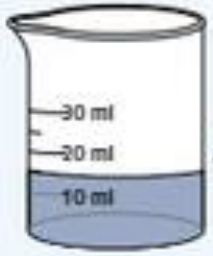
These beakers have the same capacity — they can hold the same amount of liquid.

But they have different volumes of liquid in them.



EXAMPLE:

What is the volume of the liquid in this beaker?



The liquid in the beaker comes to halfway between the 10 ml mark and the 20 ml mark.

15 is halfway between 10 and 20.

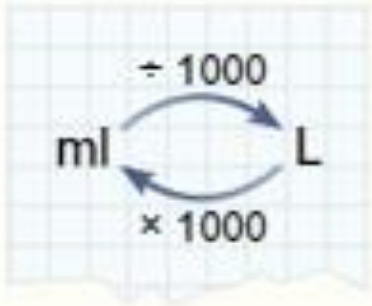
So the beaker must contain **15 ml**.

Capacity and Volume CGP L1 p.54

Units of Capacity

1) Common units of volume and capacity are millilitres (ml) and litres (L).

2) To change between ml and L, you can multiply or divide by 1000.



1 L = 1000 ml

EXAMPLE:

How many millilitres are in 3 L?

Answer: You're going from L to ml, so multiply by 1000.

$3 \times 1000 = \mathbf{3000\ ml}$

Capacity and Volume CGP L1 p.55

You need to be able to solve problems involving capacity and volume.

EXAMPLE:

Andrew needs to measure out 15 ml of vanilla essence.
He has one 10 ml and one 2.5 ml measuring spoon.
How can Andrew accurately measure out his vanilla essence?

Answer: He can measure out 10 ml using the 10 ml measuring spoon.

Then he can measure out two lots of 2.5 ml using the 2.5 ml measuring spoon.

10 ml + 2.5 ml + 2.5 ml = **15 ml**

You can't accurately measure out 5 ml using half of the 10 ml spoon, so you have to use the 2.5 ml spoon.

Temperature

NOUN the degree or intensity of heat present in a substance or object.

From the Latin ‘temperatura’ – restrain (which related to tempering metals)

Temperature CGP EL3 p.57

Temperature is How Hot or Cold it is

1) Temperature is a number that shows how hot or cold something is.
2) An object with a high temperature is warm or hot. For example, the inside of an oven.
3) An object with a low temperature is cool or cold. For example, the inside of a fridge.
4) Temperature can have different units.
   The most common are called degrees Celsius (°C).

- The temperature in a normal oven can reach around 230 °C.
- The temperature on a summer's day in the UK might be 26 °C.
- The temperature in a fridge is usually around 5 °C.
- Water turns to ice at 0 °C.

Temperature CGP EL3 p.57

Calculations Involving Temperature

You might be asked to work out the difference between two temperatures.

EXAMPLE 1:

The temperature today is 17 °C.
Yesterday the temperature was 14 °C.

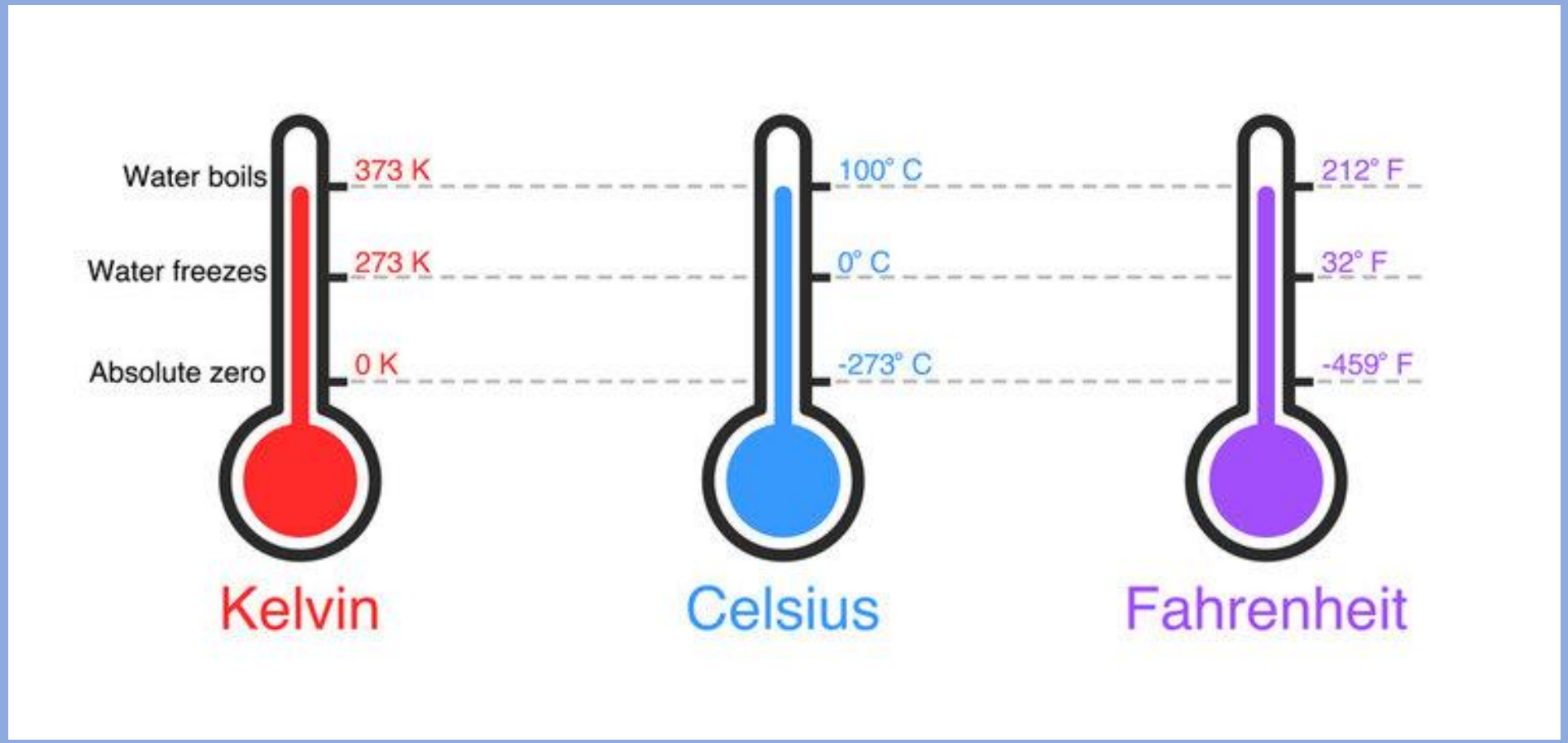
What is the difference in temperature between today and yesterday?

To find the difference, subtract the smaller temperature from the larger one.

17 °C – 14 °C = 3 °C

So the difference in temperature is **3 °C**.

Temperature Scales: Kelvin, Celsius, Fahrenheit



Game: Sorting Units of Length, Weight & Capacity


02 :00

Game: Sorting Units of Length, Weight & Capacity

What was your score?

Reading Scales

Activity: Reading Scales

Hints:

<u>Read the scales carefully.</u>

Some scales may say x 1000
So if it reads 1.5, the answer would be 1500.


02 :00

Activity: Reading Scales

What was your score?

Part 1: Time

Section 2: Measure, Shape & Space
Part 1: Time

Time

NOUN the indefinite continued progress of existence and events in the past, present, and future regarded as a whole.

From the Old English, of Germanic origin, ‘tima’ – related to tide

Game: Analogue Time


04:59

Game: Analogue Time

What was your score?

Time: Units (CGP EL3 p.37)

Time Has Lots of Different Units

You need to be able to use lots of different units for time. You also need to be able to change between them. Here are how some of the units of time are related:

60 seconds = 1 minute	7 days = 1 week	10 years = 1 decade
60 minutes = 1 hour	365 days = 1 year	100 years = 1 century
24 hours = 1 day	12 months = 1 year	

15 minutes = a quarter of an hour

30 minutes = half an hour

45 minutes = three quarters of an hour

Time: Units (CGP EL3 p.37)

EXAMPLES:

1) How many seconds are there in 2 minutes?

   There are 60 seconds in 1 minute, so to find out how many seconds there are in 2 minutes, you need to multiply 60 by 2:

   $$60 \times 2 = \textbf{120 seconds}$$

2) How many days is 48 hours?

   1 day is the same as 24 hours, so to find out how many days there are in 48 hours, you need to divide 48 by 24:

   $$48 \div 24 = \textbf{2 days}$$

Time: Practice Questions (CGP EL3 p.37)

Practice Questions

1) How many minutes are there in an hour and a half? .....

2) How many months are there in 2 years? .....

3) How many days are there in 3 weeks?

.....

Time: 12 and 24 hour Clock (CGP EL3 p.38)

The 12-Hour Clock and the 24-Hour Clock

1) You can give the time using the 12-hour clock or the 24-hour clock.

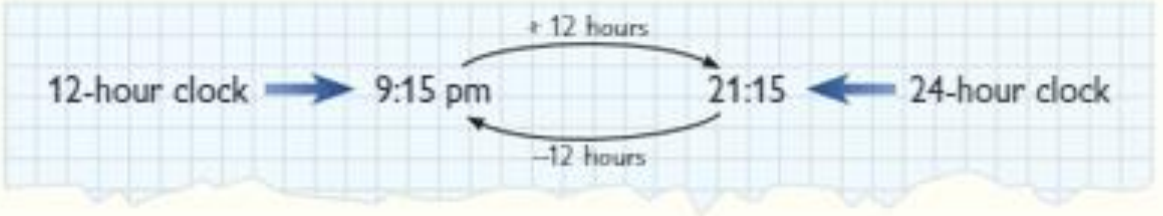
2) The 24-hour clock goes from 00:00 (midnight) to 23:59 (one minute before the next midnight).

06:00 is 6 o'clock in the morning. 18:00 is 6 o'clock in the evening.

3) The 12-hour clock goes from 12:00 am (midnight) to 11:59 am (one minute before noon), and then from 12:00 pm (noon) till 11:59 pm (one minute before midnight).

2:00 am is 2 o'clock in the morning. 2:00 pm is 2 o'clock in the afternoon.

4) For times in the afternoon, you need to add 12 hours to go from the 12-hour clock to the 24-hour clock. Take away 12 hours to go from the 24-hour clock to the 12-hour clock.



Time: 12 and 24 hour Clock (CGP EL3 p.38)

Practice Questions

1) Change the times below from the 24-hour clock to the 12-hour clock.

a) 10:30 .....

b) 15:35 .....

2) Change the times below from the 12-hour clock to the 24-hour clock.

a) 7:10 pm .....

b) 5:20 am .....

3) Antony is meeting a friend at 9 pm. His watch reads 21:30 as he arrives. Is he late?

.....

4) A cinema is showing a film at these times: 18:55, 19:40, 20:10, 20:40 and 21:25.
Sasha gets to the cinema at 8:05 pm. What is the earliest film she can watch?

.....

Time: Digital and Analogue (CGP EL3 p.39)

Reading Time from a Digital Clock

A digital clock displays time using the 24-hour clock.

08:23 = 08:23 (am) 11:59 = 11:59 (am) 23:47 = 23:47 (11:47 pm)

Reading Time from an Analogue Clock

An analogue clock displays time using the 12-hour clock.

1) The small hand shows the hour.
2) The big hand shows how many minutes past the hour.
   - It points to 12 on the hour (0 minutes past).
   - Every gap is another 5 minutes.

For example, if the big hand is at 3, then it's 3 × 5 = 15 minutes past.

This is 10:15. An analogue clock doesn't tell you if it's am or pm.

At 2:00 (or "2 o'clock") the small hand is at 2. The big hand is at 12.

At 2:15 (or "quarter past 2") the small hand is just after 2. The big hand is at 3.
3 × 5 = 15 minutes past.

Time: Duration (CGP EL3 p.40)

Working Out Lengths of Time

To work out how long something took, break it into parts.

EXAMPLE:

Nisha set off on a bike ride at 10:30 am and had a break at 12:25 pm.
How long had she been riding for?

10:30 am —30 mins→ 11:00 am —1 hour→ 12:00 pm —25 mins→ 12:25 pm

Add up the hours and minutes separately: 1 hour
30 mins + 25 mins = 55 mins

So she was riding for **1 hour and 55 mins**.

Time: Timetables (CGP EL3 p.42)

Timetables Have Information About When Things Happen

1) Timetables have columns and rows.
2) Columns are the strips that go up and down.
   Rows are the strips that go across.
3) There are lots of different types of timetables —
   the best way to learn how to use them is to practise.

There's more about tables on page 75.

EXAMPLE 1:

The timetable below shows train times.
What time would you need to leave Preston to get to Deansgate for 12:30?

Preston	10:32	11:02	11:33	12:02
Buckshaw Parkway	10:44	11:14	11:45	12:14
Bolton	11:09	11:40	12:10	12:40
Deansgate	11:27	12:07	12:29	13:07

1) Find Deansgate in the timetable.
2) Follow that row until you reach the last time before 12:30. It's 12:29.
3) Go up the column till you reach the Preston row —
   this is the leaving time from Preston.
4) So you'd need to leave Preston at **11:33**.

Time: Practice Questions (CGP EL3 p.43)

Practice Questions

1) Debbie wants to travel by train from St David's to Topsham.

a) If she wants to get there by 17:30, which train should she catch?

.....

St David's	16:25	16:55	17:25
St James Park	16:29	17:01	17:29
Digby	16:33	17:07	17:33
Topsham	16:39	17:13	17:39

b) She now needs to be there by 17:15 instead. Can she catch the same train from St David's?

.....

2) Liam is going on a one day training course. His timetable for the day is shown below.

a) What time does 'Reptile Care' start?

.....

b) How long is 'Large Animal Care'?

.....

c) Which is longer — morning break or afternoon break?

.....

Time	Activity
09:00 – 10:45	Introduction
10:45 – 11:00	Morning Break
11:00 – 12:45	Large Animal Care
12:45 – 13:30	Lunch
13:30 – 15:00	Reptile Care
15:00 – 15:30	Afternoon Break
15:30 – 17:00	Marine Animal Care

Time: Calendars (CGP EL3 p.44)

Working Out Dates Using a Calendar

You might be asked questions where you need to look at calendars and work out dates.

EXAMPLE:

Karen wants to go on holiday with her sister Ruth for a weekend in May. The calender shows the cost of flights.

(A weekend is Saturday to Sunday.)

- Karen can't go between the 1st and the 8th of May.
- Ruth can't go between the 25th and 31st of May.

MAY

MON	TUES	WED	THURS	FRI	SAT	SUN
		1	2	3	4 £78	5
6	7	8	9	10	11 £142	12
13	14	15	16	17	18 £112	19
20	21	22	23	24	25 £96	26
27	28	29	30	31		

What is the cheapest weekend that the sisters could go on holiday together?

1) First, cross out any dates when the sisters can't go.
2) Next, look for a weekend when both sisters are available.

MAY

MON	TUES	WED	THURS	FRI	SAT	SUN
		~~1~~	~~2~~	~~3~~	~~4~~ £78	~~5~~
~~6~~	~~7~~	~~8~~	9	10	11 £142	12
13	14	15	16	17	18 £112	19
20	21	22	23	24	~~25~~ £96	~~26~~
~~27~~	~~28~~	~~29~~	~~30~~	~~31~~		

So the sisters could go on holiday on either the 11th-12th or 18th-19th.

The cheapest is the **18th-19th**.

Time: Practice Questions (CGP EL3 p.44)

Practice Question

1) Chidi wants to book a driving test in May.

Driving tests cost £62 on weekdays (Monday-Friday) and £75 on Saturdays.

The test centre is closed on Sundays, and on the bank holidays on the 6th and 27th of May.

Chidi works Tuesday-Friday every week, so he can't do the test on those days.

MAY

MON	TUES	WED	THURS	FRI	SAT	SUN
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

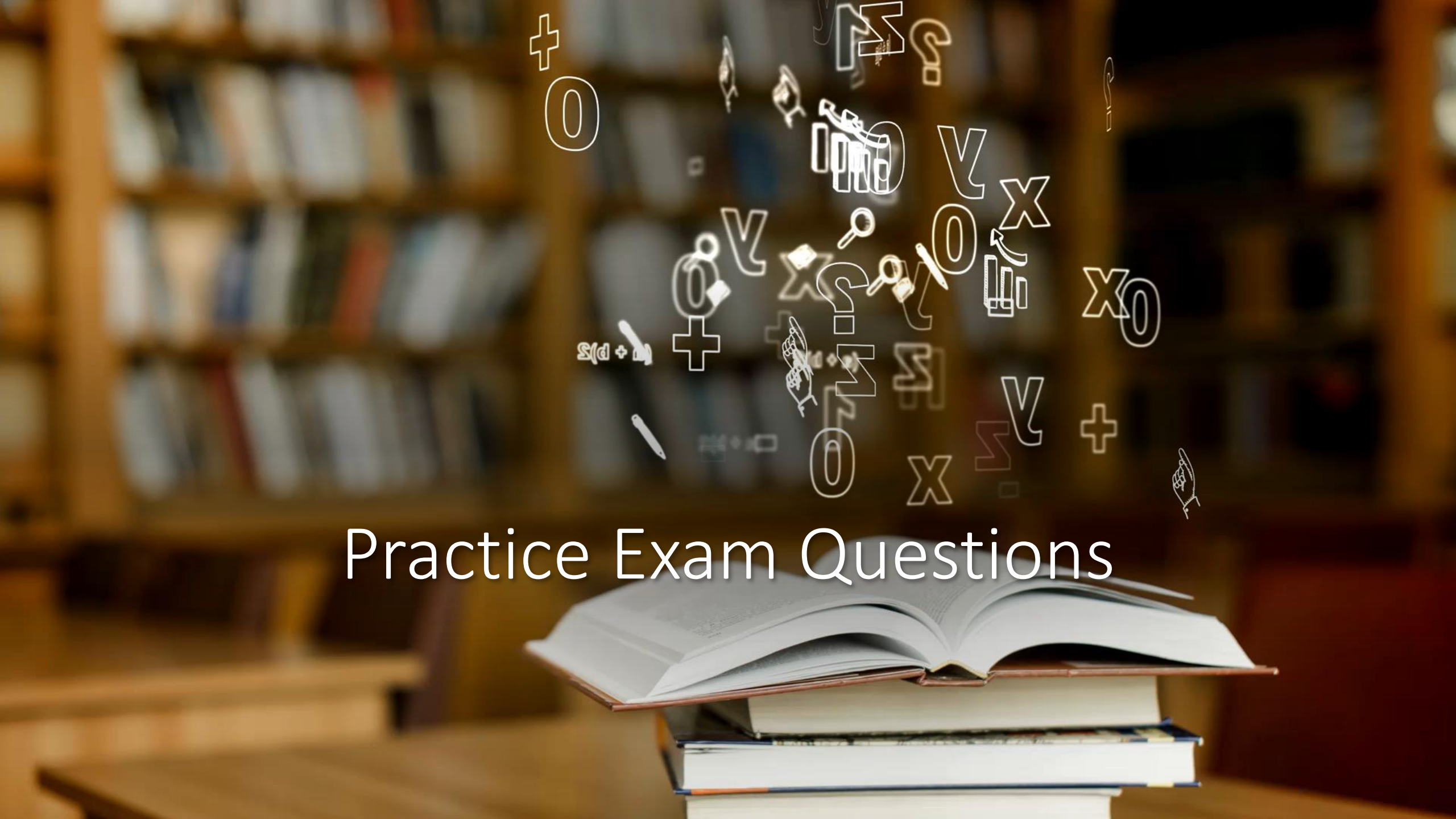
Write down the date and cost of the driving test if Chidi books:

a) the last possible test he can take in May,

.....

b) the cheapest test in May at the first possible date.

.....



Practice Exam Questions

Always Read the Question

And always re-read the questions at the end.

L1 Past Paper – Non-Calculator - Weight

3 (d) Simon has a luggage allowance of 23 kg

He has already packed 18 400 g

How many more **kg** can he pack?

[2 marks]

Your answer:

kg

L1 Past Paper Non-Calculator Capacity

1 (a) Dennis thinks he is spending too much money on fuel for his car.

He uses this formula to work out how much fuel in **litres** he uses in a year.

Fuel used in litres	=	Distance travelled in miles	×	4.5	÷	Miles per gallon

Last year he travelled 10 000 miles.

His car did 40 miles **per gallon**.

How many **litres** of fuel did Dennis use last year?

[3 marks]

Your answer: **litres**

L1 Past Paper – Non-Calculator - Temperature

1 (f) When Don arrives in Fort William

- the temperature at the bottom of Ben Nevis is 3 °C
- the temperature at the top of Ben Nevis is –6 °C

Calculate the difference in temperature between the top and bottom of Ben Nevis.

[2 marks]

Your answer: **degrees**

L1 Past Paper – Non-Calculator – Time (years)

1 (a) Don spends his holidays climbing mountains.

The twenty highest mountains in the UK are all in Scotland.

Don began climbing these mountains in 2011.

He climbed 4 of these mountains each year.

In which year did he finish climbing the twenty highest mountains?

[2 marks]

Your answer:

L1 Past Paper – Non-Calculator – Time (hrs/mins)

1 (b) Don lives in London.

He wants to travel to Fort William in Scotland.

Don finds this information about travel times.

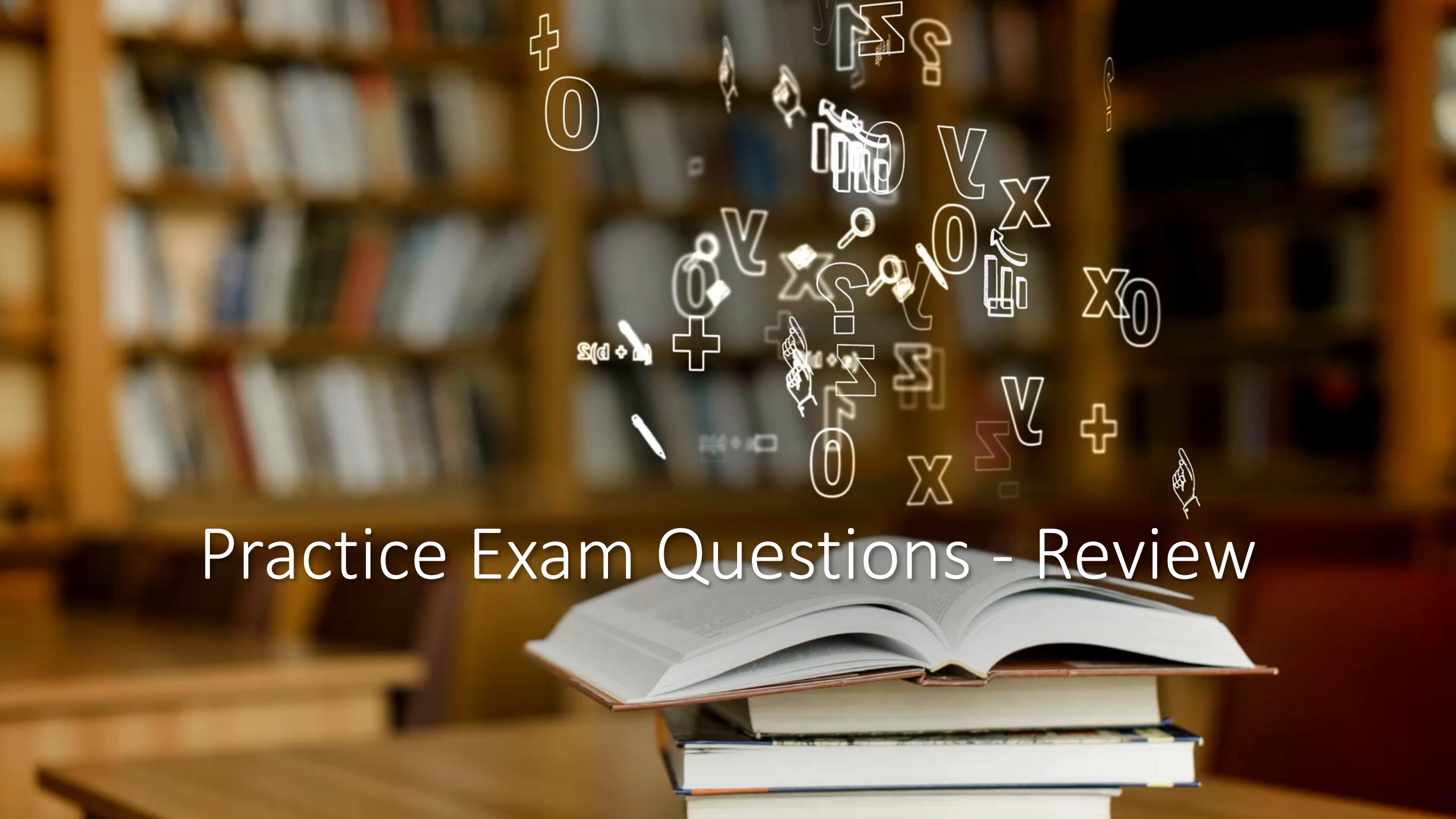
Travel times between London and Fort William

Night bus	14 hours 11 minutes
Drive	8 hours 42 minutes
Fly	6 hours 31 minutes

How much longer does it take to travel by the night bus than to fly?

[1 mark]

Your answer:



Practice Exam Questions - Review

L1 Past Paper – Non-Calculator - Weight

3 (d) Simon has a luggage allowance of 23 kg

He has already packed 18 400 g

How many more **kg** can he pack?

[2 marks]

$23 - 18.4 = 4.6$

Your answer: 4.6 **kg**

L1 Past Paper Non-Calculator Capacity

1 (a) Dennis thinks he is spending too much money on fuel for his car.

He uses this formula to work out how much fuel in **litres** he uses in a year.

Fuel used in litres	=	Distance travelled in miles	×	4.5	÷	Miles per gallon

Last year he travelled 10 000 miles.

His car did 40 miles **per gallon**.

How many **litres** of fuel did Dennis use last year?

[3 marks]

$10,000 \times 4.5$

$= 45,000$

$40 \overline{)45,000}$

1125

Your answer: 1125 **litres**

L1 Past Paper – Non-Calculator - Temperature

1 (f) When Don arrives in Fort William

- the temperature at the bottom of Ben Nevis is 3 °C
- the temperature at the top of Ben Nevis is –6 °C

Calculate the difference in temperature between the top and bottom of Ben Nevis.

[2 marks]

$3 - (-6) = 9$

Your answer: 9 **degrees**

L1 Past Paper – Non-Calculator – Time (years)

1 (a) Don spends his holidays climbing mountains.

The twenty highest mountains in the UK are all in Scotland.

Don began climbing these mountains in 2011.

He climbed 4 of these mountains each year.

In which year did he finish climbing the twenty highest mountains?

[2 marks]

Your answer: 2015

[redacted]

L1 Past Paper – Non-Calculator – Time (hrs/mins)

1 (b) Don lives in London.

He wants to travel to Fort William in Scotland.

Don finds this information about travel times.

Travel times between London and Fort William

Night bus	14 hours 11 minutes
Drive	8 hours 42 minutes
Fly	6 hours 31 minutes

How much longer does it take to travel by the night bus than to fly?

[1 mark]

8hrs

6:31 14:11 14:31

8hrs −20mins +20

Your answer: 7hrs 40min

Video: Making Cornish Pasties

https://www.youtube.com/watch?v=7rXTQPIizYg

- You are about to watch a video that shows you how to make a Cornish Pasty.
- Note down the weights of the ingredients.
- Note down the volumes of liquids.
- Note the temperature of the oven.
- Note the time taken to bake.


https://www.youtube.com/watch?v=7rXTQPIizYg

How to start an argument in Cornwall…

What is this?

United Nations Sustainable Development Goals

2 ZERO HUNGER

END HUNGER, ACHIEVE FOOD SECURITY AND IMPROVED NUTRITION AND PROMOTE SUSTAINABLE AGRICULTURE

ZERO HUNGER GOAL AT RISK

MORE THAN **600 MILLION** PEOPLE WORLDWIDE ARE PROJECTED TO **FACE HUNGER IN 2030**

DESPITE DROPPING IN 2021,

HIGH FOOD PRICES CONTINUE TO PLAGUE MANY NATIONS

SHARE OF COUNTRIES EXPERIENCING MODERATELY TO ABNORMALLY HIGH FOOD PRICES:

LITTLE TO NO PROGRESS

HAS BEEN MADE IN REDUCING ANAEMIA WORLDWIDE SINCE 2000

PREVALENCE OF ANAEMIA IN **WOMEN AGED 15-49**

HAS REMAINED STAGNANT **AT AROUND 30%**

1 IN 3 PEOPLE

WORLDWIDE STRUGGLE WITH MODERATE TO SEVERE **FOOD INSECURITY**

MALNUTRITION PERSISTS WORLDWIDE, JEOPARDIZING CHILDREN'S WELL-BEING AND FUTURE DEVELOPMENT

CHILDREN UNDER AGE-5 AFFECTED BY: (2022)

THE SUSTAINABLE DEVELOPMENT GOALS REPORT 2023: SPECIAL EDITION- UNSTATS.UN.ORG/SDGS/REPORT/2023/

Food Shortages in UK

The Guardian

Debate over swedes and turnips erupts after Therese Coffey urged shoppers to 'cherish' the seasonal veg - so, do YOU know which is which?

- **How much do you actually know about your seasonal root vegetables?**
- **Environment minister spoke out yesterday on food shortages**
- **Must read: Let them eat turnips! Therese Coffey offers her helpful advice**

By GWYNETH REES FOR MAILONLINE

PUBLISHED: 14:30, 24 February 2023 | **UPDATED:** 14:40, 24 February 2023

Private Study
Weight, Capacity and Temperature

Entry Level 3 Students: Read through pages 51 - 61 of your CGP textbook, answering all questions as you go.

Level 1 Students: Read through pages 52 - 59 of your CGP textbook, answering all questions as you go.

Level 2 Students: Read through pages 62 - 69 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.

Private Study Time

Entry Level 3 Students: Read through pages 37-44 of your CGP textbook, answering all questions as you go.

Level 1 Students: Read through pages 56 - 59 of your CGP textbook, answering all questions as you go.

Level 2 Students: Read through pages 62 - 70 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.

End of Part One

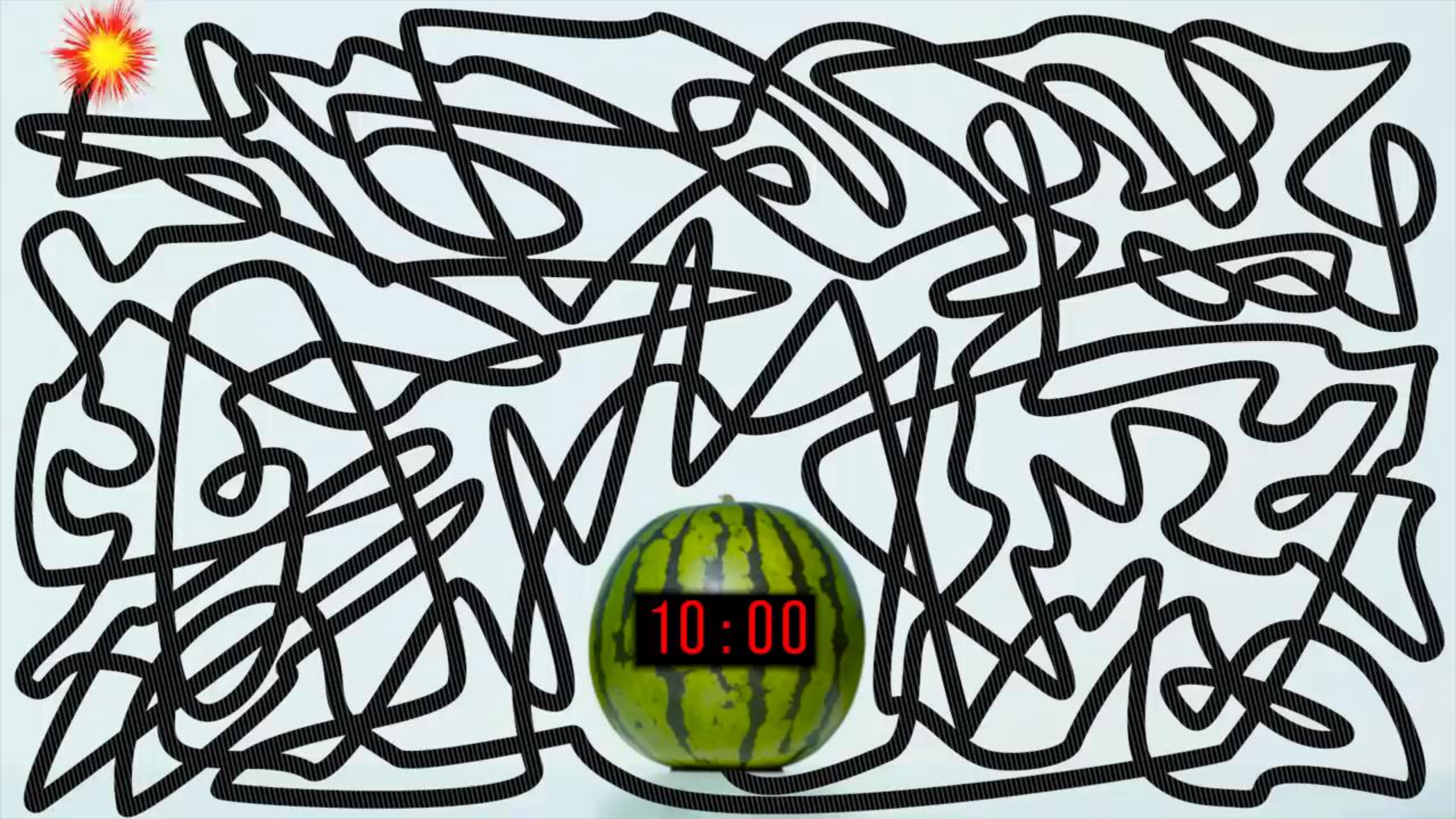

Pasty

Part Two

Go cook a pasty!

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:

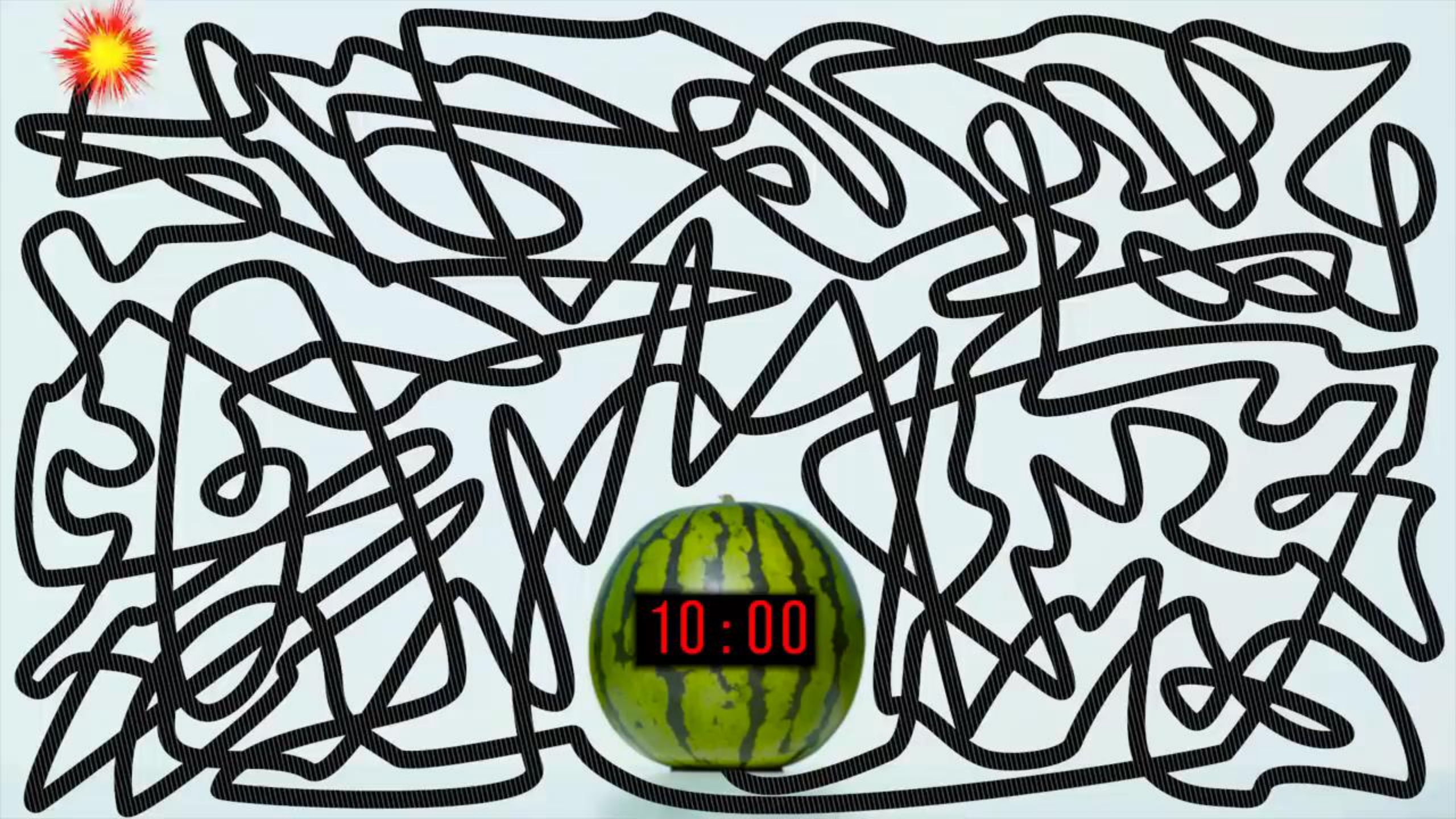
  Username: Your full name with no spaces

  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.

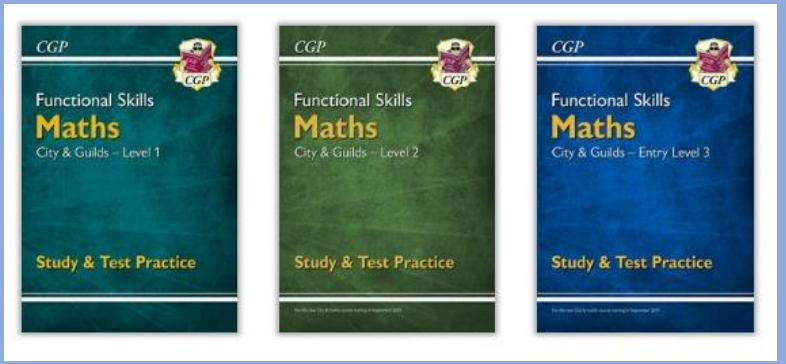

02 :00


04:59

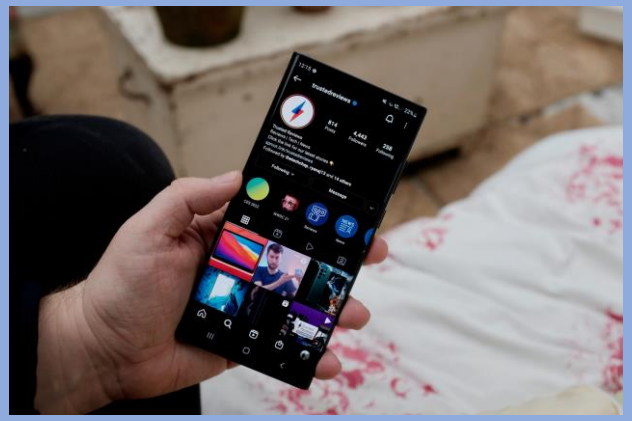

10 : 00

Introductions

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

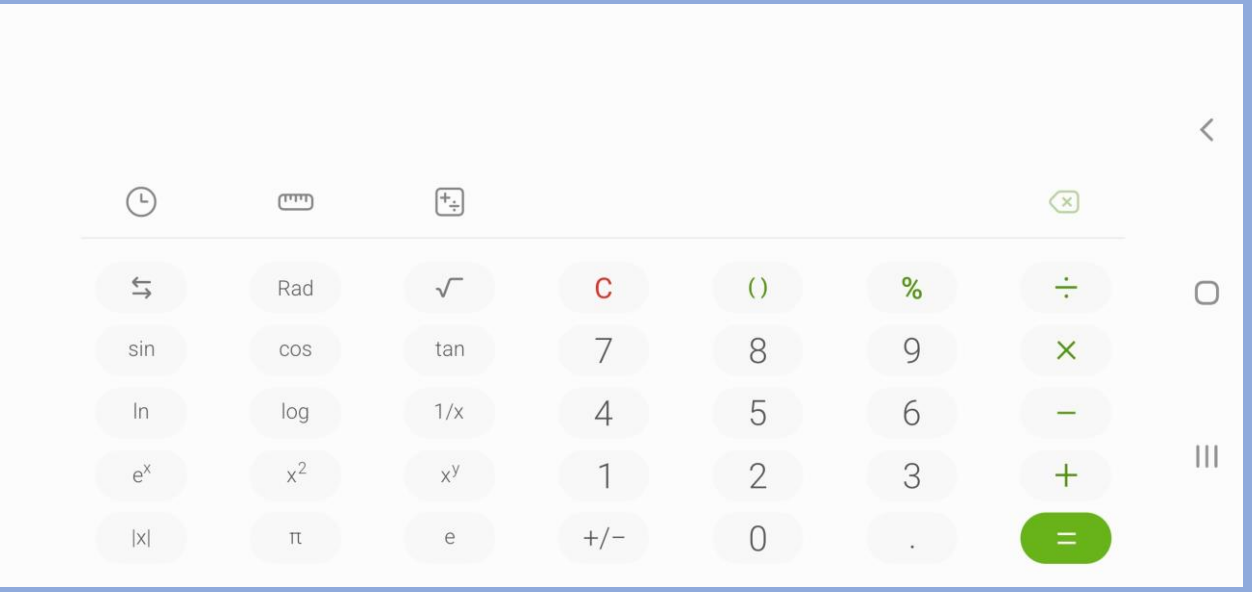


- You can use your phone when prompted, and as a calculator, but please keep it on silent during the lesson.

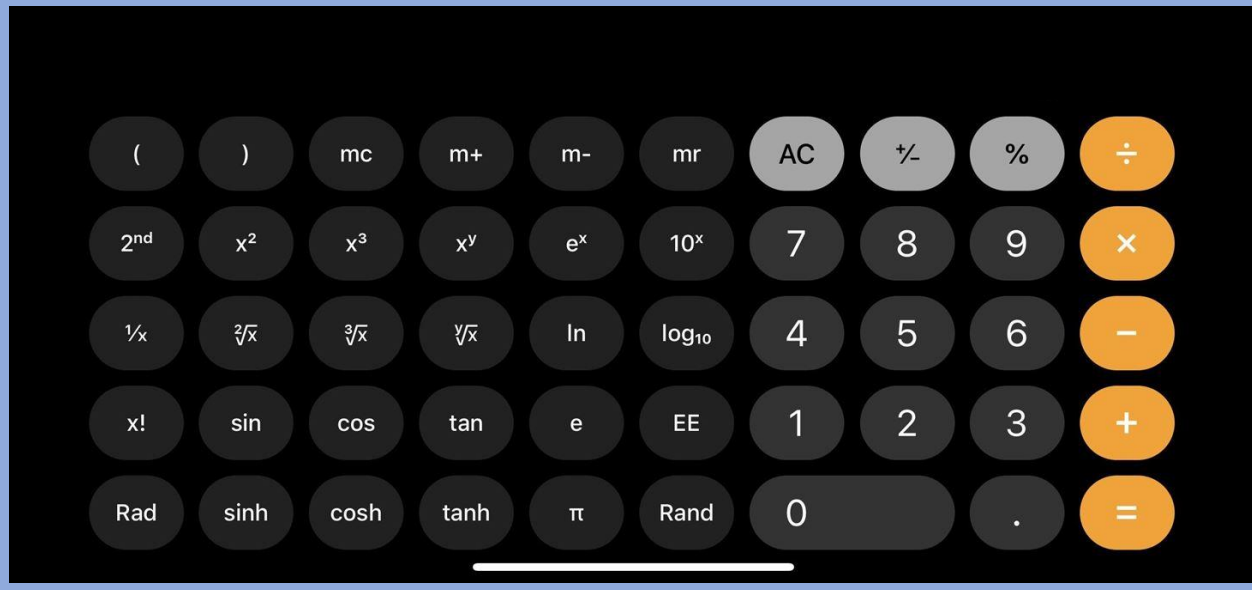


- Please make a note of your scores for interactive games as they let me know how well you are progressing.

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

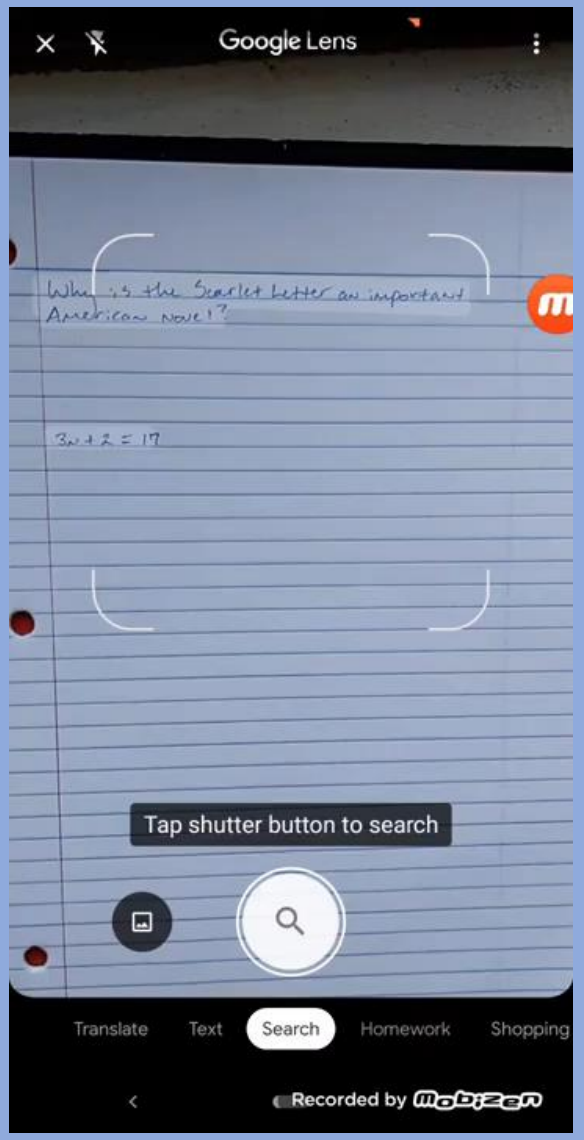
Using Google Lens

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**