

Level 1 Functional Skills Mathematics

SAMPLE PAPER 3

Duration: 1 hour 20 minutes

Total marks: 45



A City & Guilds Group Business

Version: 1.1

SECTION 2 – CALCULATOR PERMITTED

Candidate name (first, last)

First

Last

Candidate enrolment number

Date of birth (DDMMYYYY)

Assessment date (DDMMYYYY)

Centre number

Candidate signature and declaration*

- If additional answer sheets are used, enter the additional number of pages in this box.
- Before taking the examination, **all candidates** must check that their barcode label is in the appropriate box. Incorrectly placed barcodes may cause delays in the marking process.
- Please ensure that you staple additional answer sheets to the **back** of this answer booklet, clearly labelling these with your full name, enrolment number, centre number and qualification number in **BLOCK CAPITALS**.
- All candidates need to use a **black/blue** pen. **Do not** use a pencil or gel pen, unless otherwise instructed.
- If provided with source documents, these documents **must** be returned to City & Guilds. Do not write on the source documents.
- * **I declare that I had no prior knowledge of the questions in this examination and that I will not divulge to any person any information about the questions.**

Please check that your name is correctly printed on the candidate barcode label. If not, please tell the invigilator before the start of the exam.

You should have the following for this assessment

- a calculator
- a pen with black or blue ink
- a pencil (for diagrams, graphs and charts only)
- an eraser
- a 30cm ruler
- a protractor.



General instructions

- Read through each question carefully.
- You may use a dictionary.
- Show your working out (where required).
- Write all your working out and answers in this booklet.
- Check your calculations and check that your answers make sense.
- There are additional pages **including graph paper** at the back of this booklet if you run out of space or ask the invigilator if you need additional sheets of paper.



FUNCTIONAL SKILLS ONLINE COURSES

- ✓ Your answers are analysed to determine your Current Level
- ✓ Suggested courses for you to enrol on based on your calculated level
- ✓ Always know the level you are currently working at
- ✓ Determine when you are ready to sit your exam

Recommendations

Based on your results from this initial assessment, we estimate you are currently at **Level 1.5**. From this diagnostic, we think one of the following courses would be suitable:

Functional Skills English Initial Assessment
English
13 Questions | No Time Limit
Start Initial Assessment

Functional Skills Maths Initial Assessment
Maths
25 Questions | Mixed Calculator | No Time Limit
Start Initial Assessment

Functional Skills Maths Level 2
35 Topic Count | 105 Tests
43 Mock Exams
Enrol Now

Pick my own

- ✓ Explainer videos on every topic
- ✓ Quick-fire style multiple choice questions
- ✓ Test your knowledge with exam-style questions
- ✓ Written solutions for all questions

Why do we write...

Practice Question 1 of 5
Calculation
 $76 + 113 = 189$

Question 2 of 5
Select the correct answer from the list below:
129
183
189
194

Written Solution
 $76 + 113 = 189$

Course Completion %
View the completion percentage for the course.

6.44%

Using Numbers
16 TOPICS
27.08% Complete
Start Learning

Previous Results for Addition and Subtraction (including

ATTEMPT DATE	DIFFICULTY	RESULT
25/04/2022 15:39	Easy	80%
18/01/2022 14:01	Medium	20%

- ✓ See your progress through as you progress through each topic area
- ✓ Get your average scores for practice questions, topic tests and mock exams
- ✓ View all practice question, topic test and mock exam attempts over time
- ✓ View historical attempts to analyse your progress over time

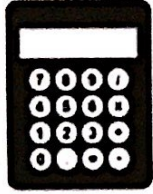
Or visit
passfunctionalskills.co.uk

SECTION 2 – CALCULATOR PERMITTED

There are **45** marks available in this section.

You should check all your work as you go along.

You may use a calculator.



Q1

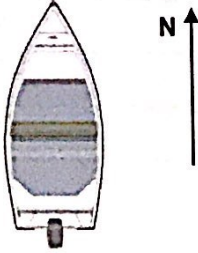
What is 10% of £68.50?

£ 6.85

(1 mark)

Q2

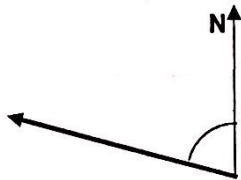
A boat is sailing North.



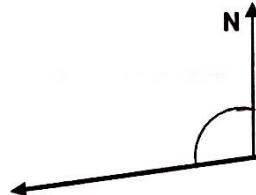
It turns 100 degrees in an **anti-clockwise** direction.

Which one of the following shows the direction in which the boat is now sailing?

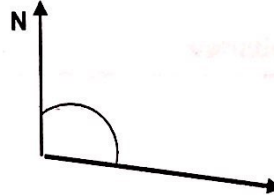
(tick one box)



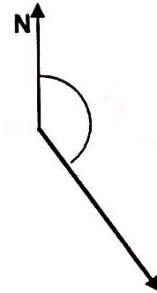
A



B



C



D

(1 mark)

Q3

A sea diver makes 7 different dives.

He measures how deep he dives.

This table shows his results:

Dive Number	Depth
1	-14m
2	-21m
3	-7m
4	-25m
5	-19m
6	-32m
7	-18m

What was the variation in depth for the seven dives?

Show your working

Smallest - 7

Largest - 32

$$32 - 7 = 25$$

Variation 25 metres

(1 mark)

Q4

What is the interest paid on £2500 at an interest rate of 15%

$$2500 \times 0.15 = 375$$

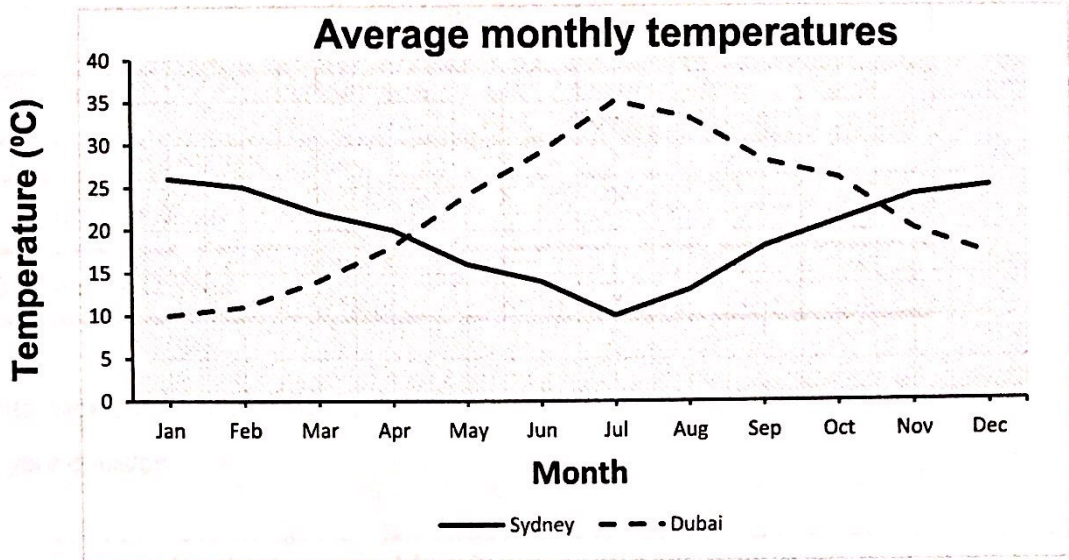
£ 375

(1 mark)

Q5

This chart shows the average monthly temperatures of Sydney and Dubai.

What is the difference in the average monthly temperature of Sydney and Dubai in July?



25 °C
(1 mark)

Q6

An aircraft passenger weighs his bag.

He goes to the check-in desks and says that his bag weighs 14g.

The person at the desk says this must be incorrect.

Explain why.

Explanation

14g is unrealistically small for a bag.

(1 mark)

Q7

A parent wants a car seat for his child who is 36 months old.

He needs a seat that is front facing and uses a harness.

He looks at this table.

Car Seats					
Child's age	Seat type	Features			
		Lie Flat	Front Facing	Rear Facing	Uses harness
From birth - 12 months	Baby	✓	X	✓	✓
6 months – 4 years	Toddler A	X	X	✓	✓
	Toddler B	X	✓	✓	✓
3.5 years – 12 years	Child A	X	✓	✓	✓
	Child B	X	✓	X	X

Which seat type should the parent buy?

Explain your decision.

Which seat type should the parent buy?

Toddler B

Explanation

36 months is 3 years so Toddler A or Toddler B.
Toddler A is not front facing.
Must choose toddler B.

(2 marks)

Q8

Dave and Sue are community centre workers.

They share the opening of the centre each day.

Their manager shares this work out between Dave and Sue in the ratio 3:1

She makes this rota for the first 16 days of the month.

	Name		Name
Day 1	Dave	Day 9	Dave
Day 2	Dave	Day 10	Sue
Day 3	Dave	Day 11	Dave
Day 4	Dave	Day 12	Dave
Day 5	Dave	Day 13	Sue
Day 6	Dave	Day 14	Sue
Day 7	Dave	Day 15	Sue
Day 8	Dave	Day 16	Dave

She needs to complete the rota for the next 5 days.

Complete the rota

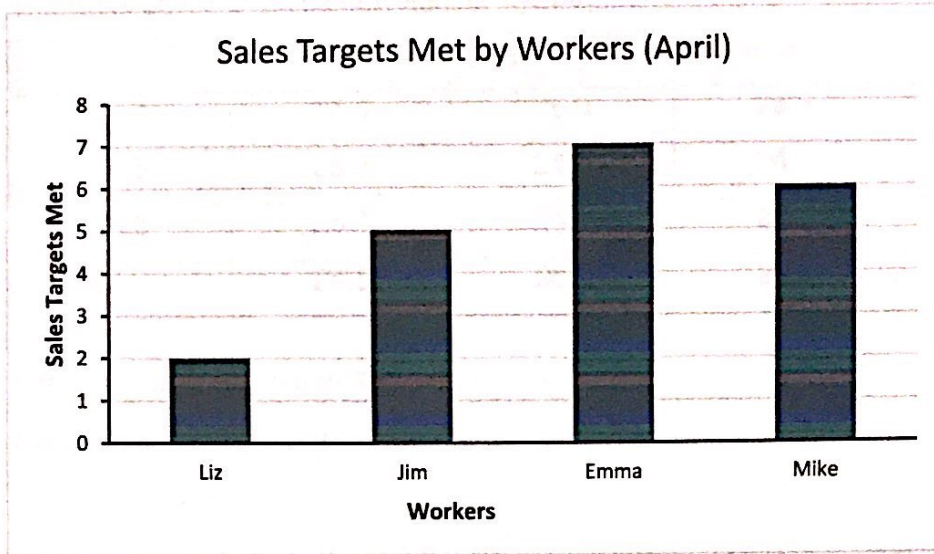
Show your working

12 Dave and 4 Sue needed.
 10 Dave and 1 Sue already worked.
 Add 2 Dave and 3 Sue.

(3 marks)

Q9

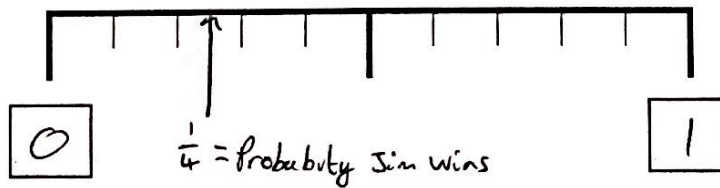
A workplace gives one raffle ticket to its workers for each sales target that they meet. Each month one ticket is drawn at random for a prize. The chart shows the number of sales targets met by each worker.



What is the probability that Jim will win the April draw?
Complete the probability diagram below to show your answer.

Show your working

Jim has 5
 Total $2 + 5 + 7 + 6 = 20$.
 Probability = $\frac{5}{20} = \frac{1}{4}$



(4 marks)

Q10

An inspector in a crisps factory measured the weight of crisps in 20 bags to check the accuracy of their weights.

The bags were labelled **Average Contents 25g**

The table below shows the weight of the bags of crisps.

Weight of bags of crisps in grams				
24.4	25.5	25.0	25.3	24.4
26.5	25.2	24.9	24.3	25.1
25.3	25.1	25.1	24.2	24.5
24.7	24.5	26.0	25.4	25.2

Present these weights in 3 suitable groups.

Make one comment about what the results show you.

Show your working

Weight	No.
24.0-24.9	8
25.0-25.9	10
26.0-26.9	2

Comment

40% of the bags were underweight.

(4 marks)

Q11

A woman is training for a triathlon race, which includes a 1.5km swim.

She needs her swim time to be 33 minutes.

She trains in a swimming pool, which is 50m long.

She needs to know the average time she must swim each length.

What is this time?

Show your working

$$1.5\text{km} = 1500\text{m}.$$

$$1500 \div 50 = 30 \text{ lengths}.$$

$$33 \div 30 = 1.1 \text{ minutes} = 1'6''$$

_____ 1 _____ minutes _____ 6 _____ seconds

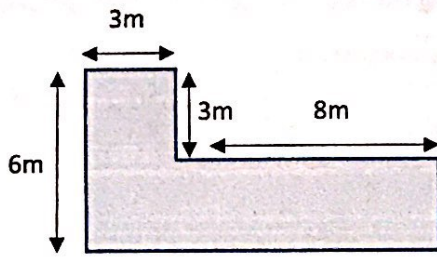
(4 marks)

Q12

A man wants to buy bags of gravel to cover his driveway.

He decides to work out the area of his driveway.

1 bag of gravel covers 14m^2



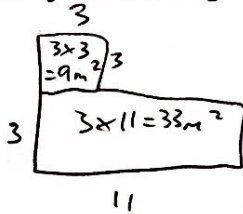
Sketch of driveway

Not to scale

What is the area of his driveway?

How many bags of gravel must he buy?

Show your working



42m^2 overall -

$$42 \div 14 = 3$$

Area of driveway 42 m^2

Number of bags of gravel 3

(4 marks)

Q13

A football manager needs to pick his team for the next match.

He gets some information on players in the team from previous matches.

He needs to choose between two players based on their work rate.

He measures their work rate using **average** and **variation** of the distance they covered.

	Distance covered for previous matches (km)						
Player A	7.2	6.8	7.6	8.7	7.4	6.8	8.0
Player B	7.9	7.3	5.8	7.6	*DNP	*DNP	6.9

*DNP = Did Not Play

Which player should the manager choose?

Make two comments with reference to average distance and variation in distances.

Space for working

$$A \text{ average} = \frac{7.2 + 6.8 + 7.6 + 8.7 + 7.4 + 6.8 + 8.0}{7}$$

$$= 7.5 \text{ km}$$

$$B \text{ average} = \frac{7.9 + 7.3 + 5.8 + 7.6 + 6.9}{5} = 7.1 \text{ km}$$

$$A \text{ variation} = 1.9 \text{ km} \quad B \text{ variation} = 2.1 \text{ km}$$

Which player should the manager choose?

(tick one box)

Player A

Player B

Comment about average

Player A has a better average distance covered than player B.

Comment about variation

Player A has a lower variation than player B, so will be more consistent.

(6 marks)

Q14

A father and his child want to take self-defence lessons at a karate club for a year.

The club offers lessons for members and non-members.

The club holds one lesson per week.

Everyone who comes to lessons must buy a uniform and take out insurance for the year.

The father and child can only go to half of the lessons for the year.

Karate Club pricelist	
•	Membership Adult: £20 per month
•	Child: £16 per month
•	Non-members £8.50 per lesson (all ages)
•	Insurance £15 per year
•	Uniform £95 (20% discount for members)

He needs to decide whether to take lessons as members or non-members.

What should he decide to do? Explain your answer using figures.

Show your working

Member :
 $20 \times 12 + 16 \times 12 + 15 + 95 \times 0.8 = £614$.

Non-member :
 $8.50 \times 26 + 15 + 95 = £662$.

Decision (tick one box)

Member Non-member

Explanation

Member is £48 cheaper .

(6 marks)

Q15

The owner of a trampoline park has a floor plan.

She wants to put 4 trampolines in **zone 3**.

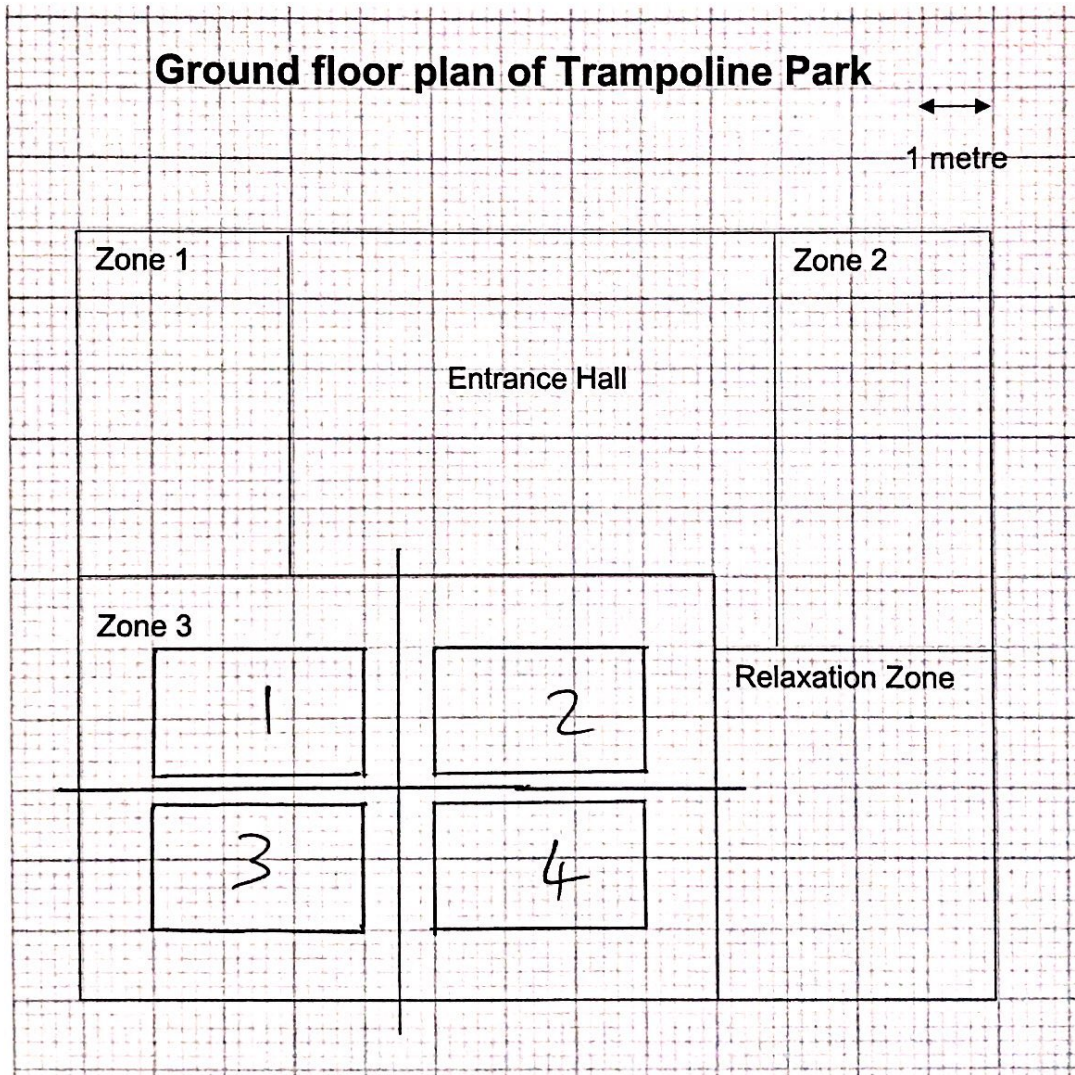
She needs a scale diagram to see where the trampolines will go.

Each trampoline measures 3 metres by 1.8 metres.

She wants them placed with 2 lines of symmetry in **zone 3**.

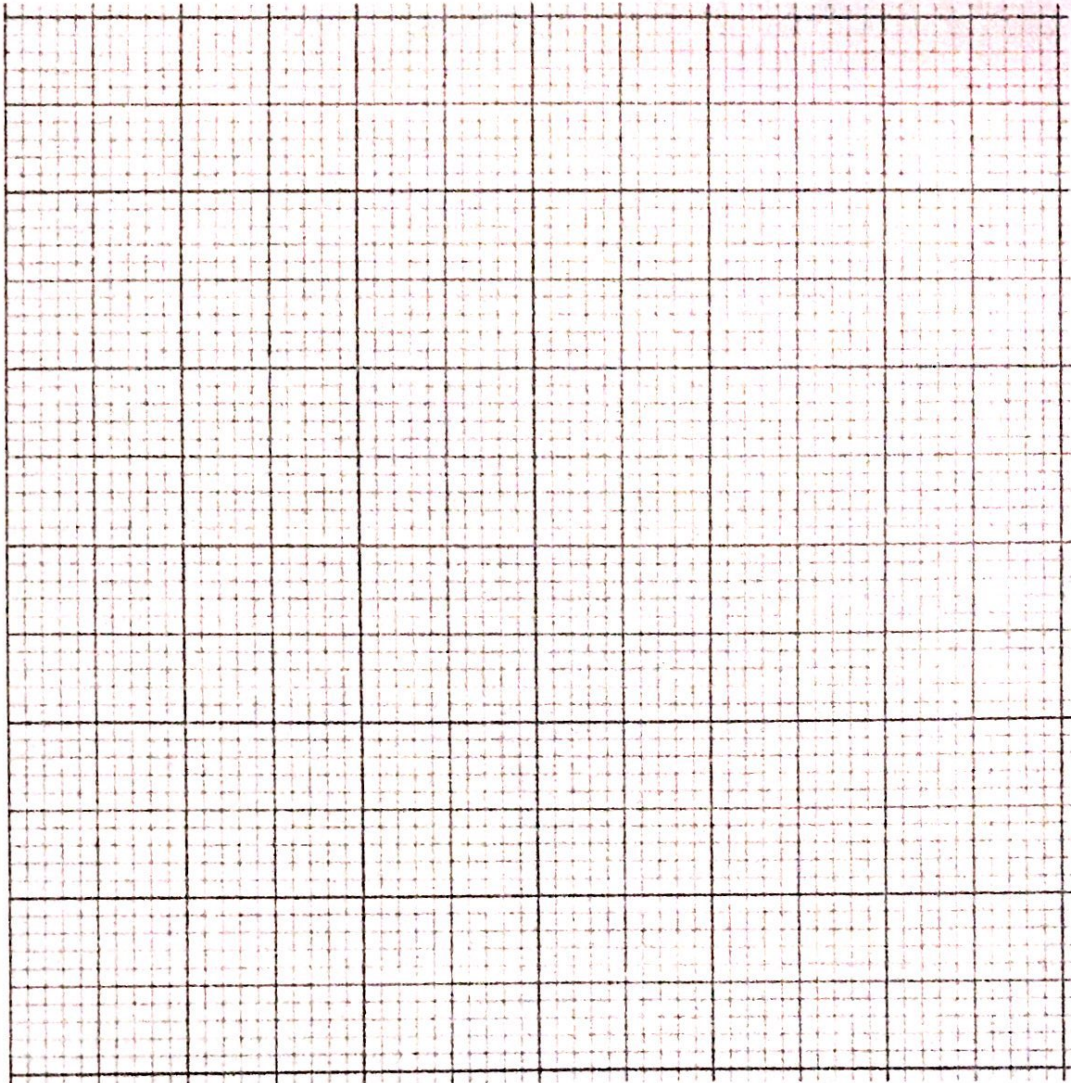
Complete the plan below to show the positions of the trampolines.

Draw the 2 lines of symmetry.



(6 marks)

Spare graph paper for Question 15

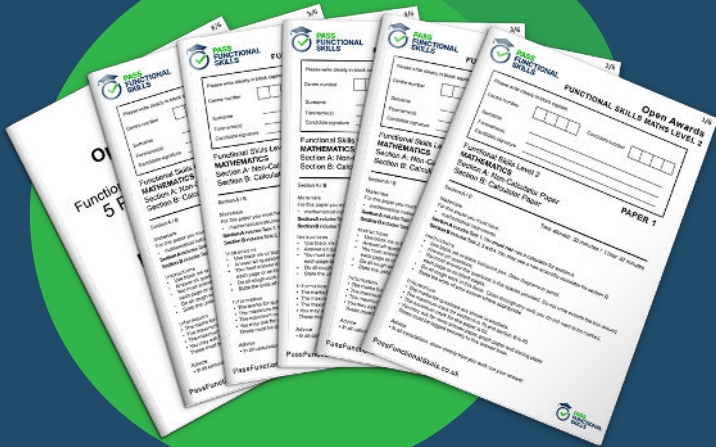


Extra space for working out and answers

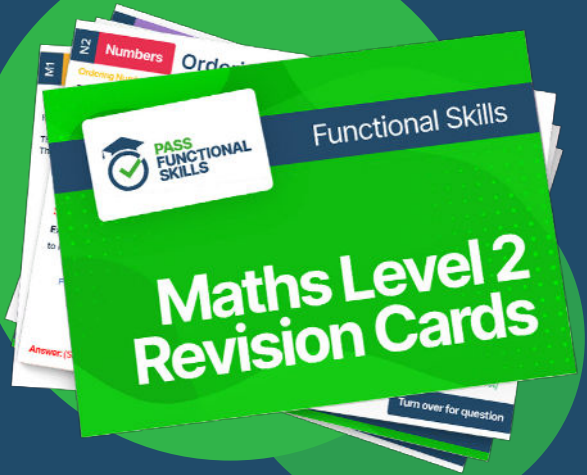
End of Section 2



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