Please check the examination details below before entering your candidate information

Candidate surname	Other names

Pearson Edexcel Functional Skills

Centre Number	Candidate Number

Past Paper 6

Time: 25 minutes | Paper Reference **PMAT2/N06**

Mathematics

Level 2
Section A (Non-Calculator)

You must have:
Pen, HB pencil, eraser, ruler graduated in cm and mm, protractor, pair of compasses. Tracing paper may be used.

Total Marks

My signature confirms that I will not discuss the content of the test with anyone.

Signature: _____

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Sign the declaration.
- Answer **all** questions.
- Write your final answers in the boxes provided.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- You **must** show clearly how you get your answers in the spaces provided. Marks will be awarded for your working out.
- Check your working and answers at each stage.
- Diagrams are **not** accurately drawn, unless otherwise indicated.
- **Calculators may not be used.**
- Take the value of π to be 3.14

Information

- The total mark for this section is 16.
- The marks for **each** question are shown in brackets – *use this as a guide as to how much time to spend on each question.*
- This sign ☑ shows where marks will be awarded for showing your checks.

Advice

- Read each question carefully before you start to answer it.
- Check your answers if you have time at the end.

Turn over ▶

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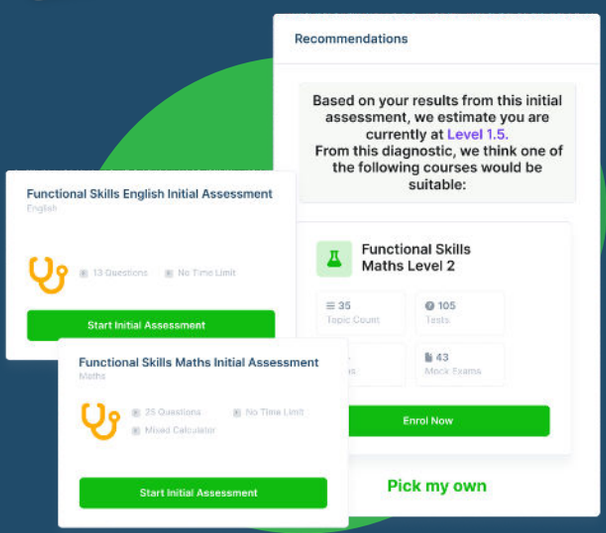
Pearson

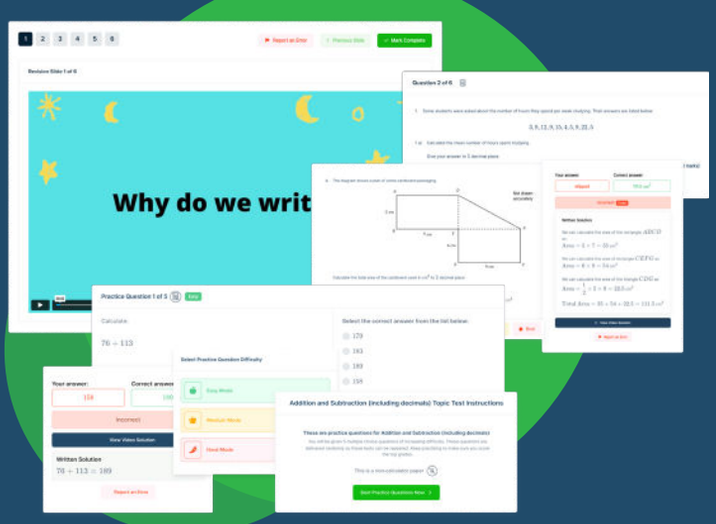
PASS FUNCTIONAL SKILLS

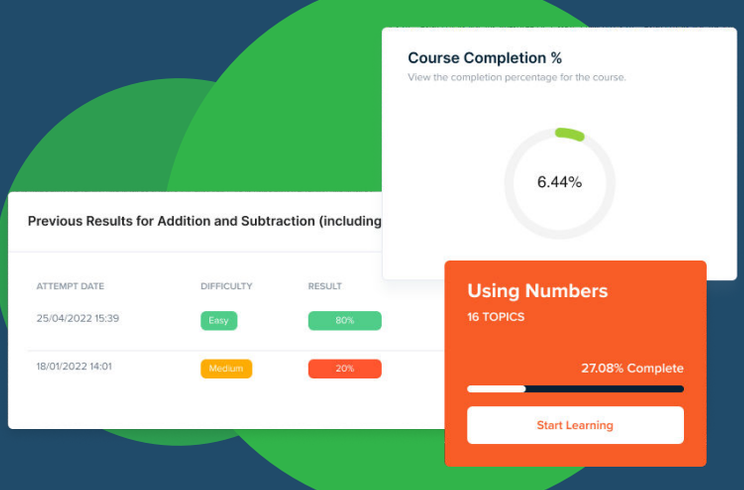
FUNCTIONAL SKILLS ONLINE COURSES



- 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

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





- 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

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SECTION A

Answer ALL questions. Write your answers in the spaces provided.

1 Jai needs to buy 25 lollipops for a party.
He sees this offer.

Lollipops
selection bag

now $\frac{1}{3}$ extra free

Jai knows a normal selection bag contains 18 lollipops.
He thinks he will have enough lollipops if he buys a selection bag with this offer.

Is Jai correct?
Show why you think this.

(3)

$\frac{1}{3}$ of 18 = 18 ÷ 3 = 6

18 + 6 = 24

NO, he will only have 24

(Total for Question 1 is 3 marks)

2 Here is a formula

$$d = \frac{180\,(n-2)}{n}$$

Find the value of d when $n = 5$ **(3)**

$$d = \frac{180\,(5-2)}{5}$$

$$d = \frac{180 \times 3}{5}$$

$$= \frac{540}{5}$$

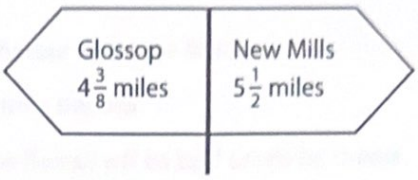
$$= 108$$

108

(Total for Question 2 is 3 marks)

3 Andrew is a member of a walking club.

He sees this sign next to a footpath.



Andrew will walk from this sign along the footpath to Glossop to meet his friend. They will then both walk back along the footpath to the sign and then onto New Mills.

Work out the total distance that Andrew walks.

Give your answer as a mixed number.
You **must** show your working.

(4)

$4\frac{3}{8} + 4\frac{3}{8} + 5\frac{1}{2}$

$= 8\frac{6}{8} + 5\frac{4}{8}$

$= 13 + \frac{10}{8}$

$= 14\frac{2}{8} = 14\frac{1}{4}$

$14\frac{1}{4}$ miles

(Total for Question 3 is 4 marks)

4 A box contains bags of crisps.
Each bag of crisps is either beef flavour, prawn flavour or cheese flavour.

Beth is going to take at random a bag of crisps from the box.

The table shows each of the probabilities that the flavour will be beef or will be cheese.

flavour	beef	prawn	cheese
probability	0.4		0.35

(a) Work out the probability that Beth takes a bag of prawn flavour crisps.

(2)

$1 - 0.4 - 0.35 = 0.25$

0.25

200 workers are asked about the favourite drink they have at work.

Some of the results are shown in the table below.

(b) Complete the two-way table.

(2)

200 - 46 - 27 = 127

112 - 64 - 10 = 38

27 - 10 = 17

127 - 64 = 63

		Favourite drink			
		water	tea	coffee	total
Workers	office	17	63	8	88
	warehouse	10	64	38	112
	total	27	127	46	200

(c) What is the probability that a worker choosing coffee works in the office?
Give your answer as a fraction in its simplest form.

(2)

$\frac{8}{46} = \frac{4}{23}$

$\frac{4}{23}$

(Total for Question 4 is 6 marks)

TOTAL FOR SECTION A IS 16 MARKS

Please check the examination details below before entering your candidate information

Candidate surname	Other names

Pearson Edexcel Functional Skills

Centre Number	Candidate Number

Past Paper 6

Time: 1 hour 30 minutes | Paper Reference **PMAT2/C06**

Mathematics

Level 2
Section B (Calculator)

You must have:
Pen, calculator, HB pencil, eraser, ruler graduated in cm and mm, protractor, pair of compasses. Tracing paper may be used.

Total Marks

My signature confirms that I will not discuss the content of the test with anyone.

Signature: _____

Instructions

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- **Calculators may be used.**
- If your calculator does not have a π button take the value of π to be 3.14

Information

- The total mark for this section is 48.
- The total mark for this paper is 64.
- The marks for **each** question are shown in brackets.
  – *use this as a guide as to how much time to spend on each question.*
- This sign ☑ shows where marks will be awarded for showing your checks.

Advice

- Read each question carefully before you start to answer it.
- Check your answers if you have time at the end.

Turn over ▶

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P 6 8 2 0 3 A 0 1 2 0

Pearson

SECTION B

Answer ALL questions. Write your answers in the spaces provided.

1 Olivia plans to drive from Birmingham to Manchester non-stop.

The distance is 87 miles.
She has allowed 1.5 hours for the journey.

(a) What is the average speed she must drive to complete the journey in 1.5 hours?

(2)

$\frac{87}{1.5} = 58$

58 mph

☑ (b) Use a reverse calculation to show a check of your answer.

(1)

$58 \times 1.5 = 87$

(Total for Question 1 is 3 marks)

2 Brian is a sports reporter.

Team A played 30 rugby matches.

The table shows information about the number of tries team A scored in these matches.

number of tries	number of matches	
0	3	0
1	7	7
2	11	22
3	9	27
total	30	56

(a) Work out the mean number of tries team A scored per match.

(2)

56 ÷ 30 = 1·87 (2 decimal places)

1·87 tries

Brian wants to compare two teams.
He knows

- team A had a range of 3 tries
- team B had a range of 4 tries.

(b) Which team is more consistent scoring tries?
Explain why you think this.

(1)

Team A because the range is lower

(Total for Question 2 is 3 marks)

3 The head teacher at a school is organising for some year 7 and some year 8 pupils to go on a school trip.
72 people in total will go on the school trip.

There will be 1 adult to every 5 pupils.

The ratio of the number of year 7 pupils to the number of year 8 pupils will be 3 : 1

How many adults, year 7 pupils and year 8 pupils will go on the trip?

(4)

$72 \div (1+5) = 12$ (adults)

$72 - 12 = 60$

$60 \div (1+3) = 15$ (year 8s)

$15 \times 3 = 45$ (year 7s)

12 adults

45 year 7 pupils

15 year 8 pupils

(Total for Question 3 is 4 marks)

4 Josh drives a lorry.
He is planning his route.

On the planned route there is a low bridge.
The maximum height of a lorry allowed under the bridge is 14 feet.

Josh knows the lorry is 4.2 m high.

Josh uses 1 foot = 0.3048 m.

(a) Will the lorry be allowed under the bridge?
Show why you think this.

(2)

$4 \cdot 2 \div 0 \cdot 3048 = 13 \cdot 779\ldots < 14$

Yes, it is 13.78 feet high

☑ (b) Use a reverse calculation to show a check of your answer.

(1)

$13 \cdot 78 \times 0 \cdot 3048 \approx 4 \cdot 2$

(Total for Question 4 is 3 marks)

5 Yasmine invests £4000

For the first 2 years she receives annual compound interest of 3%
In year three she receives annual compound interest of 2.5%

At the end of year three Yasmine wants to buy a car for £4500

She will use all of the investment and interest towards the cost of the car.

Work out how much more money Yasmine needs to buy the car.
You **must** show your working

(5)

First 2 years = $4000 \times 1.03^2 = £4243.60$

3rd year = $4243.6 \times 1.025 = £4349.69$

$4500 - 4349.69 = £150.31$

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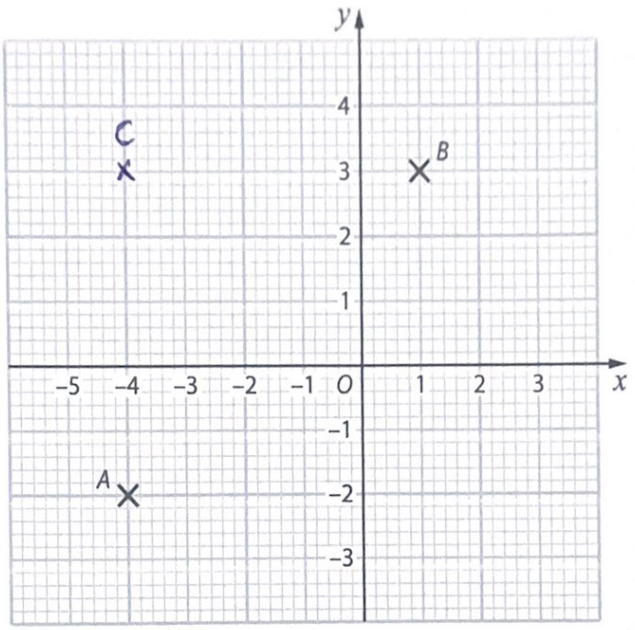
£ 150·31

(Total for Question 5 is 5 marks)

6



(a) Write down the coordinates of point *A*.

(1)

(−4 , −2)

(b) Mark with a cross the point *C* on the grid so that angle *ACB* is a right angle.

(1)

(c) Write down the sum of the interior angles of a triangle.

(1)

180 °

(Total for Question 6 is 3 marks)

7 Carlos records the number of tweets his company posts every year on social media.

year	2014	2015	2016	2017	2018	2019
number of tweets	452	325	744	1022	712	750

(a) Find the median number of tweets. (2)

325 452 712 744 750 1022

$\frac{712 + 744}{2} = 728$

728

In 2019, 6% of the tweets were about job vacancies.

(b) How many of the tweets in 2019 were about job vacancies? (2)

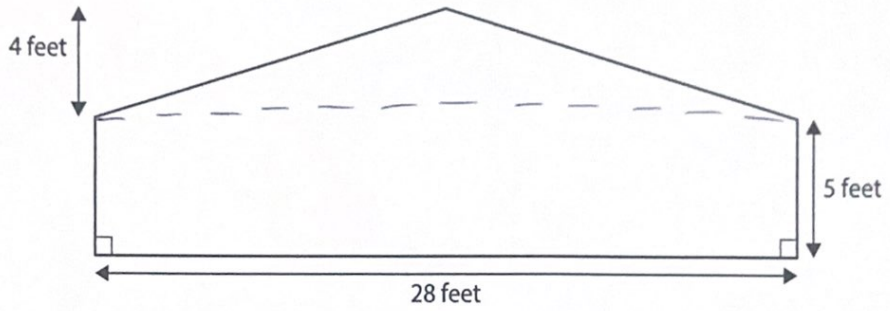
$750 \times 0.06 = 45$

45

(Total for Question 7 is 4 marks)

8 Myra works as a volunteer at her local pony club.
She is going to cover the front of the stables with paint.

The diagram shows a sketch of the front of the stables.



Myra will buy the paint she needs.

1 tin of paint

- covers 7 m^2
- costs £6.45

She uses this rule.

Area in square feet ÷ 10.764 = area in square metres.

Work out the total cost of the tins of paint Myra will buy

(6)

Area = $\frac{1}{2} \times 4 \times 28 + 28 \times 5$

= 196 square feet

In square metres = 196 ÷ 10.764 = 18.208... m^2

18.21 m^2

18.21 ÷ 7 = 2.601... (no. of tins)

So she needs 3 tins

3 x 6.45 = £19.35

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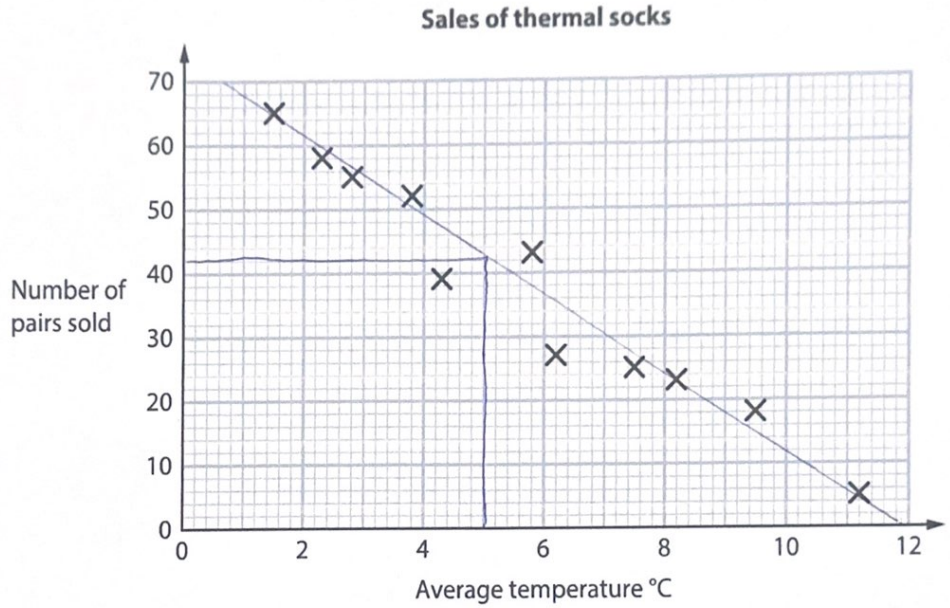
£ 19·35

(Total for Question 8 is 6 marks)

9 Leona works in a sock shop.

The scatter diagram shows the number of pairs of thermal socks sold and the average temperature that month.



(a) Draw a line of best fit onto the scatter diagram.

(1)

(b) Describe the correlation between the number of pairs of thermal socks sold and the temperature.

Negative correlation

(1)

Next month the predicted average temperature is 5°C
Leona needs to estimate how many pairs of thermal socks she will sell.

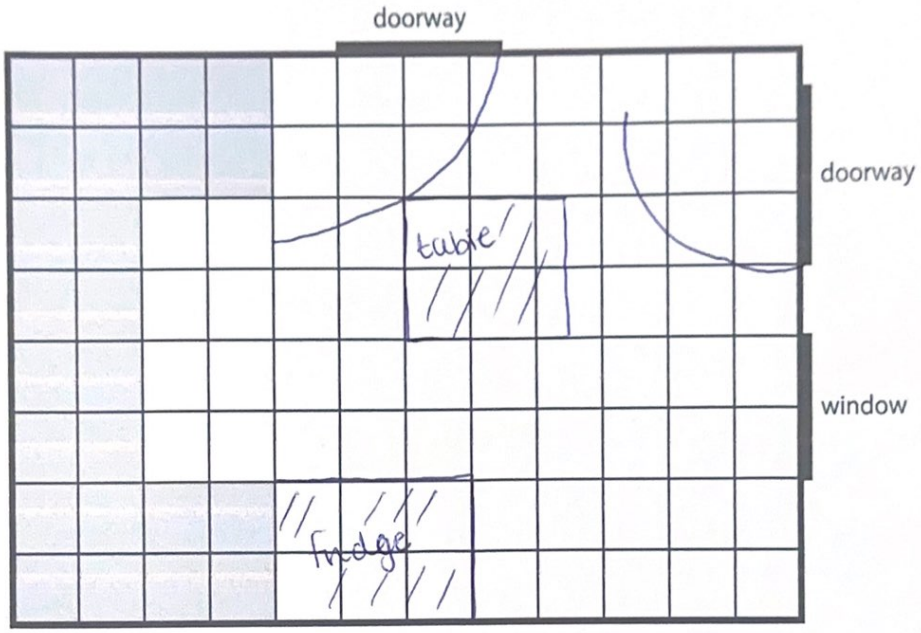
(c) Estimate the number of pairs of thermal socks she will sell next month.

(1)

42

(Total for Question 9 is 3 marks)

10 Chris has moved to a new flat.
The grid shows a plan of the kitchen.



Key

walls

cupboards

1 square length on the grid represents 0.3 m in the kitchen

Chris needs to put a fridge and a table in the kitchen.

The fridge will need a rectangular space 90 cm by 60 cm with the longest side against a wall but not against a window.

The table will need a rectangular space 60 cm by 75 cm and to be at least 60 cm away from the doorways, the cupboards, the fridge and not against a wall.

Draw the space for the fridge and the space for the table on the grid for Chris.
Remember to label the items.

(3)

(Total for Question 10 is 3 marks)

11 Nigel is the secretary of a football club.

He pays three match officials each week.

He has this information for the payments he made for the last 5 weeks.

Week	1	2	3	4	5
Payment made (£)	62.94	47.12	92.37	74.80	81.45

The table shows the match fees and expenses the officials will receive in week 6

official	fee	expenses
referee	£36	46 miles at 30p per mile
assistant 1	£27	14 miles at 30p per mile
assistant 2	£27	23 miles at 30p per mile

The total payment for each official is made up of a match fee and expenses.
Nigel pays 67% of the total payments for these three match officials.

Nigel thinks the payment he makes in week 6 is more than the median payment he made for the previous 5 weeks.

Is Nigel correct?
Show why you think this.

(5)

47·12 62·94 74·80 81·45 92·37

↑ median

referee = 36 + 46 × 0·3 = £49·80

assistant 1 = 27 + 14 × 0·3 = £31·20

assistant 2 = 27 + 23 × 0·3 = £33·90

Total = £114·90

67% of total = 0·67 × 114·90 = £76·98

He is correct as £76·98 is greater than the median (£74·80).

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£ 76.98 > 74.80

(Total for Question 11 is 5 marks)

12 Tammy wants to make chocolate sweets.

The sweets will be solid chocolate in the shape of a sphere.
Each sweet will have a radius of 2 cm.

Tammy will melt chocolate blocks to make the sweets.
Each chocolate block is a cuboid 19 cm by 14 cm by 0.75 cm.

She has this formula

Volume of a sphere $= \frac{4}{3}\pi r^3$

where r = radius
$\pi = 3.14$

Tammy wants to make 45 sweets.
She thinks 7 blocks of chocolate are enough to make 45 sweets.

Is Tammy correct?
Show why you think this.

(6)

Volume of each sweet $= \frac{4}{3} \times \pi \times 2^3 = 33.49\ cm^3$

Volume of block $= 19 \times 14 \times 0.75 = 199.5\ cm^3$

45 sweets $= 33.49 \times 45 = 1507.2\ cm^3$

7 blocks $= 199.5 \times 7 = 1396.5\ cm^2$

Tammy is incorrect, she needs $1507.2\ cm^3$ of chocolate and only has $1396.5\ cm^2$.

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(Total for Question 12 is 6 marks)

TOTAL FOR SECTION B IS 48 MARKS

TOTAL FOR PAPER IS 64 MARKS

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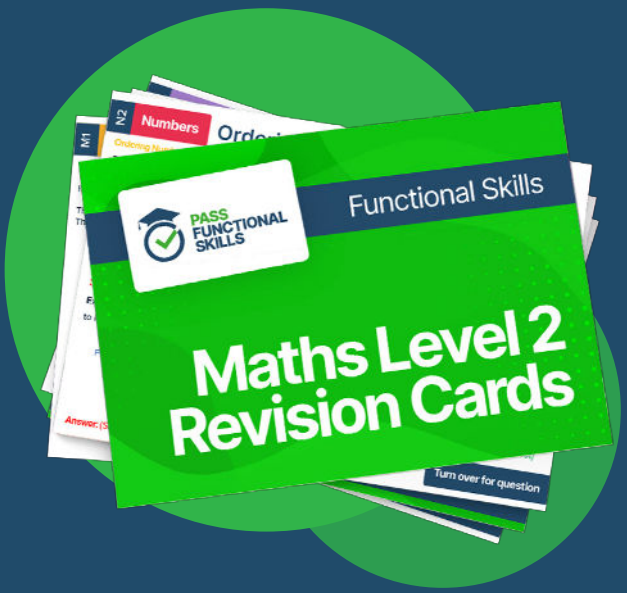
Functional Skills Maths
Level 2 Practice Papers



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