Please check the examination details below before entering your candidate information

Candidate surname	Other names

Pearson Edexcel Functional Skills

Centre Number	Candidate Number

Set 8

Time: 25 minutes | Paper Reference **PMAT2/N08**

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 ▶

P68470A

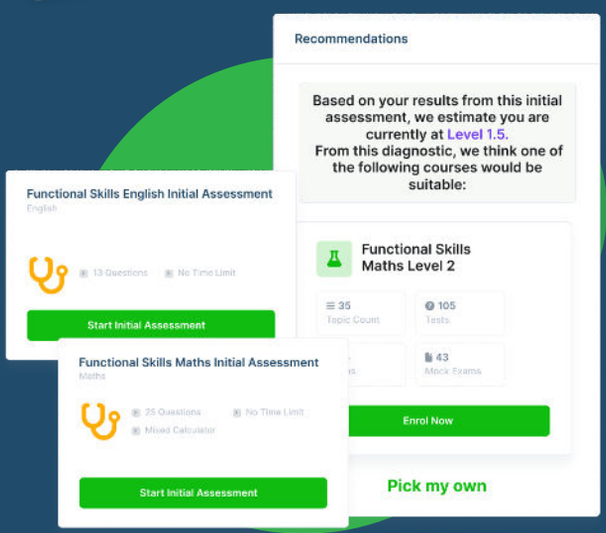
1/1/1/1/1/1

P 6 8 4 7 0 A 0 1 0 8

Pearson

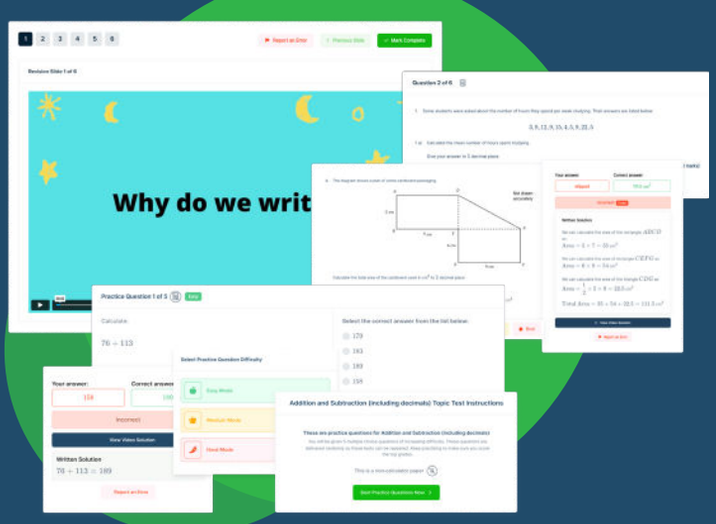
PASS FUNCTIONAL SKILLS

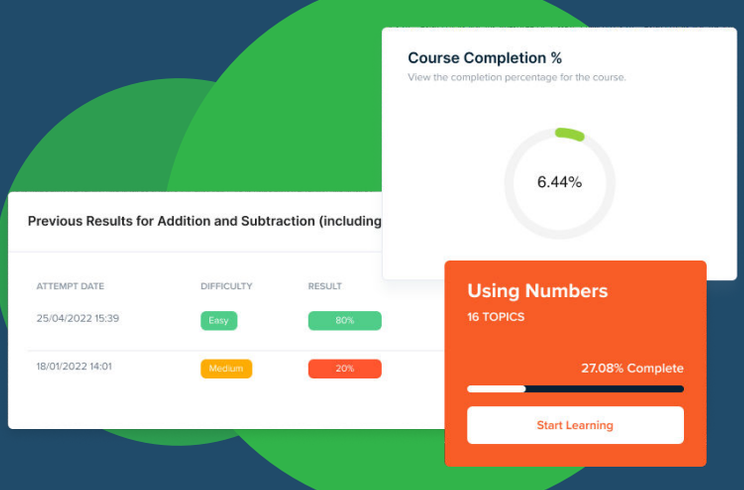
FUNCTIONAL SKILLS ONLINE COURSES



- 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

SECTION A

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

1 Eve buys lunch on her way to work.
She sees this meal deal.

Meal deal

Buy any sandwich
snack and drink
for £3.99

Eve chooses these items.

Chicken sandwich	£2.85
Fruit snack pot	79p
Coffee	£1.59

Work out how much money Eve will save using the meal deal.
You **must** show your working.

(3)

without deal costs $2.85 + 0.79 + 1.59 = £5.23$

$$\begin{array}{r} 2.85 \\ 0.79 \\ 1.59 \\ \hline 5.23 \end{array}$$

with deal costs £3.99

Difference is $5.23 - 3.99 = £1.24$

$$\begin{array}{r} {}^{4}\cancel{5}.{}^{1}\cancel{2}{}^{1}3 \\ -\ 3.99 \\ \hline 1.24 \end{array}$$

£ 1.24

(Total for Question 1 is 3 marks)

2 Work out 74.88 ÷ 1.2

You **must** show your working.

(3)

$74.88 \div 1.2 = 748.8 \div 12$ (×10, ×10)

$$\begin{array}{r} 062.4 \\ 12 \overline{)\,7\,{}^{7}4\,{}^{2}8\,.\,{}^{4}8} \end{array}$$

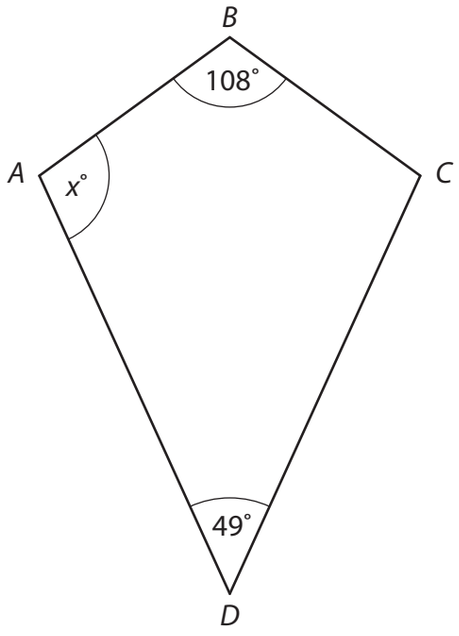
62.4

(Total for Question 2 is 3 marks)

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

P 6 8 4 7 0 A 0 4 0 8

3 *ABCD* is a 4-sided shape.
BD is a line of symmetry of the shape.



(a) Work out the value of *x*.

(3)

angles in a quadrilateral add to 360°

$$\begin{array}{r} 108 \\ +\ 49 \\ \hline 157 \\ {\scriptstyle 1} \end{array}$$

108 + 49 = 157

$$\begin{array}{r} 3\,{}^{5}\!\not{6}\,{}^{1}0 \\ -\ 157 \\ \hline 203 \end{array}$$

So remaining two angles must add to 360 − 157 = 203

These angles are equal so must both be 203 ÷ 2 = 101·5°

101·5°

☑ (b) Use estimation to check your answer.

(1)

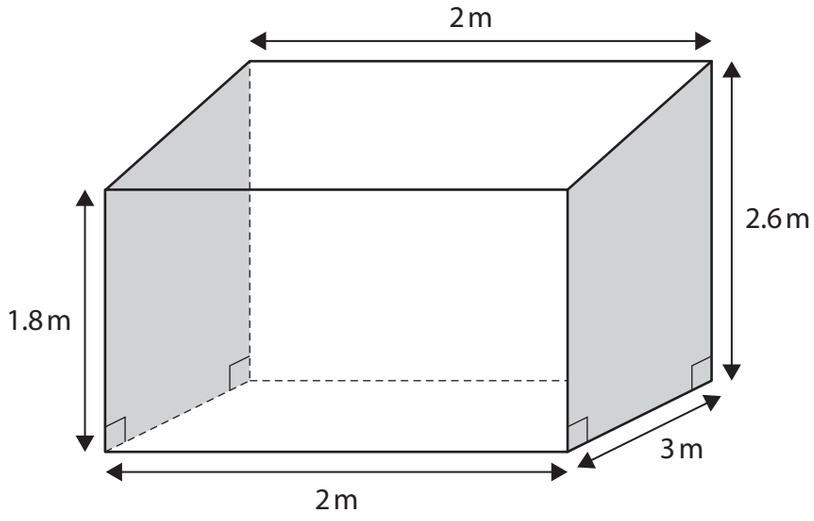
Estimate given angles as 110° and 50°. 110 + 50 = 160

360 − 160 = 200

200 ÷ 2 = 100 ← so answer should be approximately 100

(Total for Question 3 is 4 marks)

4 Max is building a new shed.
He has drawn this sketch.



Each shaded wall of the shed is in the shape of a trapezium.
The other two walls are rectangular.

Max wants to cover the four walls with wood cladding.
He will not use any cladding for the floor or the roof.

Max will buy the cladding in packs.
Each pack of cladding covers 1.1 m^2

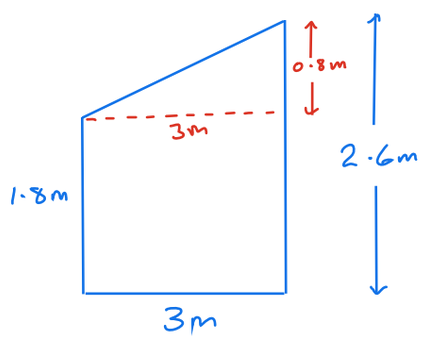
The cladding can be cut and joined.

Max knows that the two rectangular walls need 8.8 m^2 of cladding in total.

Work out how many packs of cladding Max needs to cover the four walls.

(6)

find area of shaded walls:



Area of rectangle = 3×1.8
$= 5.4 m^2$

$$\begin{array}{r} 18 \\ \times\ 3 \\ \hline 54 \\ {\scriptstyle 2} \end{array}$$

Area of triangle = $\frac{3 \times 0.8}{2}$

$= \frac{2.4}{2}$

$= 1.2 m^2$

Area of wall = $5.4 + 1.2$
$= 6.6 m^2$

$$\begin{array}{r} 5.4 \\ +\ 1.2 \\ \hline 6.6 \end{array}$$

Area of both shaded walls = 6 6 + 6·6
= 13·2 m²

6·6
+ 6·6
13·2
1

Told rectangular walls have area 8·8 m² total

So area of all walls is 13 + 2 + 8·8 = 22 m²

(so need 22 m² of cladding)

13·2
+ 8·8
22·0
1 1

Each pack covers 1·1 m² so need 22 ÷ 1·1 packs
= 20 packs

×10 ×10
22 ÷ 1·1
= 220 ÷ 11

020
11 | 220

20

(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

Set 8

Time: 1 hour 30 minutes | Paper Reference **PMAT2/C08**

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

- 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 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 ▶

P68471A

1/1/1/1/1/1

P 6 8 4 7 1 A 0 1 2 0

Pearson

SECTION B

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

1 Mandy spins a fair spinner twice.

The colours on the spinner are red, blue, green, orange and pink.
The table shows all the possible outcomes.

		Second spin				
		Red	**Blue**	**Green**	**Orange**	**Pink**
First spin	**Red**	R, R	R, B	R, G	R, O	R, P
	Blue	B, R	B, B	B, G	B, O	B, P
	Green	G, R	G, B	G, G	G, O	G, P
	Orange	O, R	O, B	O, G	O, O	O, P
	Pink	P, R	P, B	P, G	P, O	P, P

(a) What is the probability of getting the same colour on both spins?

(1)

Boxes with red dot have same colour on both spins

So 5 options out of 25 options in total $\frac{5}{25} = \frac{1}{5}$

$\frac{1}{5}$

(b) What is the probability of getting at least one blue in the two spins?

(2)

Boxes with blue dot have at least one blue

So 9 options out of 25 options in total $\frac{9}{25}$

$\frac{9}{25}$

(Total for Question 1 is 3 marks)

2 Habiba wants to make pastry by mixing butter and flour.
She needs to mix the butter and the flour in the ratio 4 : 9

Habiba wants to make 650 grams of pastry.
She has 425 grams of flour.

Does Habiba have enough flour to make 650 grams of pastry?
Show why you think this.

(3)

b : f

4 : 9

4 + 9 = 13 parts total

so 13 parts = 650g) ÷13

÷13 (1 part = 50g

x9 (9 parts = 450g) x9

needs 450g of flour

so no, she doesn't have enough flour

no

(Total for Question 2 is 3 marks)

3 Habiba also wants to make cupcakes.
She has this list of ingredients.

Cupcakes
makes 12

2 cups of flour	1 egg
3 tbsp butter	10.5 fl oz milk
$\frac{3}{4}$ cup sugar	3 apples
pinch of cinnamon	

10.5 × 28.413
= 298.3365 ml

Habiba wants to make 30 cupcakes.

1 fl oz = 28.413 ml
× 28.413

How much milk does Habiba need to make 30 cupcakes?
Give your answer to the nearest ml.

(4)

12 cupcakes uses 298.3365 ml milk
÷12 ↓ ↓ ÷12
1 cake uses 24.861 ml milk
×30 ↓ ↓ ×30
30 cakes uses 745.84 ml milk

So 746 ml to nearest ml

746 ml

(Total for Question 3 is 4 marks)

4 Callum is a plumber.
He spends money on eight different adverts.

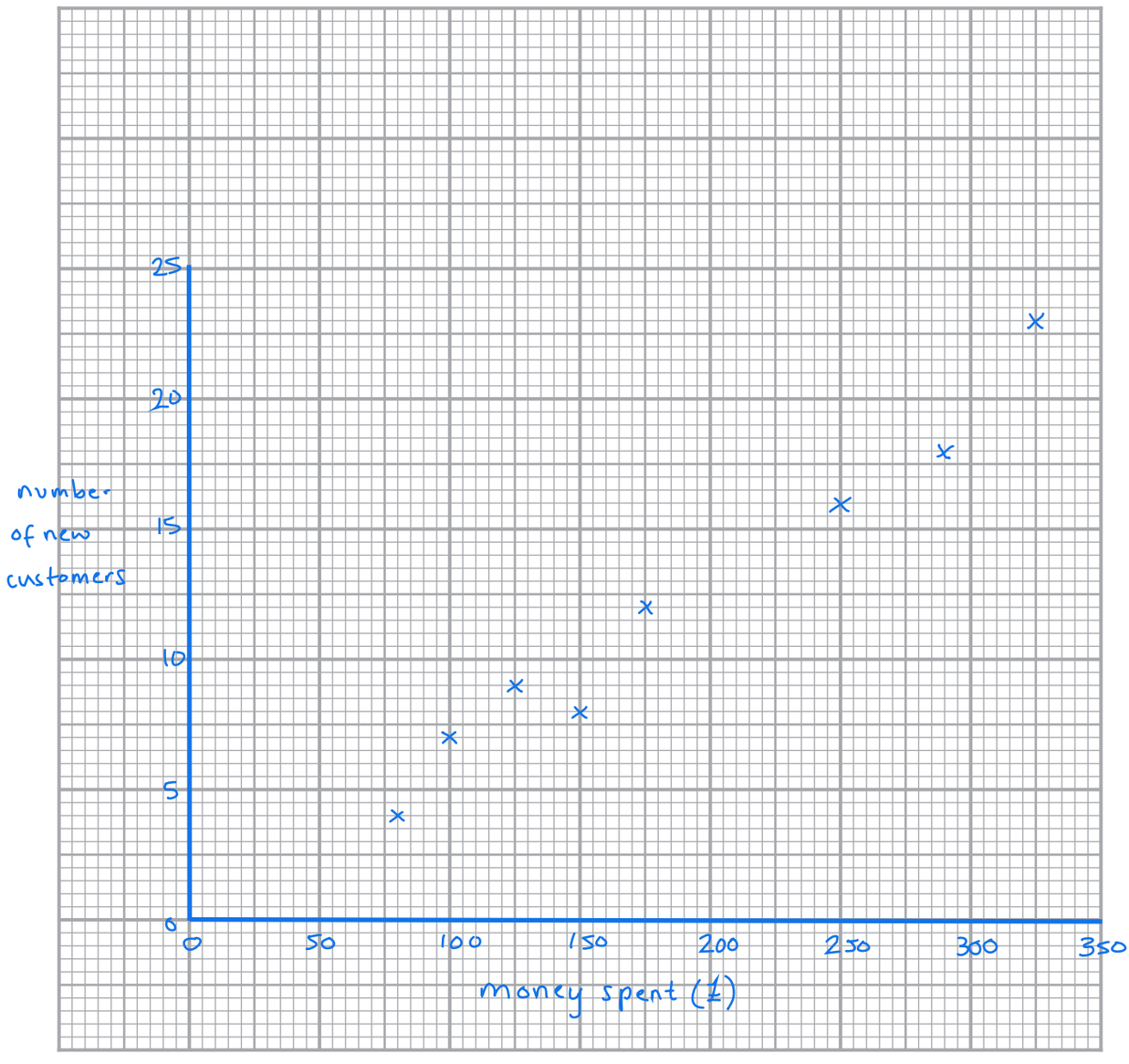
Callum has this information about the money he spent on each advert and the number of new customers from seeing that advert.

Money spent (£)	100	175	80	250	150	325	125	290
Number of new customers	7	12	4	16	8	23	9	18

Callum wants to draw a diagram to see if there is a relationship between the money he spent on each advert and the number of new customers from seeing that advert.

Draw a suitable diagram for Callum.

(3)



(Total for Question 4 is 3 marks)

5 Misha rows in a team of 8 people.

She wants to compare the mean BMI of the people in the rowing team with the mean BMI of women in the UK.

Misha uses this formula to calculate her BMI.

$$\text{BMI} = \frac{W}{H^2}$$

W is weight (kg)
H is height (metres)

Misha has a weight of 73.3 kg and a height of 67 inches.

67 × 2·54
= 170·18 cm) ÷100
= 1·7018 m

1 inch = 2.54 cm
× 2·54

The table shows some information about the BMIs of the people in the rowing team.

Louise	Katia	Leila	Lisa	Gemma	Mel	Steph	Misha
24.8	27.1	25.7	28.3	26.4	25.2	27.6	25.3097

The mean BMI of women in the UK is 26.9

Compare the mean BMI of the people in the rowing team with the mean BMI of women in the UK.

(5)

Misha's BMI is $\frac{73.3}{1.7018^2}$ = 25·3097

mean of rowing team = (24·8 + 27·1 + 25·7 + 28·3 + 26·4 + 25·2 + 27·6 + 25·3097) ÷ 8
= 26·301

lower than mean BMI for women in the UK (which is 26·9)

(Total for Question 5 is 5 marks)

6

(a) Write three million, six hundred and seventy five thousand in figures.

(1)

3,675,000

(b) Write 760 grams as a fraction of 1 kilogram.
Give your answer in its simplest form.

1000 grams

(2)

$\frac{760}{1000} = \frac{76}{100} = \frac{38}{50} = \frac{19}{25}$

$\frac{19}{25}$

(Total for Question 6 is 3 marks)

7 Nyam looks at the screen time report on his phone.

This week his average screen time per day is 28% greater than his average screen time per day last week.

100% + 28% = 128% = 1·28

This week Nyam's average screen time per day is 3 hours and 44 minutes.

3 × 60 = 180 mins

Work out Nyam's average screen time per day for last week.

(4)

3hrs 44 mins = 180 + 44 mins
= 224 mins per day this week

time last week = 224 ÷ 1·28
= 175 mins

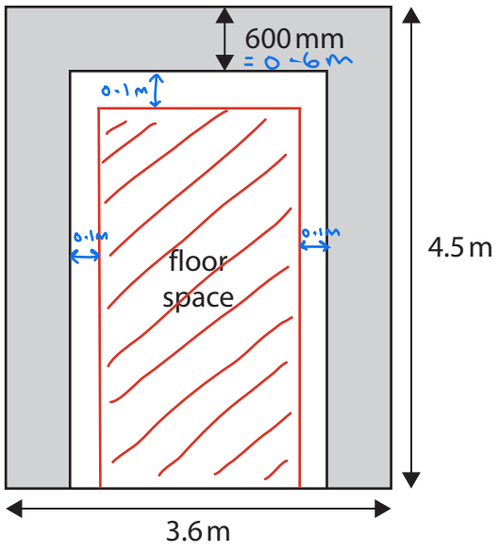
175 minutes

(Total for Question 7 is 4 marks)

÷ 1000
mm → m

8 Frank wants to fit underfloor heating in his kitchen.
The kitchen is in the shape of a rectangle.

He has this sketch.



The shaded space shows the part of the floor covered by cabinet bases.
Each cabinet has a depth of 600 mm. = 0.6m

Frank will cover part of the floor space with heating cable.

Frank needs to leave a gap of 100 mm (= 0.1 m) between the base of the cabinets and the part of the floor space he will cover. (area to cover in red)

He needs to buy a cable pack.

The table shows information about the different sizes of heating cable packs and the maximum floor area each pack can cover.

Cable pack size	Maximum floor area (m^2)	Cost (£)
small	4.2	109.99
medium	6.0	164.99
large	8.4	179.99
extra large	10.6	199.99

Frank wants to spend as little as possible.

(a) Work out the cost of the cable pack Frank needs to buy.
You **must** show your working.

(5)

width of red area to cover = 3·6 − 0·6 − 0·6 − 0·1 − 0·1
= 2·2 m

length of red area to cover = 4·5 − 0·6 − 0·1
= 3·8

so area to cover = 2·2 × 3·8
= 8·36 m^2

needs large pack so £179·99

£179·99

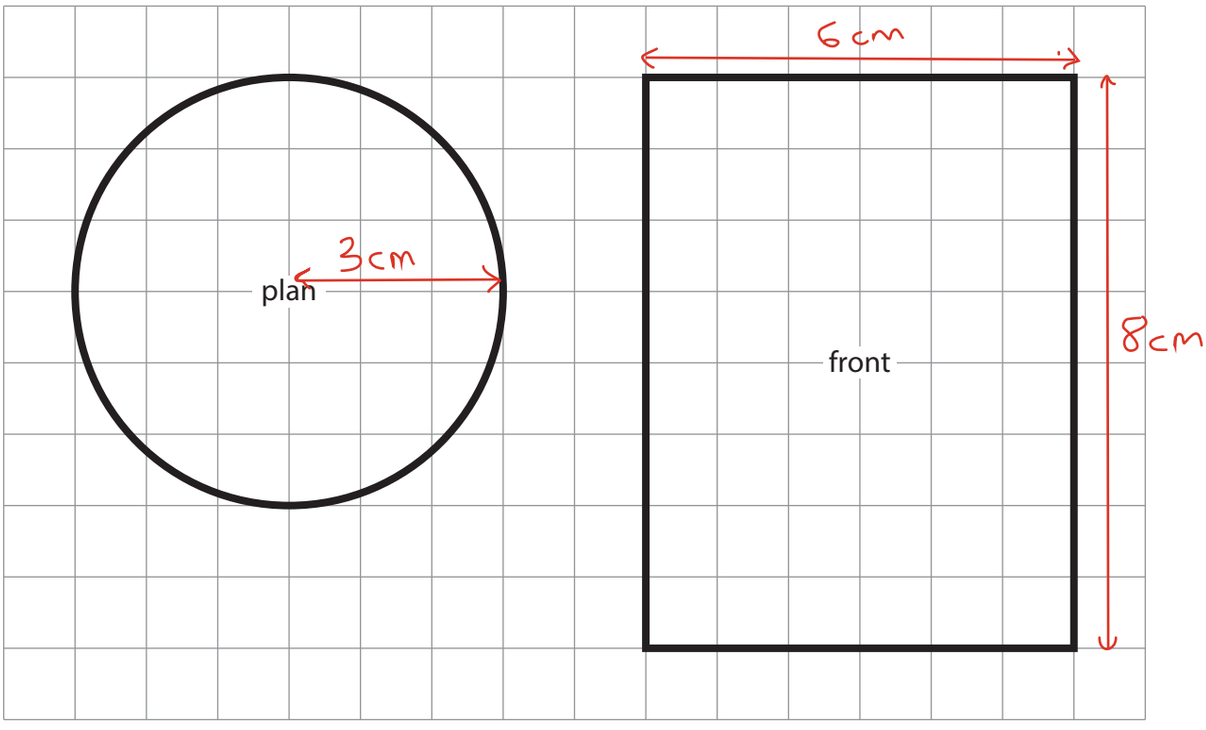
(b) Use a reverse calculation to show a check of your answer.

(1)

8·36 ÷ 3·8 = 2·2

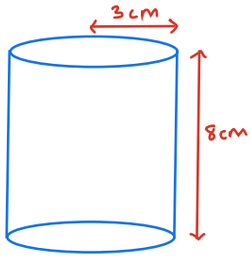
(Total for Question 8 is 6 marks)

9 Sammi has designed a sweet tin in the shape of a cylinder.
The plan and the front elevation of the tin are shown on the centimetre grid below.



Find the volume of the sweet tin.

(3)



volume = 3·14 × 3 × 3 × 8
= 226·08 cm³

226·08 cm³

(Total for Question 9 is 3 marks)

10

(a) Write $\frac{15}{7}$ as a mixed number.

(1)

$2\frac{1}{7}$

Here is a list of numbers.

−3 6 −5 4 4 0

(b) Find the median.

(2)

−5 −3 0 4 4 6

median = $\frac{0+4}{2}$

= 2

2

(Total for Question 10 is 3 marks)

11

(a) Write 28% as a decimal.

(1)

0.28

Andrew pays 38.90 euros for a meal in Spain using his British bank card.

The British bank charges a fee for changing currency.
The fee is 2.75% of the amount he pays for the meal.

£1 = 1.127 euros

÷ 1.127

(b) Work out the total amount Andrew pays for the meal and the fee.
Give your answer in pounds.

(4)

meal costs $38.90 \div 1.127 = £34.52$

bank charges 2.75% of £34.52 so 0.0275×34.52
$= £0.95$

So in total he pays $£34.52 + £0.95$
$= £35.47$

£ 35·47

(Total for Question 11 is 5 marks)

12 Bilal works for a supermarket.
His usual pay is £8.70 per hour.

Bilal will work for $7\frac{1}{2}$ hours this Sunday.
The supermarket will pay Bilal time and a half (× 1·5) for working on a Sunday.
Bilal thinks the supermarket will pay him more than £100 for working this Sunday.

(a) Is he correct?
Show why you think this.

(3)

normal pay would be 7·5 × £8·70 = £65·25

Time and a half will be £65·25 × 1·5 = £97·88

not more than £100
so he is not correct

no

Mina works in a different shop.

The table shows some information about the wages for Bilal and the wages for Mina for the last six weeks.

		1	2	3	4	5	6
Wages (£)	**Bilal**	216.43	283.94	192.87	221.02	205.48	186.32
	Mina	296.56	308.71	188.96	259.32	126.40	283.21

Bilal says,

"My wages were more consistent than Mina's wages for the last six weeks."

(b) Were Bilal's wages more consistent than Mina's wages?
Give a reason for your answer.

(3)

range for Bilal = 283·94 − 186·32 = £97·62

range for Mina = 308·71 − 126·40 = £182·31

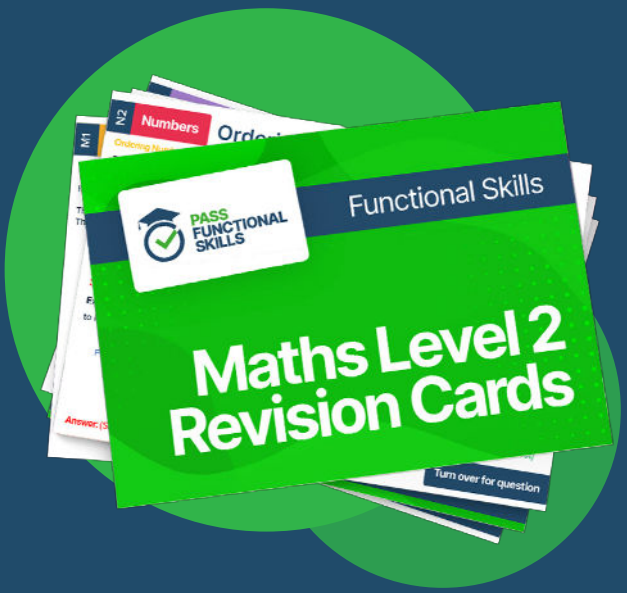
Bilal's range is smaller, so yes, he is correct - his wages were more consistent

(Total for Question 12 is 6 marks)

TOTAL FOR SECTION B IS 48 MARKS
TOTAL FOR PAPER IS 64 MARKS

PASS FUNCTIONAL SKILLS

Functional Skills Maths
Level 2 Practice Papers



Functional Skills Maths
Level 2 Revision Cards

Functional Skills English Level 2
Practice Papers & Revision Cards

Functional Skills Maths
Level 2 Pocket Revision Guide

Or visit
passfunctionalskills.co.uk