

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 5*****

Time: 25 minutes

Paper Reference **PMAT2/N05**

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.
- Diagram 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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.CG Maths.
Worked Solutions


Pearson

Please note that these worked solutions have neither been provided nor approved by Pearson Education and may not necessarily constitute the only possible solutions. Please refer to the original mark schemes for full guidance.

Any writing in blue should be written in the exam.

Anything written in green in a rectangle doesn't have to be written in the exam.

If you find any mistakes or have any requests or suggestions, please send an email to curtis@cgmaths.co.uk

SECTION A

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

- 1 Gareth sells hot drinks.
He sells cups of tea, cups of coffee and cups of hot chocolate.

Of all the hot drinks he sold last week

- $\frac{2}{5}$ were cups of tea
- $\frac{1}{3}$ were cups of coffee.

What fraction of all cups of hot drinks sold were cups of hot chocolate?

(3)

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

Adding the fraction which were tea and the fraction which were coffee will work out the fraction which are not hot chocolate

$$\frac{6}{15} + \frac{5}{15}$$

Making the denominators of both fractions the same by multiplying both the numerator and denominator of the first fraction by 3 and multiplying both the numerator and denominator of the second fraction by 5. Adding these gives $11/15$

$$\frac{15}{15} - \frac{11}{15}$$

Subtracting the $11/15$ which were not hot chocolate from 1 lot of drinks works out the fraction which were hot chocolate. 1 can be written as $15/15$ so that it has the same denominator, 15

The numerators can be subtracted and the denominator stays the same. $15 - 11 = 4$

4

15

(Total for Question 1 is 3 marks)

2

(a) Work out 13.4×5.2

(2)

$$\begin{array}{r}
 134 \\
 \times 52 \\
 \hline
 268 \\
 6700 \\
 \hline
 6968
 \end{array}$$

← Ignoring the decimal points and doing 134×52

There was 1 decimal place in 13.4. There was 1 decimal place in 5.2. This is 2 decimal places in total. So bringing the decimal point back 2 times give the answer to 13.4×5.2

69.68



(b) Use estimation to show a check of your working.

(1)

$$10 \times 5 = 50 \leftarrow \text{Rounding both } 13.4 \text{ and } 5.2 \text{ to 1 significant figure. } 69.68 \text{ is relatively close to } 50$$

(Total for Question 2 is 3 marks)

- 3 Mitch works in a fitness centre.
He gives one raffle ticket to each of 1000 people that attend the fitness centre.

Mitch starts to complete this two-way table to show information about the people he gives the raffle tickets to.

		favourite class			total
		spin	yoga	cardio	
age (years)	18 to 24	85 A	92	145	322
	25 to 49	107	119 B	134	360 D
	50 and over	38	170	110 C	318
total		230	381	389	1000

- (a) Complete the two-way table for Mitch.

(2)

$$\begin{array}{r}
 107 \quad \overset{1}{2} \overset{12}{3} \overset{10}{0} \\
 + 38 \quad - 145 \\
 \hline
 145 \quad \underset{1}{8} \underset{5}{5}
 \end{array}
 \quad
 \begin{array}{r}
 92 \quad \overset{7}{3} \overset{8}{1} \overset{1}{1} \\
 + 170 \quad - 262 \\
 \hline
 262 \quad \underset{1}{1} \underset{1}{1} \underset{9}{9}
 \end{array}
 \quad
 \begin{array}{r}
 145 \quad \overset{3}{3} \overset{8}{8} \overset{9}{9} \\
 + 134 \quad - 279 \\
 \hline
 279 \quad \underset{1}{1} \underset{1}{1} \underset{0}{0}
 \end{array}
 \quad
 \begin{array}{r}
 322 \quad \overset{0}{1} \overset{9}{0} \overset{10}{0} \overset{0}{0} \\
 + 318 \quad - 640 \\
 \hline
 640 \quad \underset{1}{3} \underset{6}{6} \underset{0}{0}
 \end{array}$$

Mitch selects a raffle ticket at random.

- (b) What is the probability that the ticket he selects belongs to a person aged under 50 whose favourite class is cardio?

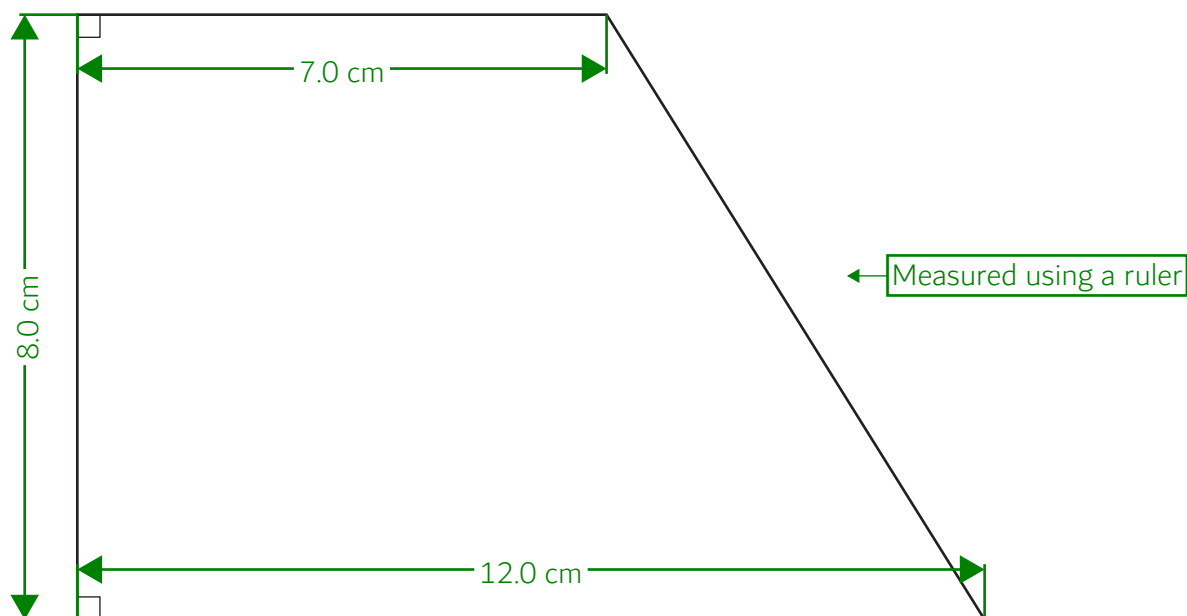
(2)

$$\begin{array}{r}
 145 \\
 + 134 \\
 \hline
 279
 \end{array}
 \quad
 \begin{array}{l}
 \text{Adding the 145 aged 18 to 24 whose favourite class is cardio and} \\
 \text{the 134 aged 25 to 49 whose favourite class is cardio works out that} \\
 \text{there are 279 people aged under 50 whose favourite class is cardio}
 \end{array}$$

$$\begin{array}{r}
 279 \\
 1000
 \end{array}
 \quad
 \begin{array}{l}
 \text{279 out of the 1000 people are aged under 50 whose favourite class is cardio}
 \end{array}$$

(Total for Question 3 is 4 marks)

- 4 Dave is going to paint a wall.
Here is a scale diagram of the wall.



Scale 1 cm represents 0.5 m

Dave will paint this wall twice.
He thinks the total area that he needs to paint is greater than 30 m^2

Is Dave correct?

You **must** show all your working.

The formula for the area of a trapezium is $\frac{1}{2}(a + b)h$, where a and b are the parallel sides (the 7 cm and 12 cm) and h is the distance between them (the 8 cm)

(6)

$7 + 12$ ← First adding a and b (the 7 cm and 12 cm) to give 19 cm

$2 \overline{) 19.0}$ ← 0.5 is $\frac{1}{2}$. So doing half of the 19 cm works out that it represents 9.5 m

9.5×4 ← 0.5 is $\frac{1}{2}$. So doing half of the 8 cm works out that h is 4 m. Multiplying the 9.5 m by this 4 m works out that the $(a + b)h$ part of the formula is worth 38 m^2

The value of the $(a + b)h$ needs to be halved because of the $1/2$. But it also needs to be multiplied by 2 as it is painted twice. Halving and multiplying by 2 are opposites so cancel out. So 38 m^2 is the area which needs to be painted, which is greater than 30 m^2

Yes

(Total for Question 4 is 6 marks)

TOTAL FOR SECTION A IS 16 MARKS