Pearson Edexcel
Functional Skills

Centre Number

Candidate Number

Past Paper 2

Time: 25 minutes

Paper Reference **PMAT2/N02**

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 your 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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Hints

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 indicates what must be written in order to answer the questions and get the marks. The worked solutions have been designed to show the smallest amount of work which needs to be done to answer the question.

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

Anything written in orange in a rectangle doesn't have to be written in the exam and is there to show what should be put into a calculator or measured using a ruler or protractor.

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

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

1   Here are the times, in seconds, five athletes took to finish a 100 m race.

11.05   10.94   11.12   10.91   11.12

(a) Find the median.

(2)

Putting the numbers in order then crossing out from both ends until there is only one number left in the middle finds the median

_____ seconds

(b) Find the mode.

(1)

The mode is the number which appears the most

_____ seconds

(Total for Question 1 is 3 marks)

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2 Here is a formula

$$h = \sqrt{(a^2 - b^2)}$$

Find the value of h when

$a = 10$ and $b = 8$

(3)

The order of operations, BIDMAS, needs to be followed. The brackets need to be done first. Inside these the indices need to be done first. $10^2 = 10 \times 10 = ...$ Also work out 8^2. Then these can be subtracted from each other. Work out the square root of the result, which is basically asking what number squared, or multiplied by itself, gives the result

(Total for Question 2 is 3 marks)

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3 Alex is the manager of a hospital canteen.
He reviews the meals the patients choose.

On Monday there were 240 patients in total.

$\frac{1}{3}$ of these patients chose pasta.

$\frac{3}{8}$ of these patients chose beef stew.

The other patients chose chicken.

How many patients chose chicken on Monday?

(4)

Dividing the 240 by 3 works out the 1/3 of the patients who chose pasta. Dividing the 240 by 8 works out 1/8 of the patients. Multiplying this by 3 works out the 3/8 of the patients who chose beef stew. Subtracting the number who chose pasta and the number who chose beef stew from the 240 total patients leaves the number who chose chicken

(Total for Question 3 is 4 marks)

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4 Roberto paints advertising boards.
Each board is in the shape of a triangular prism.

500 mm

500 mm

4000 mm

4

600 mm

0.6
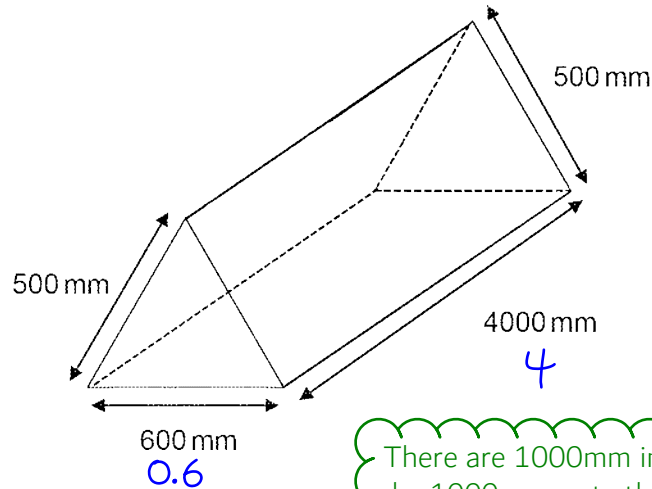
1 litre of paint covers 10 m²
Roberto has 2 litres of paint.

There are 1000mm in 1m so dividing all of the lengths by 1000 converts them into metres. This needs to be done in order to work out the area in square metres

Roberto has 3 advertising boards to cover with paint.
He needs to cover all five faces of the triangular prism with paint.

The area of each triangular face is 0.12 m²

Will 2 litres of paint be enough to cover the 3 advertising boards?
You **must** show all your working.

(6)

There are 6 triangular faces as there are 2 on each of the advertising boards. So multiplying the area of each triangular face by 6 works out the total area of the triangular faces.
Area of rectangle = length x width. Multiplying the 10m² by the 2 litres works out how much area can be covered.

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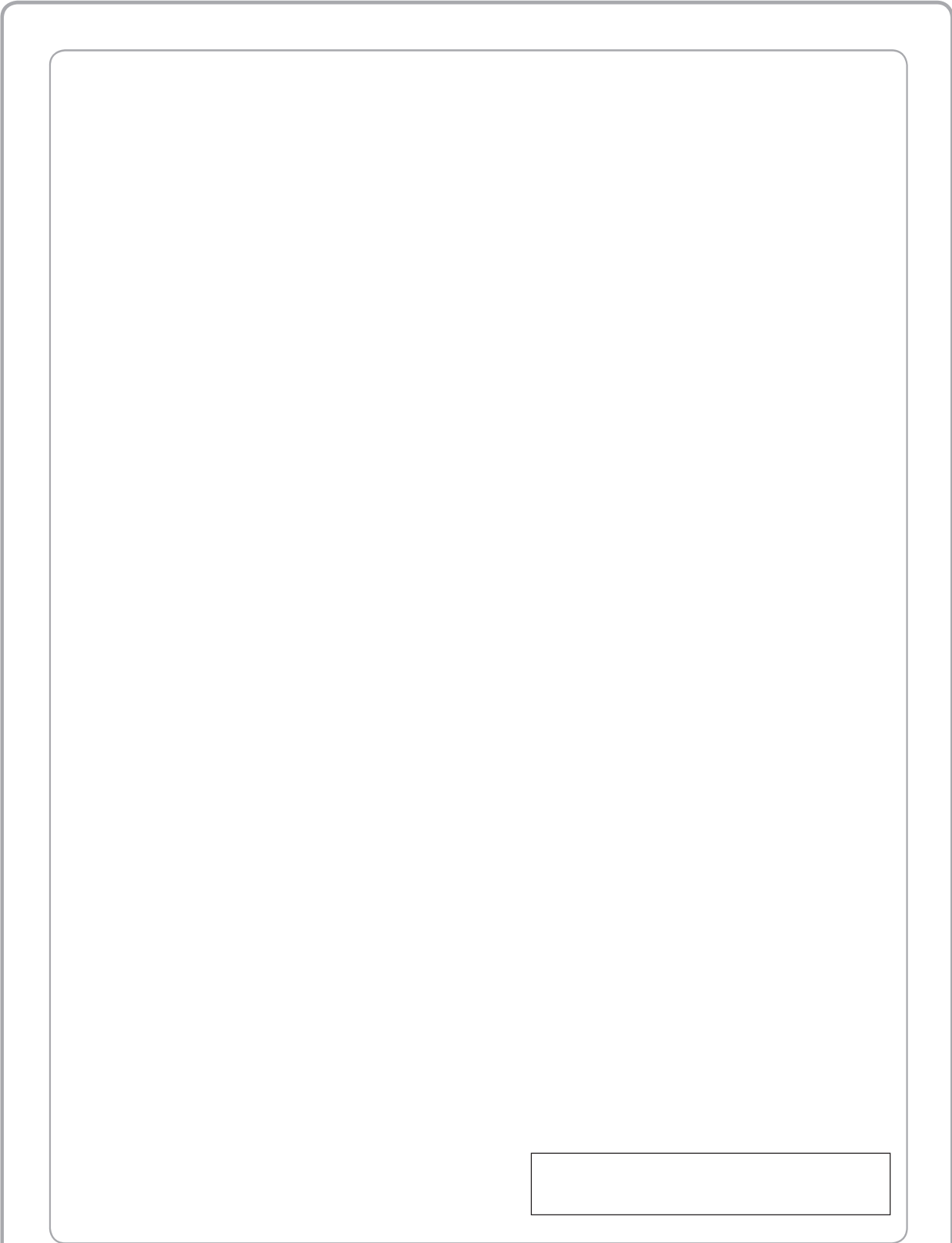
(Total for Question 4 is 6 marks)

TOTAL FOR SECTION A IS 16 MARKS

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