



Surname _____

Other Names _____

Centre Number _____

Candidate Number _____

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I declare this is my own work.

Functional Skills Level 2

MATHEMATICS

Paper 2 Calculator

8362/2

Time allowed: 1 hour 30 minutes

At the top of the page, write your surname and other names, your centre number, your candidate number and add your signature.

[Turn over]



For this paper you must have:

- a calculator
- mathematical instruments.



INSTRUCTIONS

- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Answer ALL questions.
- You must answer the questions in the spaces provided. Do not write on blank pages.
- If you need extra space for your answer(s), use the lined pages at the end of this book. Write the question number against your answer(s).
- Do all rough work in this book. Cross through any work you do not want to be marked.
- State the units of your answer where appropriate.



INFORMATION

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 60.
- You may ask for more answer paper, graph paper and tracing paper. These must be tagged securely to this answer book.
- If your calculator does not have a π button, take the value of π to be 3.142

ADVICE

In all calculations, show clearly how you work out your answer.

DO NOT TURN OVER UNTIL TOLD TO DO SO



SECTION A

Answer ALL questions in the spaces provided.

- 1** The probability of an event happening is $\frac{3}{5}$

Circle the probability of the event NOT happening. [1 mark]

1 $\frac{2}{5}$ $\frac{3}{5}$ 0

- 2** $x = 5$ and $y = -3.2$

Work out the value of $x + y^2$ [2 marks]

Answer _____

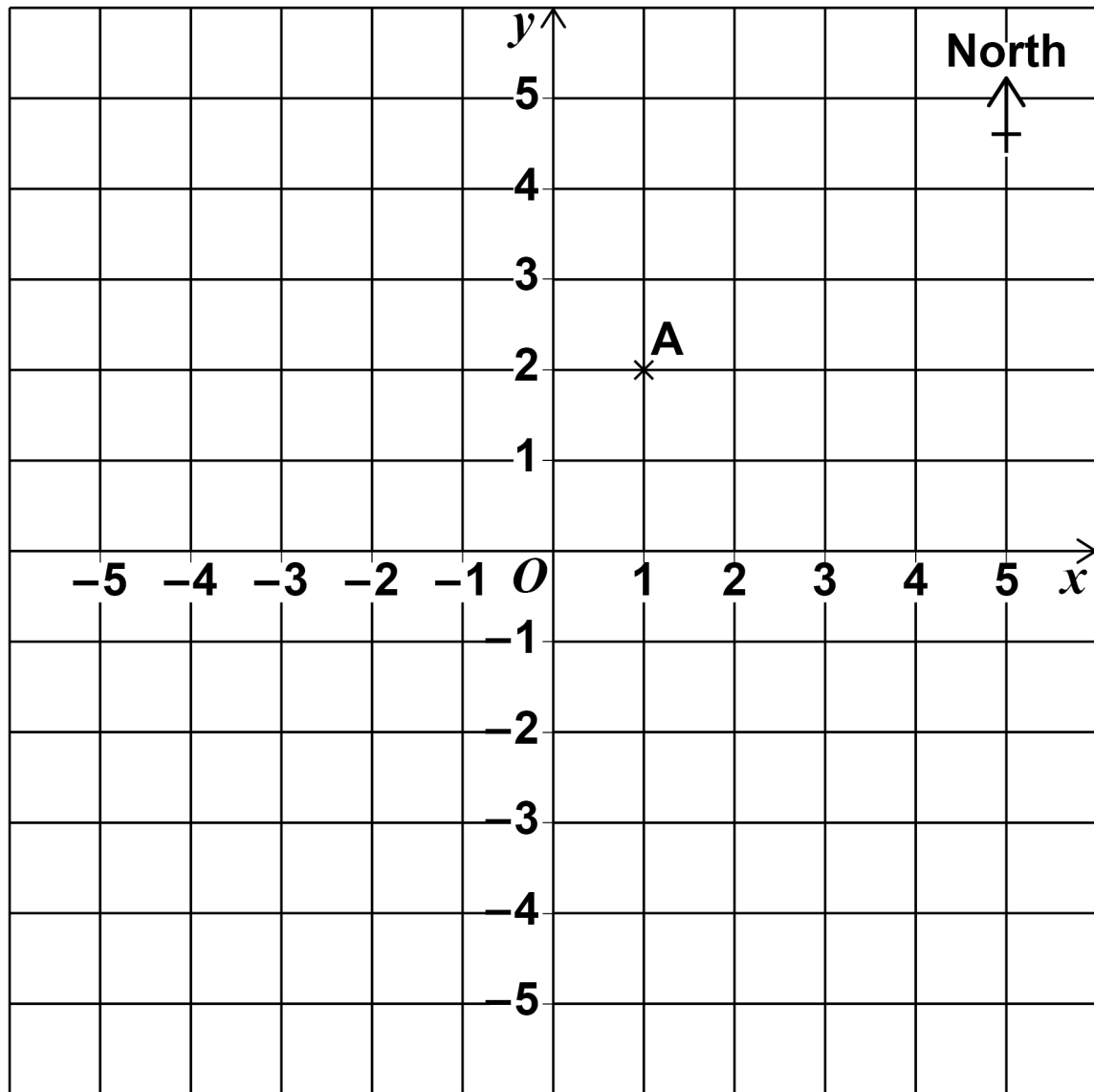


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[Turn over]



3



A is the point $(1, 2)$

B is the point

3 squares West of A

and

5 squares South of A .

Work out the coordinates of B . [2 marks]

Answer (_____ , _____)

[Turn over]



4 In the boxes, write the number that is

3 more than -8

4 less than -2

halfway between -7 and 5

[3 marks]

- 5 Write the ratio 144 : 90 in its simplest form.
[2 marks]

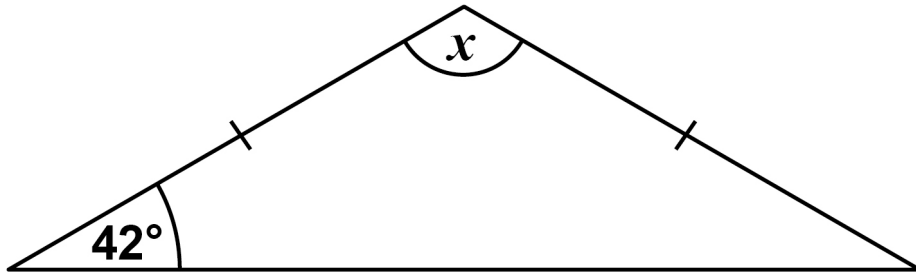
Answer _____ :

[Turn over]



6 Here is an isosceles triangle.

The diagram is not drawn accurately.



Work out the size of angle x . [2 marks]

Answer _____ °

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[Turn over]



SECTION B

Answer ALL questions in the spaces provided.

7 ENERGY

Jim's house has gas central heating.

- 7 (a) The charges for the gas Jim uses are shown in the table.**

Cost per unit of gas (kWh)	2.92 p
Standing charge per day	39.6 p

In November, Jim uses 1976 kWh of gas.

Use APPROXIMATIONS to estimate Jim's November gas payment.

Give your answer in pounds. [5 marks]



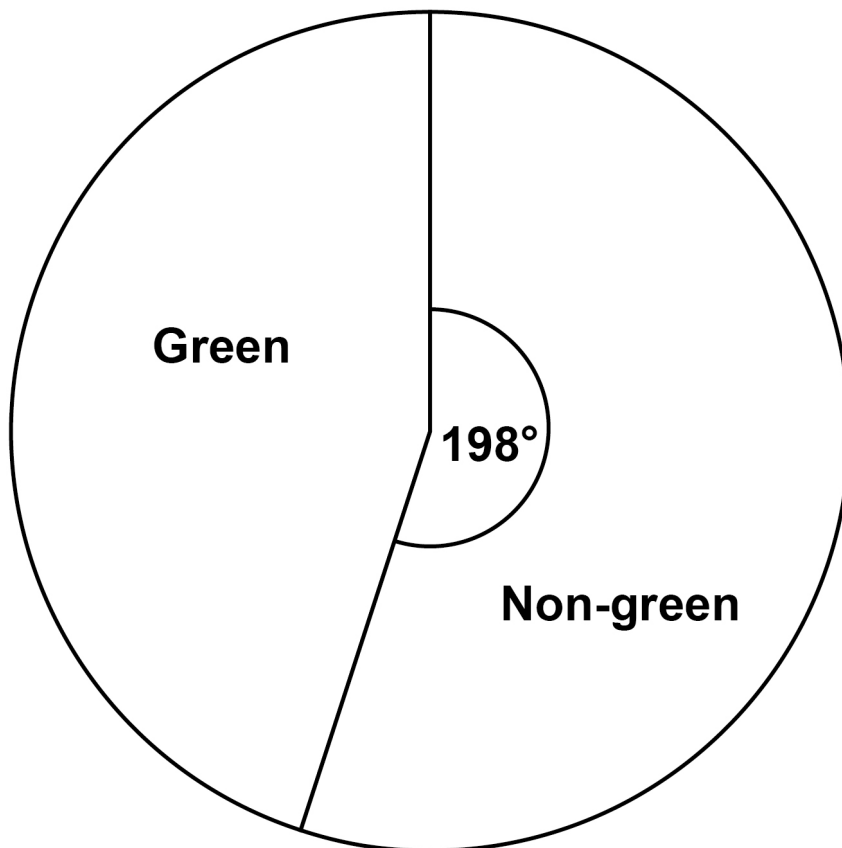
[Turn over]



- 7 (b) Jim's current gas company produces 43% of their gas from green sources.

He sees this pie chart for another gas company, MixGas.

GAS SOURCE



Jim wants to use the company with a greater proportion of gas from green sources.

Should Jim change to MixGas?

You MUST show your working. [3 marks]

[illegible]

[Turn over]



7 (c) Jim is thinking of buying solar panels.

The price of these panels has decreased by 27% since 2016

Jim would need to pay £4803.40 for the panels now.

**How much would the panels have cost in 2016?
[3 marks]**

Answer £ _____

11

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[Turn over]



8 DOG

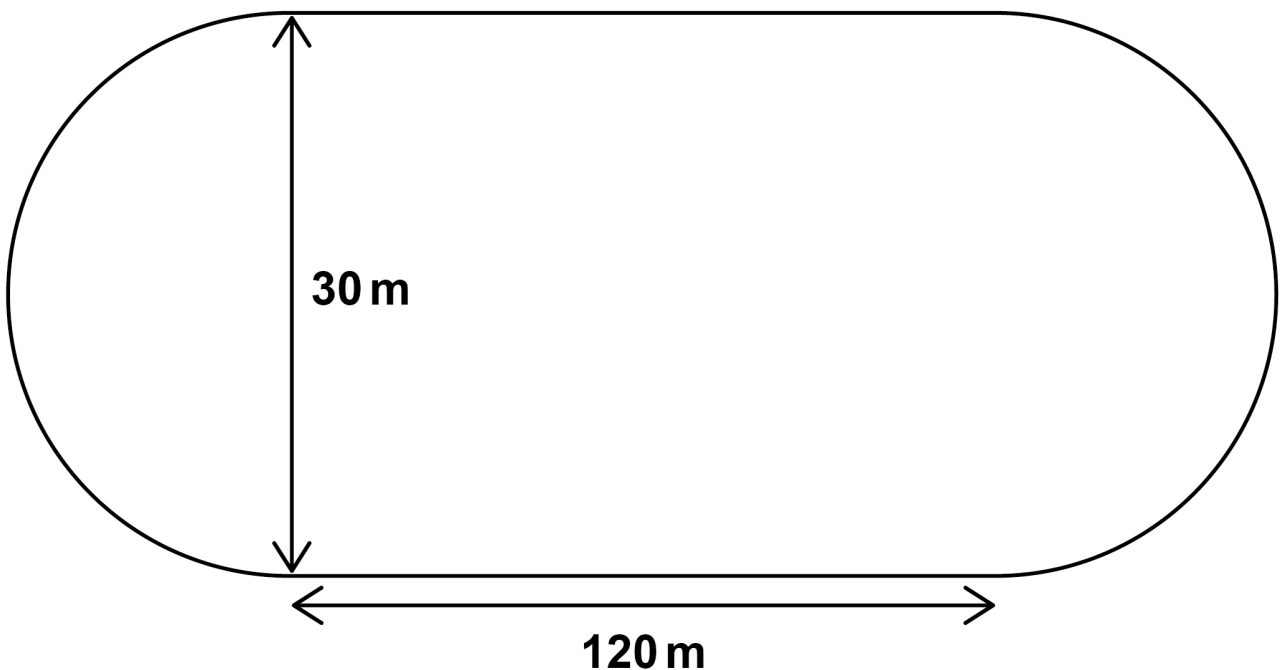
Ben has a dog called Pluto.

8 (a) Ben takes Pluto for a walk.

They walk 4 LAPS of a sports track.

The sports track is the shape of two semi-circles joined by two straight sections.

The diagram is not drawn accurately.



Ben has a target to walk 5000 m each day.

What percentage of his daily target has Ben completed on this walk? [5 marks]

[illegible]

Answer _____ **%**

[Turn over]



8 (b) Pluto needs to eat 420 grams of food each day, in the ratio

wet food : dry food = 2 : 5

Ben buys a 12 kilogram bag of DRY food.

How many days of DRY food does the bag provide? [4 marks]

Answer _____ **days**

[Turn over]

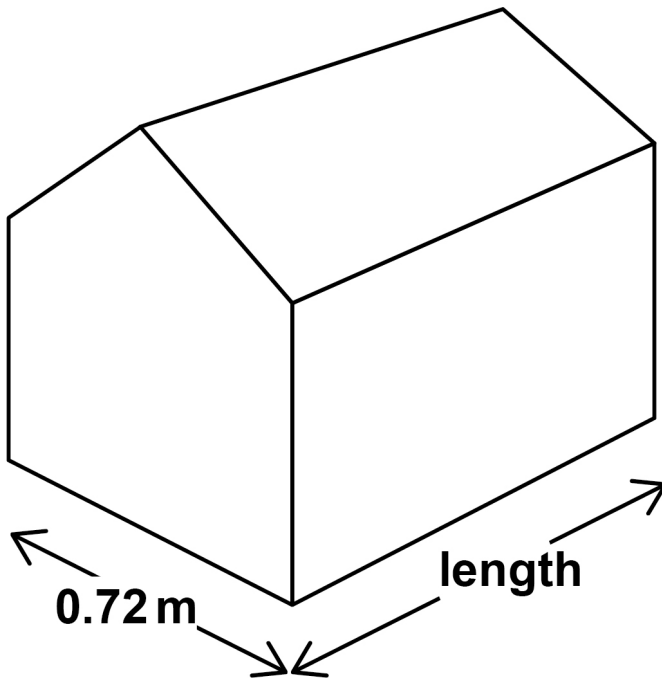


- 8 (c) In his garden, Ben has a rectangular fenced area for Pluto.

The fenced area measures 2.4 m by 2.25 m

Ben builds a kennel for Pluto which covers $\frac{1}{6}$ of the fenced area.

Here is a sketch of the kennel.



The base of the kennel is a rectangle.

Work out the length of the kennel. [4 marks]

[Turn over]



9 FUNDRAISING

A charity organises an annual sponsored swim.

- 9 (a) Ahmed swam 50 lengths of a pool that is 25 metres long.**

The swim took him 38 minutes.

Ahmed says,

“My average speed was more than 0.7 metres per second.”

Is Ahmed correct?

You MUST show your working. [4 marks]

[Turn over]



- 9 (b) Ahmed collected £35 for his swim and gave it to the charity.

$\frac{6}{7}$ of this money was donated by taxpayers.

Using Gift Aid, the charity claimed an extra 25p for every £1 donated by a taxpayer.

How much money did the charity receive, INCLUDING Gift Aid, from Ahmed's swim?
[3 marks]

Answer £ _____

[Turn over]



- 9 (c) This year, 20 people completed the sponsored swim.

The table shows information about the sponsor money collected.

Money (£ x)	Frequency	Mid-point	
$0 < x \leq 10$	7		
$10 < x \leq 20$	4		
$20 < x \leq 30$	6		
$30 < x \leq 40$	1		
$40 < x \leq 50$	2		
	Total = 20		

Last year, the mean amount collected per swimmer was £14.85

The charity organiser says,

“This year’s mean amount is **MORE THAN** £3 higher than last year’s.”

Show your working to support this statement.
[5 marks]



[illegible]

[Turn over]

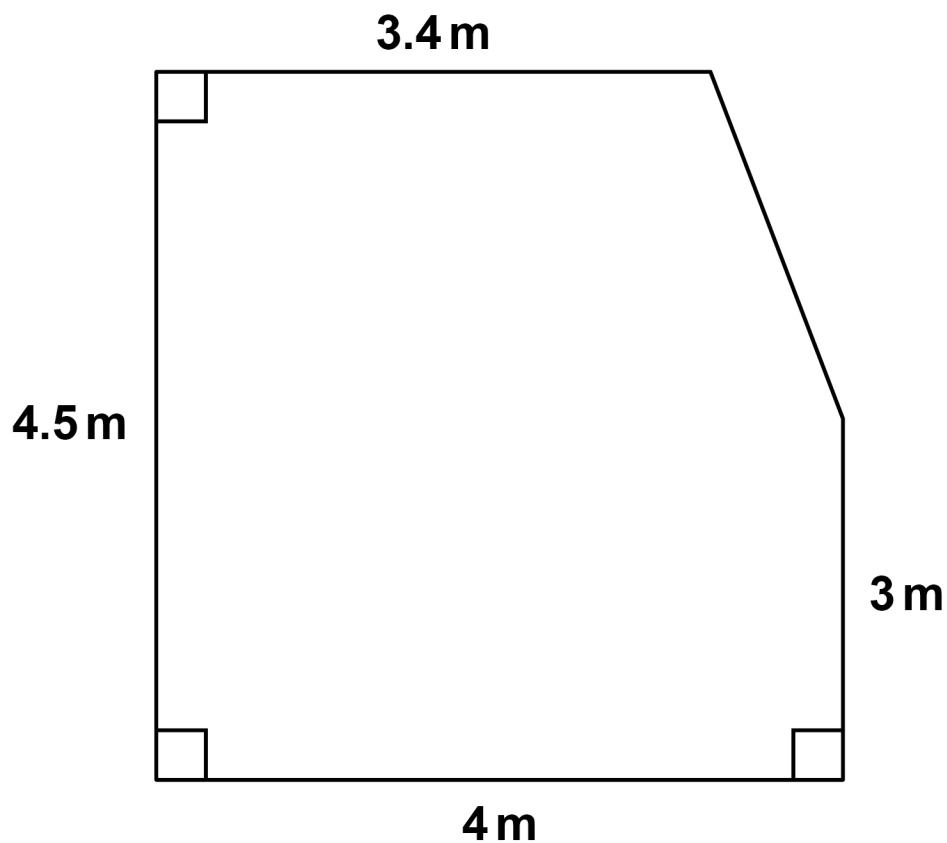


10 CONSERVATORY

Molly is building a conservatory.

10(a) Here is a plan view of the conservatory.

The diagram is not drawn accurately.



**The conservatory floor will be made of concrete.
The concrete floor will be 0.1 m deep.**

What volume of concrete will Molly need for the floor?

State the units of your answer. [6 marks]

[illegible]

Answer

[Turn over]



- 10(b) Molly has a scale drawing of the side elevation of the conservatory.

The scale of the drawing is 3 : 50

The height of the conservatory on the scale drawing is 23.4 centimetres.

Is the actual height of the conservatory LESS THAN 4 metres?

You MUST show your working. [3 marks]

[Turn over]



10(c) Molly wants to build a brick wall as part of the conservatory.

It would take Molly 12 hours to build the wall by herself.

Molly pays 2 builders to work with her to build the wall.

Molly pays each builder £14.73 per hour.

How much will Molly pay each builder for their work?

Assume that Molly and the builders work at the same rate. [3 marks]

Answer £ _____

END OF QUESTIONS

12



Additional page, if required.

Write the question numbers in the left-hand margin.

[illegible]

Additional page, if required.

Write the question numbers in the left-hand margin.

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For Examiner's Use	
Question	Mark
1–6	
7	
8	
9	
10	
TOTAL	

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