

Surname	Centre Number	Candidate Number
First name(s)		0



GCSE

3310U30-1



S25-3310U30-1

THURSDAY, 8 MAY 2025 – MORNING

MATHEMATICS – NUMERACY
UNIT 1: NON-CALCULATOR
INTERMEDIATE TIER

1 hour 45 minutes

ADDITIONAL MATERIALS

The use of a calculator is not permitted in this examination.
A ruler, a protractor and a pair of compasses may be required.

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen. Do not use gel pen or correction fluid.

You may use a pencil for graphs and diagrams only.

Write your name, centre number and candidate number in the spaces at the top of this page.

Answer **all** the questions in the spaces provided.

If you run out of space, use the additional page at the back of the booklet. Question numbers must be given for all work written on the additional page.

Take π as 3.14.

INFORMATION FOR CANDIDATES

You should give details of your method of solution when appropriate.

Unless stated, diagrams are not drawn to scale.

Scale drawing solutions will not be acceptable where you are asked to calculate.

The number of marks is given in brackets at the end of each question or part-question.

In question **5**, the assessment will take into account the quality of your linguistic and mathematical organisation, communication and accuracy in writing.

For Examiner's use only		
Question	Maximum Mark	Mark Awarded
1.	5	
2.	14	
3.	5	
4.	7	
5.	6	
6.	3	
7.	3	
8.	4	
9.	4	
10.	6	
11.	5	
12.	4	
13.	6	
14.	3	
15.	5	
Total	80	

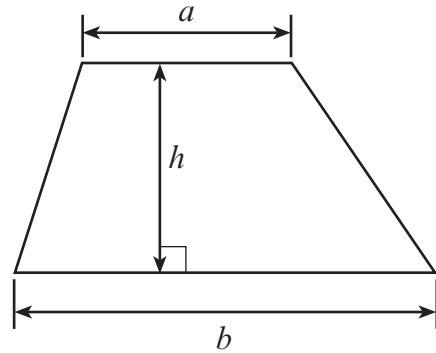
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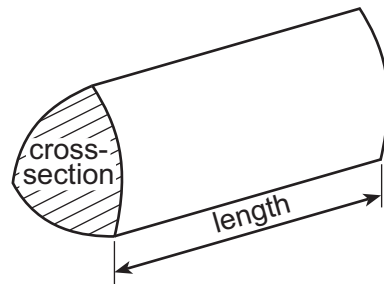
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Formula List – Intermediate Tier

Area of trapezium $= \frac{1}{2}(a + b)h$



Volume of prism = area of cross-section $\times$ length

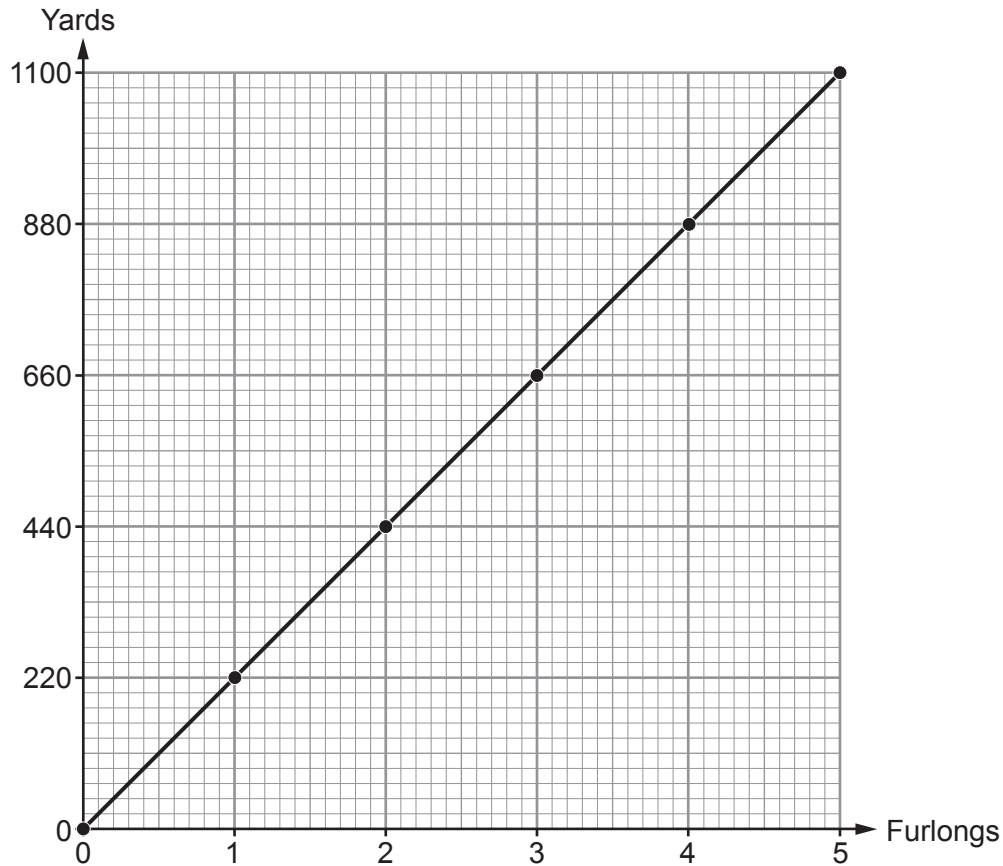


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1. Furlongs and yards are both measures of length.
In the past, these measures were used in farming.
The conversion graph below can be used to convert between furlongs and yards.



Complete each of the following statements.

- (a) 330 yards is equal to furlongs. [1]

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- (b) 7 furlongs is equal to yards. [2]

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- (c) 1320 yards is equal to furlongs. [2]

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2. Viktor is a farmer.

- (a) Viktor wants to buy some animal feed for his sheep.
He can **either** buy a bag of Sean Sheep Mix **or** a bag of Rugged Sheep Mix.

Sean Sheep Mix (20 kg bag)  Was £14 Now 15% off	Rugged Sheep Mix (20 kg bag)  Was £24 Now $\frac{5}{8}$ off
---	--

Which of these two animal feeds is cheaper and by how much?

[5]

..... Sheep Mix is cheaper

It is cheaper by £



- [1]

$$\frac{26}{5}$$

- [4]



(d)



Viktor orders a new water trough for his cows.
It is in the shape of a cuboid.
The internal measurements are:

length 4 m, width 0.5 m and height 0.8 m.

- (i) Calculate the capacity of the new water trough in m^3 .

[2]

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Capacity is m^3

- (ii) The external measurements of the new water trough are:

length 4.1 m, width 0.6 m and height 0.9 m.

The cost of delivery of the new water trough is calculated using the following formula.

$$\text{Delivery cost in } \pounds = 5 \times (\text{length} + \text{width} + \text{height})$$

The length, width and height are the **external** measurements in metres.

Calculate the delivery cost for the new water trough.

[2]

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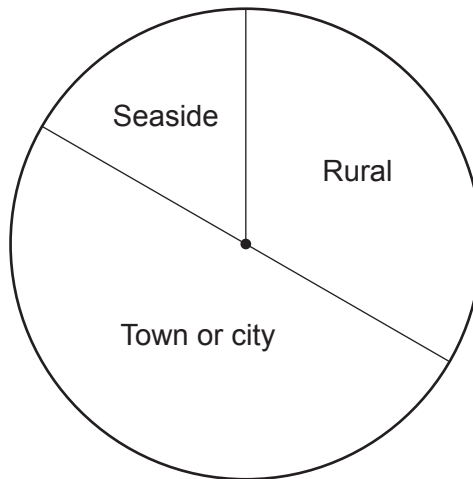
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3. Ralph and Dewi completed surveys with different groups of people. They asked people to describe where they live.

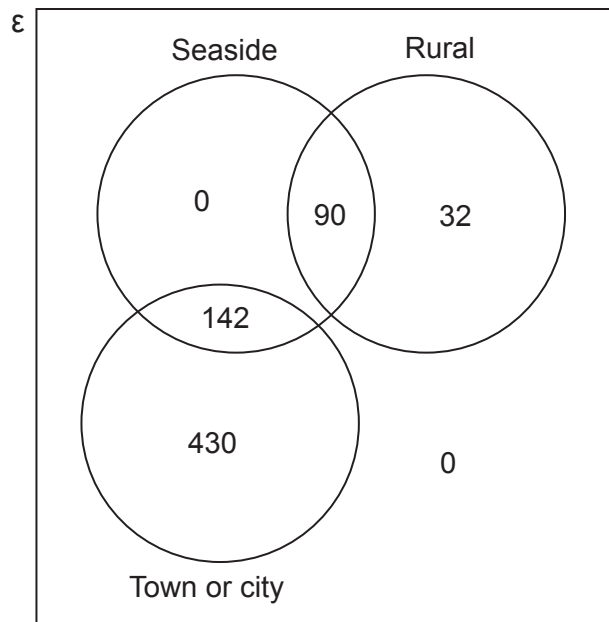
Ralph's results are shown on the accurately-drawn pie chart below.

Results of Ralph's survey



The Venn diagram below shows the results of Dewi's survey.

Results of Dewi's survey



- (a) In **Ralph's survey**, 480 people answered 'Town or city'.
Calculate the number of people who answered 'Seaside' in Ralph's survey. [3]

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- (b) (i) In **Dewi's survey**, how many people live by the seaside in a town or city?
Circle your answer. [1]

430 122 572 662 142

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- (ii) Calculate how many people in Dewi's survey did **not** live by the seaside.
Circle your answer. [1]

462 694 552 604 430

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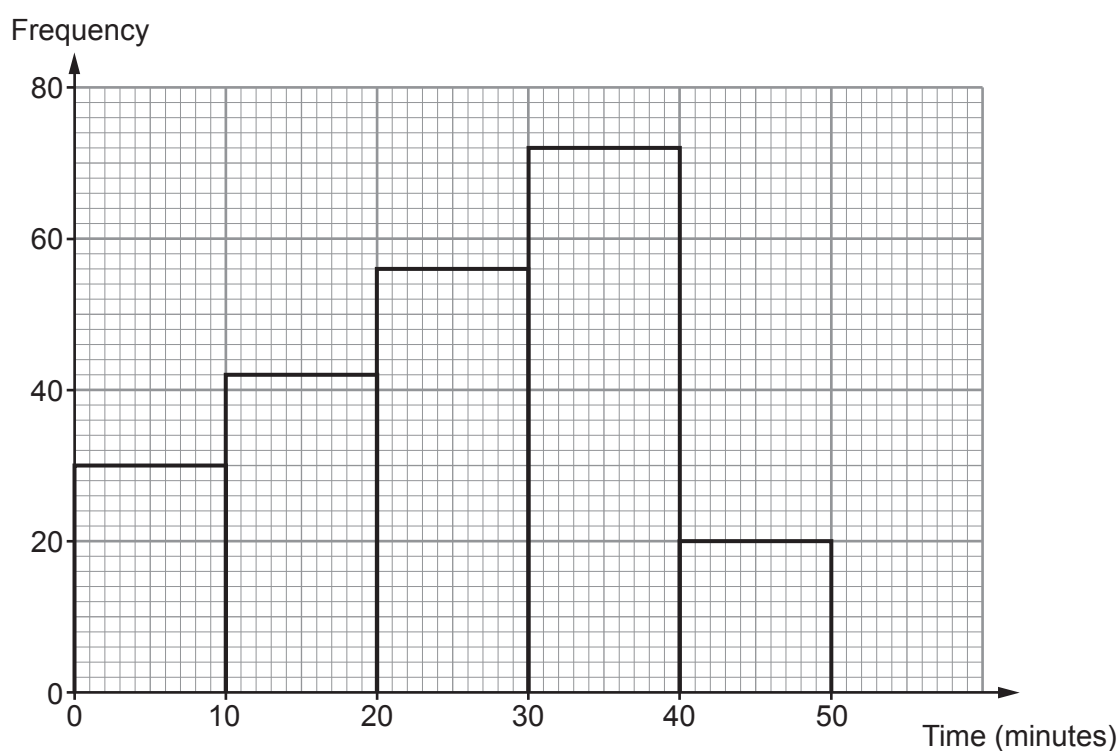


4. On a flight to Spain, the cabin crew started serving drinks to passengers at 11:00 a.m. The flight manager recorded the length of time each passenger had to wait to be served.



The flight manager has drawn a frequency diagram to display her findings. She used groups of width 10 minutes:

$0 \leq \text{time} < 10$, $10 \leq \text{time} < 20$, and so on.



- (a) How many passengers waited less than 10 minutes to be served? [1]

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- (b) How many passengers were on this flight to Spain? [2]

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- (c) What fraction of the total number of passengers had to wait 40 minutes or more to be served a drink?
Express your answer in its simplest form. [2]

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- (d) What is the modal group of these recorded times? [1]

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- (e) The flight manager says,

Consider the passengers who waited between 30 minutes
and 40 minutes to be served.
If 12 of these passengers had been served 10 minutes faster,
the modal group would have been different.

Is the flight manager correct?
Give a reason for your answer.

[1]

Yes

☐

No

☐

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Ewan keeps bees and sells jars of honey.

- An empty small jar costs 12p and can hold 200 ml of honey.
- An empty large jar costs 20p and can hold 500 ml of honey.



- calculating the cost of the honey in the jar
- adding on the amount he paid for the jar.

Ewan charges his customers £3.40 for a 500 ml jar of honey. This price is for the honey and the jar.

You must show all your working.

[4 + 2 OCW]



6. A survey was carried out to find how many books children read during the holidays.

The following two questions were asked in a questionnaire.

Q1. Most children read lots of books.

Do you read lots of books?

Q2. How many books do you read during the holidays?

None

1-10 books

10-20 books

More than 20 books

☐
☐
☐
☐

- (a) (i) Give **one** reason why Q1 was **not** a suitable question.

[1]

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- (ii) Give **one** reason why Q2 was **not** a suitable question.

[1]

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- (b) The survey was carried out by asking children as they left the library on a Saturday morning.
Give **one** criticism of how the survey was carried out.

[1]

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7. The scale drawing below shows a plan of a stage in a theatre.
The stage measures 10 metres by 6 metres.

The scale used is **1 cm represents 1 metre**.

An 'X' will be marked on the stage where a microphone is to be placed.

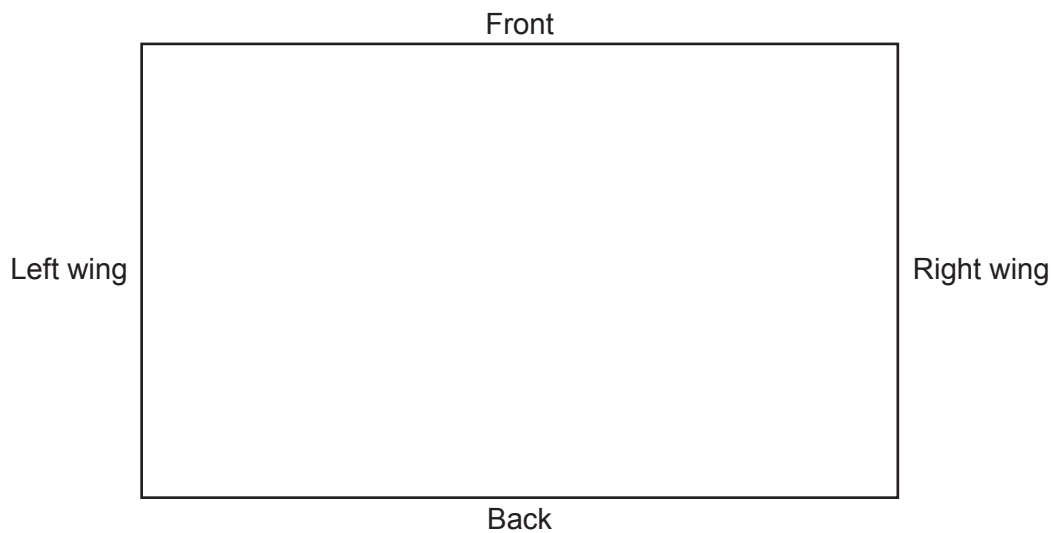
The 'X' must be:

- equidistant from the front of the stage and the right wing
- 2 metres from the front of the stage.

Draw suitable lines on the plan and show where the 'X' will be marked.

[3]

Scale: 1 cm represents 1 metre



8. Nadya borrowed £500 from a loan company.
The loan company told her that she would pay more than 100% interest.
Nadya paid off the loan and interest completely by paying back £55 each month for 2 years.
What percentage interest did Nadya actually pay?
You must show all your working.

[4]

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9. Last year, Jade's total income before tax was €20 000.
The table below shows the tax bands, taxable income and tax rates last year.

Band	Taxable income	Tax rate
Personal allowance	Up to €10 000	0%
Basic rate	€10 000 to €18 000	10%
Higher rate	over €18 000	20%

Calculate Jade's **total** tax bill last year.
You must show all your working.

[4]

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- [6]

Time in the shower is minutes seconds



11. Dafydd and Mia both play musical instruments.

- (a) Dafydd and his mum share the cost of buying a saxophone in the ratio 3 : 7.

His mum's share of the cost is £280.

How much will this saxophone cost to buy?

[3]



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- (b) Mia takes her violin to be valued every year.

This year, it is valued at £660.

The violin has increased in value by 20% from last year.

Calculate how much Mia's violin was worth last year.

[2]



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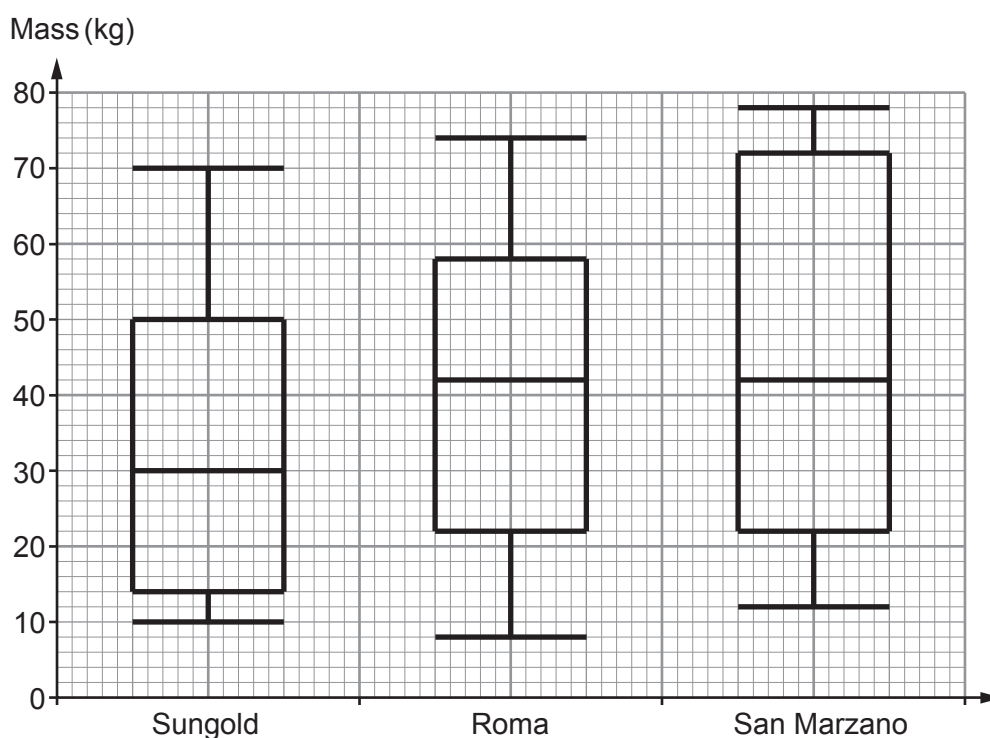
12. Kendrick Nurseries grow tomatoes to sell to supermarkets.

They grow three varieties: Sungold, Roma and San Marzano.

The head gardener recorded the mass of tomatoes from each of 500 plants for each of the three varieties.



The box-and-whisker diagrams below show the masses of the tomatoes.



- (a) What is the range of the masses for the Sungold tomato plants?

[1]

Range is kg



- (b) How many of the Roma plants produced 22 kg or less of tomatoes? [2]

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..... plants

- (c) The box-and-whisker diagrams show that two of the varieties have the same lower quartile mass.

Which one of these two varieties produces tomatoes that seem to have a more consistent mass?

Variety of tomato is

Which one of these measures could you use to help you decide?
Circle your answer.

[1]

Mode

Median

Mean

Interquartile range

Greatest mass



13. The diagram shows Davina's garden.

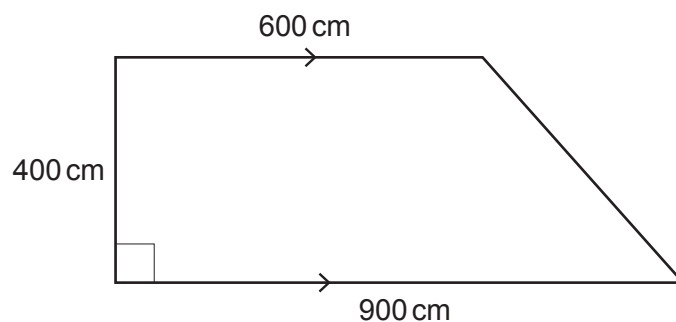


Diagram not drawn to scale

- (a) Davina wants to put a 5 cm layer of topsoil on her garden.

What volume of topsoil will Davina need for her garden?

Give your answer in cm^3 in **standard form**.

[5]

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- (b) Topsoil is sold in $1.5 \times 10^4 \text{ cm}^3$ bags.
Calculate the number of bags of topsoil that Davina needs to buy.
You must show all your working.

[1]

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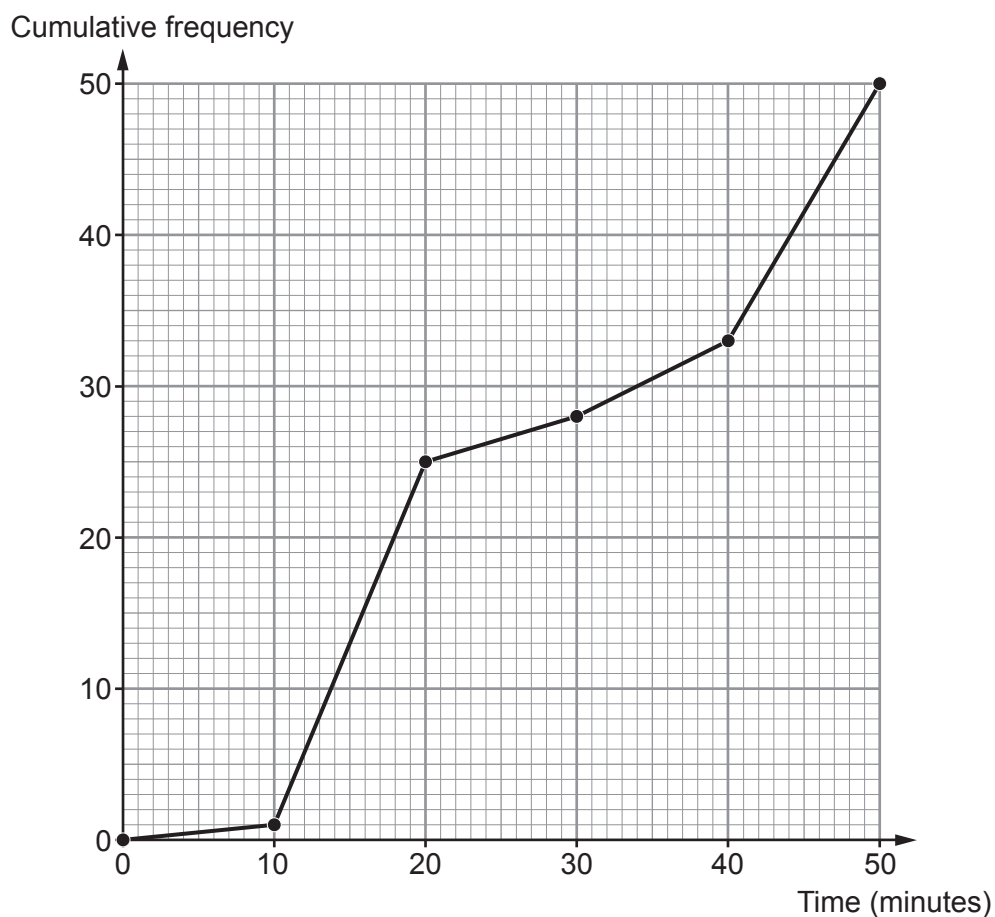
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- A right triangular prism is shown. The base is a right-angled triangle with a vertical leg of 4 cm and a horizontal leg of 3 cm. The hypotenuse is labeled 5 cm. The length of the prism is labeled 'Length'. Dashed lines show the hidden edges of the prism.

The volume of the triangular prism is 546 cm^3 .
Calculate the width of the door.
You must show all your working.

[3]



15. Aled is a gardener.
In April, he records how many minutes he spends working in each of his customers' gardens.
He draws a cumulative frequency diagram to display the findings.



- (a) Find the median time that Aled spends working in the garden for these customers. [1]

Median is minutes



- (b) For how many customers did Aled spend between 10 and 30 minutes working in their garden? [1]

.....

..... customers

- (c) For 70% of his customers, Aled thinks that he spends less than 40 minutes working in their garden.
Is Aled correct?
You must show all your working. [3]

Aled is correct

☐

Aled is not correct

☐

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END OF PAPER



[illegible]