

GENERAL CERTIFICATE OF SECONDARY EDUCATION
MATHEMATICS C (GRADUATED ASSESSMENT)
MODULE M2 – SECTION B

B272B

Candidates answer on the Question Paper

OCR Supplied Materials:
None

Other Materials Required:

- Geometrical instruments
- Tracing paper (optional)
- Electronic calculator

Thursday 21 January 2010
Afternoon

Duration: 30 minutes



| | | | |
|--------------------|--|-------------------|--|
| Candidate Forename | | Candidate Surname | |
|--------------------|--|-------------------|--|

| | | | | | | | | | | |
|---------------|--|--|--|--|--|------------------|--|--|--|--|
| Centre Number | | | | | | Candidate Number | | | | |
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MODIFIED LANGUAGE

INSTRUCTIONS TO CANDIDATES

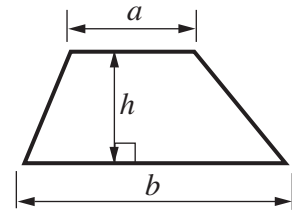
- Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes above.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- Show your working. Marks may be given for a correct method even if the answer is incorrect.
- Answer **all** the questions.
- Do **not** write in the bar codes.
- Write your answer to each question in the space provided, however additional paper may be used if necessary.

INFORMATION FOR CANDIDATES

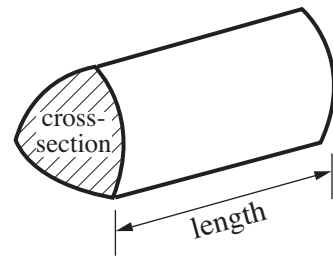
- The number of marks is given in brackets [] at the end of each question or part question.
- Section B starts with question 8.
- You are expected to use a calculator in Section B of this paper.
- The total number of marks for this Section is **25**.
- This document consists of **8** pages. Any blank pages are indicated.

Formulae Sheet

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

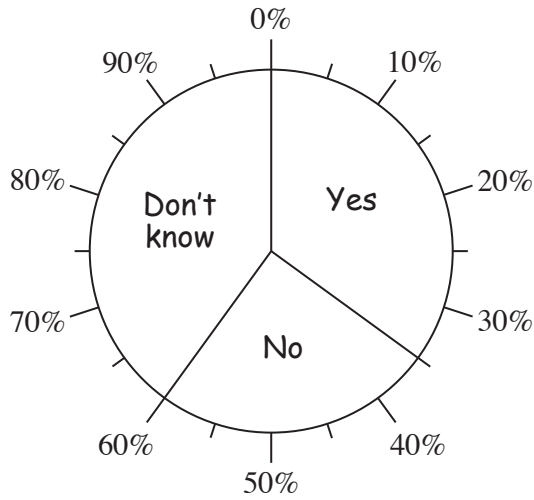


Volume of prism = (area of cross-section) \times length



PLEASE DO NOT WRITE ON THIS PAGE

8 A survey asked students at a college whether they wanted a new sports hall. This pie chart shows the results.



(a) What percentage answered **Yes**?

(a) % [1]

(b) What percentage answered **Don't know**?

(b) % [1]

9 Here is a method to convert pounds (£) into euros (€).

- Multiply the number of pounds by 5
- Divide the result by 4
- The answer is the number of euros

(a) Use this method to convert £20 into euros.

(a) €..... [2]

(b) Joe has €180.

Here are some amounts in pounds.

£90

£140

£180

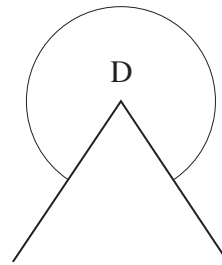
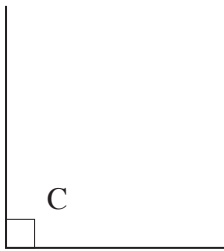
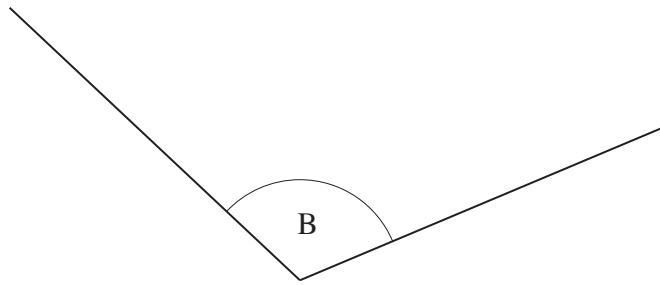
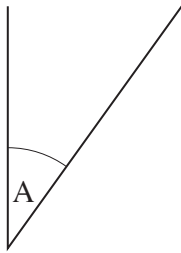
£220

Ring the amount which is closest to €180.

You must show how you worked out your answer.

[2]

10 Here are four angles.



(a) Which angle is obtuse?

(a) [1]

(b) What type of angle is angle A?

(b) [1]

(c) Measure angle B.

(c)° [1]

11 (a) Here is a list of solids.

Pyramid

Cylinder

Cone

Cube

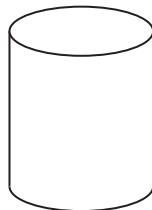
Sphere

Cuboid

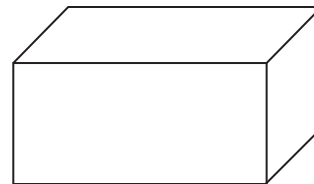
Use the list to name each of these solids.
Write the correct name below each solid.



.....



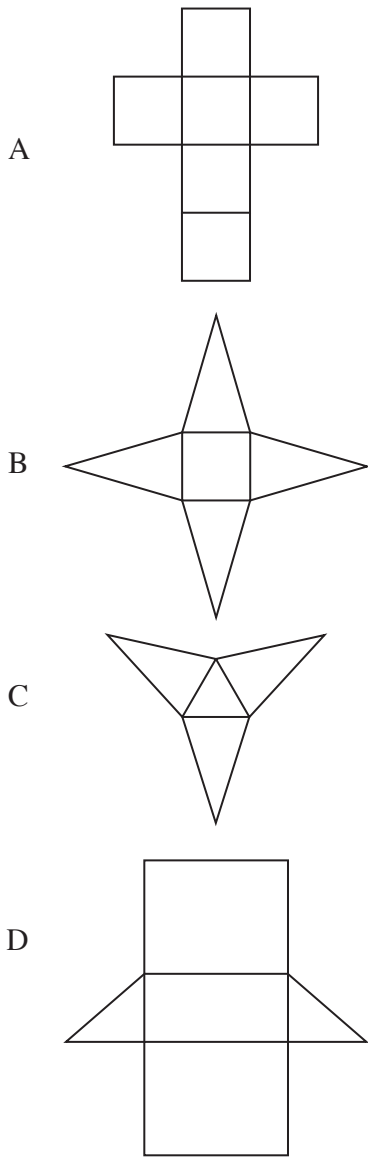
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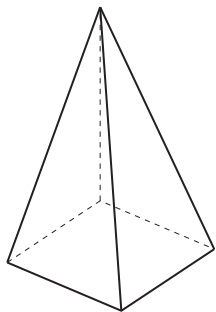
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[3]

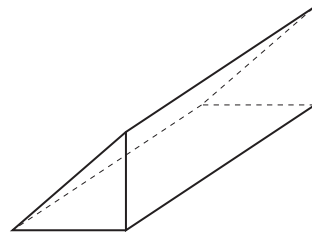
(b) Here are some nets of solids.



Match each of these solids to its net.
Write the correct letter below each solid.



.....



.....

[2]

12

| | | | | | | | | |
|----|----|----|----|----|----|----|----|----|
| 40 | 30 | 10 | 20 | 10 | 40 | 40 | 20 | 30 |
|----|----|----|----|----|----|----|----|----|

- (a) Belinda wants to find the median of these numbers.
Belinda says:



Explain what is wrong with her method.

.....
 [1]

- (b) Write down the mode of these numbers.

(b) [1]

- 13 (a) A shop sells potatoes in 3.5 kilogram bags.

How many grams are there in 3.5 kilograms?

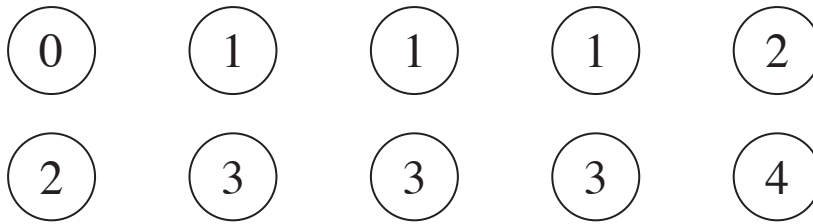
(a) g [1]

- (b) The shop sells the bags of potatoes for £4.75.

How many bags of potatoes can be bought for £32?

(b) [2]

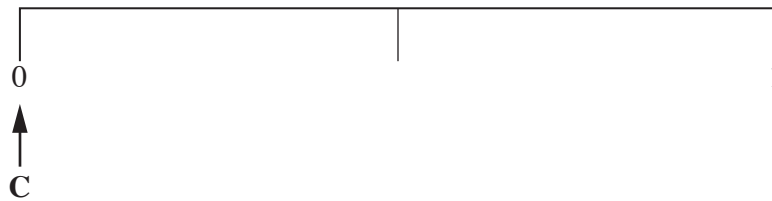
14 A bag contains these ten numbered counters.



Ted takes a counter from the bag without looking.

(a) On the probability line draw:

- arrow **A** to show the probability that Ted takes a 2
- arrow **B** to show the probability that Ted takes a number less than 3.

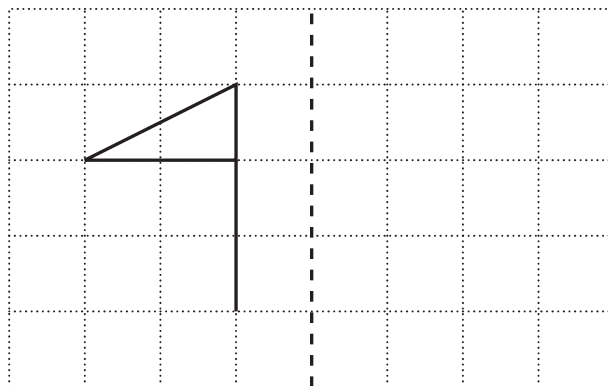


[2]

(b) Complete this sentence.

Arrow **C** shows the probability that Ted takes [1]

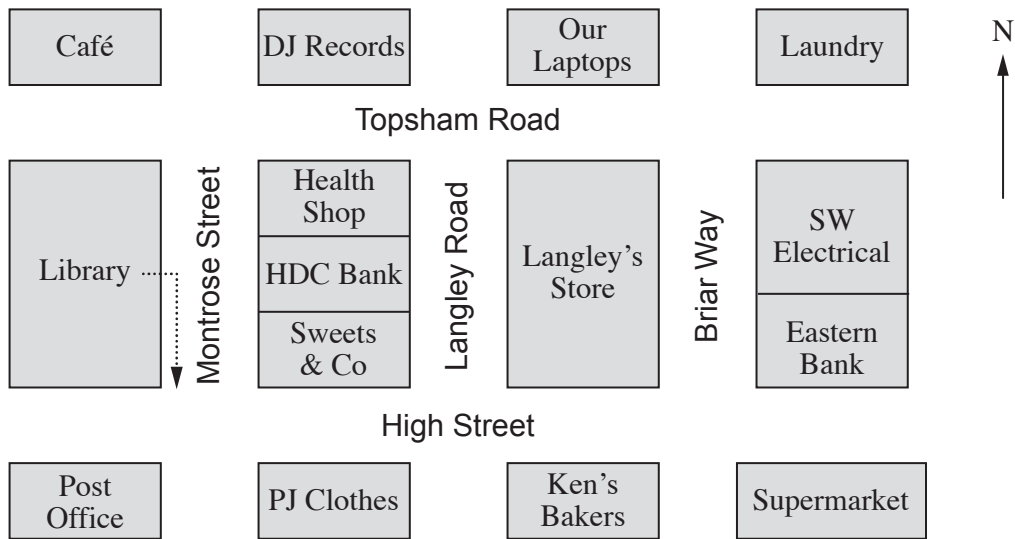
15 Complete the diagram so that the dashed line is a line of reflection symmetry.



[1]

TURN OVER FOR QUESTION 16

16 Here is a diagram of Alberton Shopping Centre.



- (a) Harry leaves the library and turns right into Montrose Street. He turns into the first street on his left. He goes into the second shop on his right. His route has been started on the diagram with a dotted line.

Complete Harry's route on the diagram.

[1]

- (b) Betty leaves the Supermarket and walks West along High Street. She turns North into Langley Road. She then turns East into Topsham Road.

Which shop is on her left?

(b) [1]

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