

GENERAL CERTIFICATE OF SECONDARY EDUCATION
MATHEMATICS C (GRADUATED ASSESSMENT)
MODULE M1 – SECTION B

B271B

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	
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Centre Number						Candidate Number				
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INSTRUCTIONS TO CANDIDATES

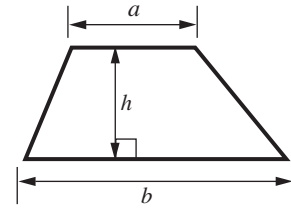
- Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes above.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- Show your working. 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

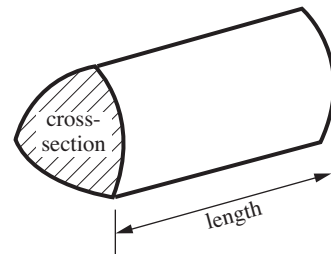
- The number of marks is given in brackets [] at the end of each question or part question.
- Section B starts with question 6.
- You are expected to use a calculator in Section B of this paper.
- The total number of marks for this Section is **25**.
- This document consists of **12** pages. Any blank pages are indicated.

Formulae Sheet

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



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



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- (a) How much does each battery cost?
Give your answer in pence.

(a) p [2]

- (b) Write down **one** even number that is printed on the pack.

(b) [1]

- (c) Mrs Bentham needs 28 of these batteries for a class project.
How many of these packs does she need?

(c) [1]

7 100 g of cereal contains the following:

Protein	15g
Carbohydrate	75g
Fat	2g
Fibre	3g
Other	5g

(a) (i) Work out the total weight of Protein and Fibre in 100 g of this cereal.

(a)(i) g [1]

(ii) How much of the 100 g of cereal is **not** Carbohydrate?

(ii) g [2]

(b) The energy value of 100 g of cereal is 1586kJ.

Round 1586 to the nearest 100.

(b) [1]

(c) Brendan has a 500 g box of cereal.

He has eaten $\frac{1}{4}$ of the cereal.

Find $\frac{1}{4}$ of 500 g.

(c) g [1]

8 Here is some information about sea creatures.

Giant Squid		Minke whale		Walrus		Killer whale	
Weight	275 kg	Weight	9000 kg	Weight	1954 kg	Weight	7257 kg
Length	19 m	Length	9 m	Length	5 m	Length	18 m

(a) (i) Which of these weights is in the 10 times table?

(a)(i) [1]

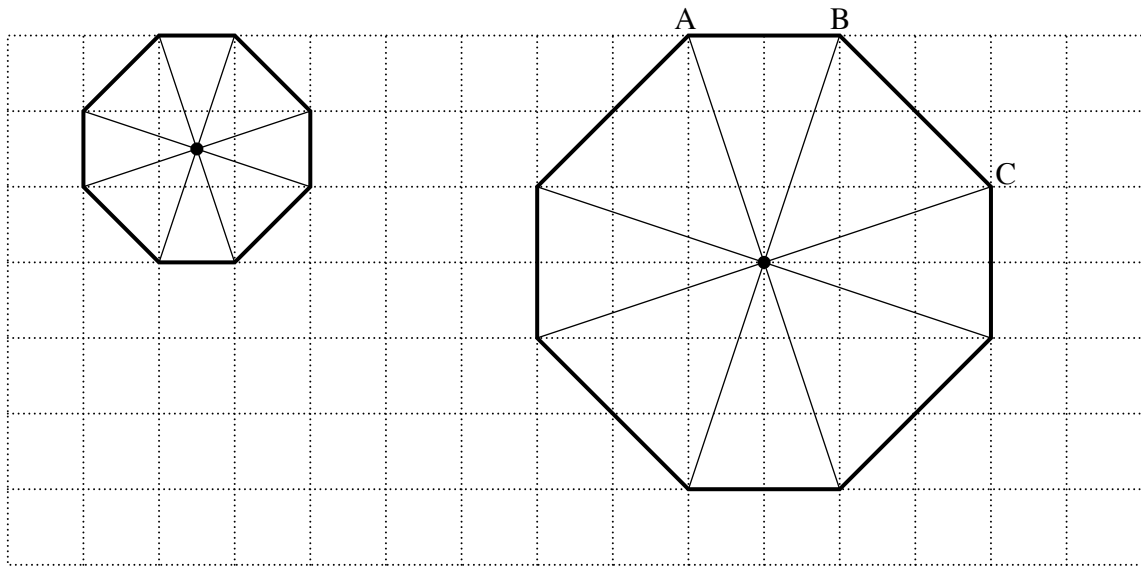
(ii) Put these sea creatures in order of weight, heaviest first.

..... [2]
heaviest

(b) What is the difference in length between the longest of these sea creatures and the shortest?

(b) m [2]

- 9 Akil makes a spinner for a game.
He draws it on a grid and then decides that he needs a larger version.



- (a) How many times bigger are the sides of Akil's large spinner than his small spinner?

(a) [1]

- (b) (i) Measure the length of line BC accurately.
Give the units of your answer.

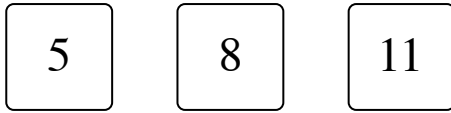
(b)(i) BC = [2]

- (ii) Is the spinner fair?
Explain your answer.

*Write Yes
or No.*

..... because
..... [2]

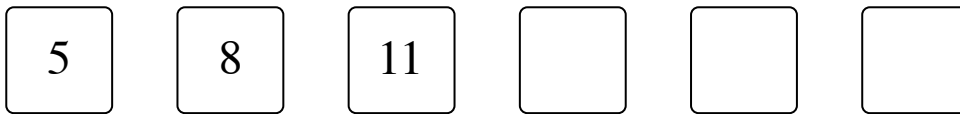
10 (a)



These numbers form the start of a pattern using the rule:

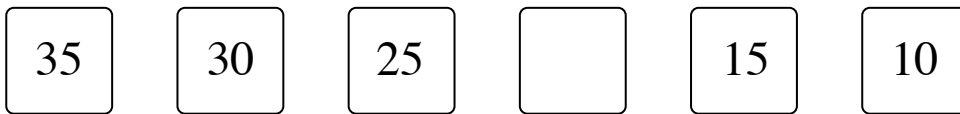
Add 3

Find the next three numbers in the pattern.



[1]

(b) This is part of another pattern.



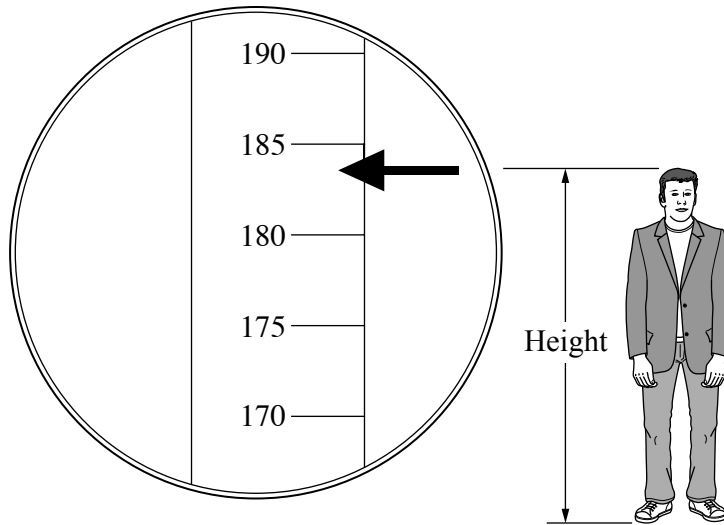
(i) What is the rule for this pattern?

(b)(i) [1]

(ii) What number has been missed out of the pattern?

(ii) [1]

- 11 Tony needs to know his height and his weight.

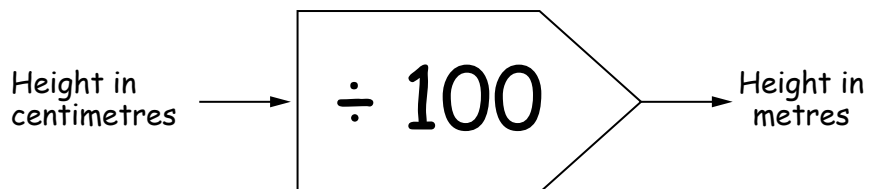


Tony has a tape that measures centimetres.
He marks the tape to show his height.

- (a) What is Tony's height in centimetres?

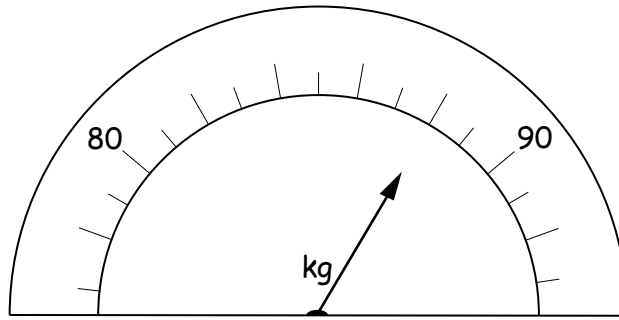
(a) cm [1]

- (b) Use this function machine to change Tony's height to metres.



(b) m [1]

Tony weighed himself.



(c) What is Tony's weight in kilograms?

(c) kg [1]

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