OCR
RECOGNISING ACHIEVEMENT

M1

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	

| Centre Number						Candidate Number					

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 6.
* You are expected to use a calculator in Section B of this paper.
* The total number of marks for this Section is **25**.
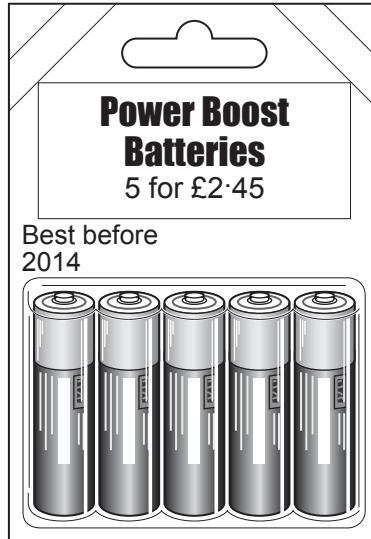* This document consists of **12** pages. Any blank pages are indicated.

OCR is an exempt Charity

Turn over

Formulae Sheet

Area of trapezium $= \frac{1}{2}(a + b)h$
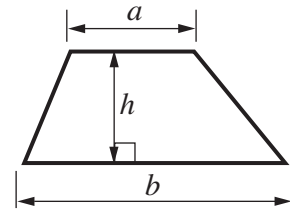
Volume of prism = (area of cross-section) × length

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6

Power Boost
Batteries
5 for £2·45

Best before
2014
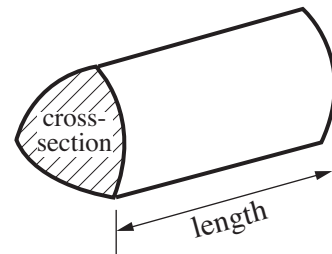
(a) How much does each battery cost?
Give your answer in pence.

(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.

How many of these packs does she need?

(c) .... **[1]**

Turn over

7 100 g of cereal contains the following:

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

(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 1586 kJ.

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]**

Turn over

9 Akil makes a spinner for a game.
He draws it on a grid and then decides that he needs a larger version.
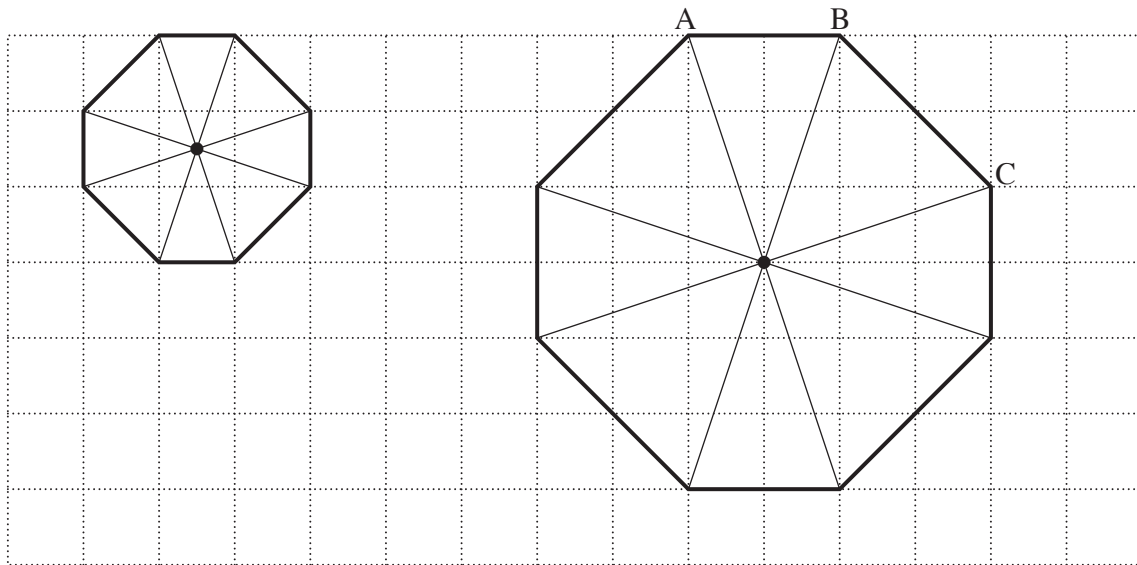
(a) How many times bigger are the sides of Akil's large spinner than his small spinner?

(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)

| 5 | 8 | 11 |
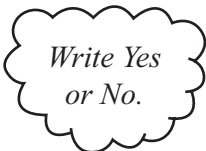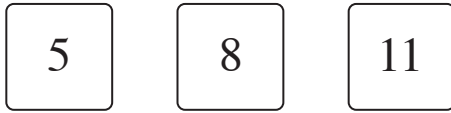
These numbers form the start of a pattern using the rule:

Add 3

Find the next three numbers in the pattern.

| 5 | 8 | 11 | | | |
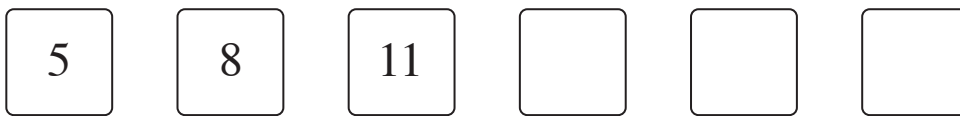
[1]

(b) This is part of another pattern.

| 35 | 30 | 25 | | 15 | 10 |
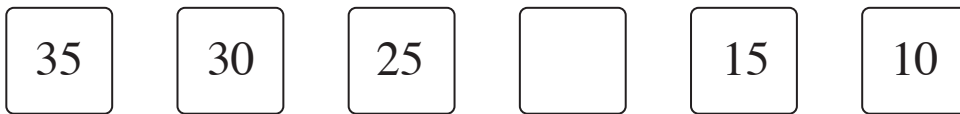
(i) What is the rule for this pattern?

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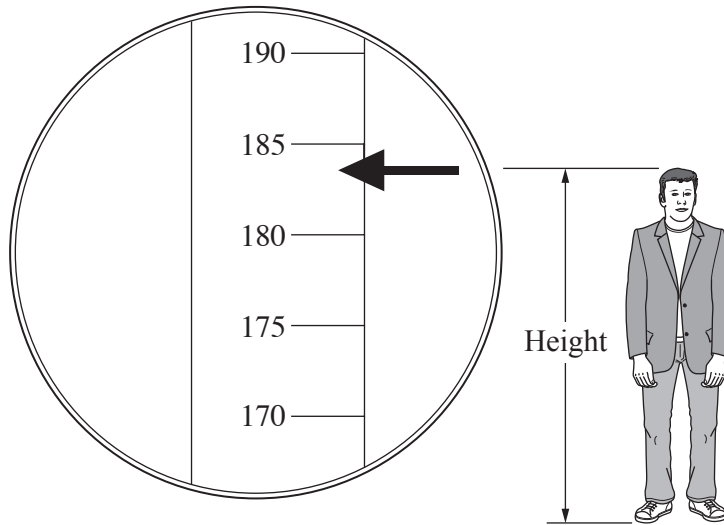
Tony has a tape that measures centimetres.
He marks the tape to show his height.

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

(a) .... cm **[1]**

(b) Use this function machine to change Tony's height to metres.
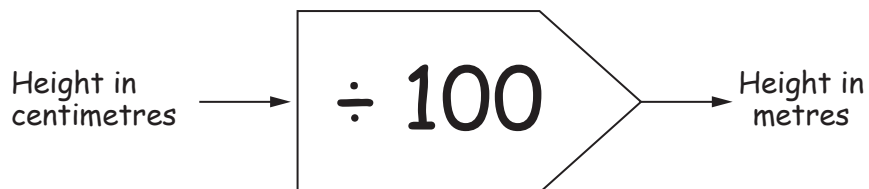
(b) .... m **[1]**

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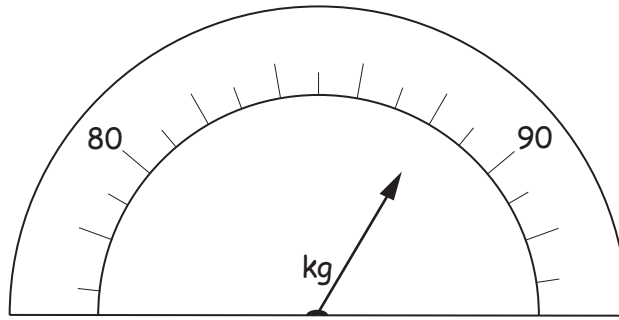
(c) What is Tony's weight in kilograms?

(c) .... kg **[1]**

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