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RECOGNISING ACHIEVEMENT

GENERAL CERTIFICATE OF SECONDARY EDUCATION

MATHEMATICS C (GRADUATED ASSESSMENT) **M3** **2333B**

MODULE M3 – SECTION B

MONDAY 22 JANUARY 2007 Morning

Time: 30 minutes

Candidates answer on the question paper.
Additional materials: Geometrical instruments
Tracing paper (optional)
Electronic calculator

Candidate Name	

Centre Number						Candidate Number				

INSTRUCTIONS TO CANDIDATES

- Write your name, Centre Number and Candidate Number in the boxes above.
- Answer **all** the questions.
- Use blue or black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure you know what you have to do before starting your answer.
- In many questions marks will be given for a correct method even if the answer is incorrect.
- Do **not** write in the bar code.
- Do **not** write outside the box bordering each page.
- WRITE YOUR ANSWER TO EACH QUESTION IN THE SPACE PROVIDED. ANSWERS WRITTEN ELSEWHERE WILL NOT BE MARKED.

INFORMATION FOR CANDIDATES

- You are expected to use a calculator in Section B of this paper.
- The number of marks is given in brackets [ ] at the end of each question or part question.
- The total number of marks for this Section is 25.
- Section B starts with question 5.

For Examiner's Use	
Section B	

This document consists of **8** printed pages.

[Turn over

Formula Sheet

Area of trapezium $= \frac{1}{2}(a + b)h$
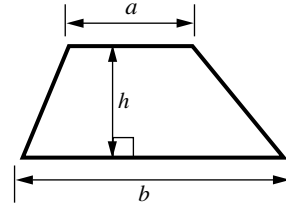
PLEASE DO NOT WRITE ON THIS PAGE

5 Draw a straight line from each fraction to its decimal equivalent.
The first one is done.
You don't need to use all the decimals.

$\frac{1}{2}$	0·2
$\frac{1}{4}$	0·3
$\frac{3}{10}$	0·75
$\frac{3}{4}$	0·5
	0·4
	0·25
	0·34

[3]

3

[Turn over

6 **(a)** The table shows the average monthly temperatures
at a weather station near to the South Pole.

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Temperature (°C)	1	2	0	¯2	¯4	¯6	¯7	¯6	¯4	¯3	¯1	0

(i) Which month is the coldest?

(a)(i)................................. [1]

(ii) Which month is four degrees **warmer** than October?

(ii)................................. [1]

(iii) Which months are four degrees **colder** than April?

(iii)................................. [1]
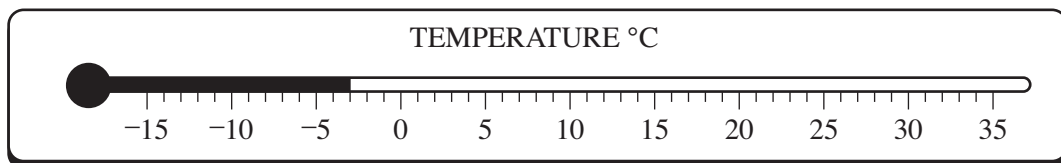
(iv) Complete this line graph showing the monthly temperatures at the weather station.
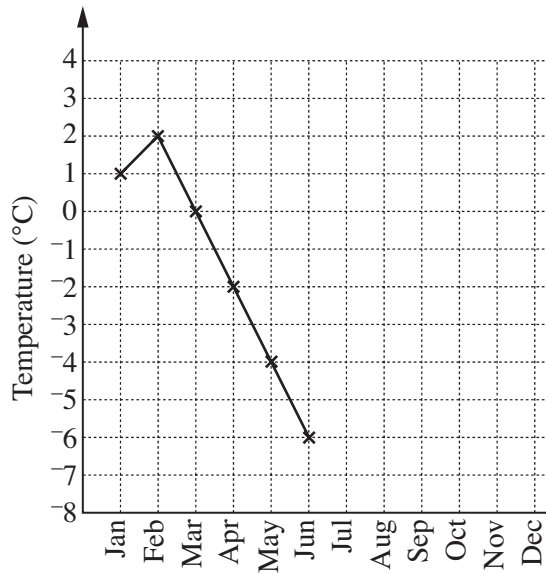
[2]

(v) Which month's temperature is shown on this thermometer?

TEMPERATURE °C

(v)................................. [1]

(b) This table shows the average February temperatures at a weather station in the UK.

Year	2000	2001	2002	2003	2004
Temperature (°C)	1·9	0·4	2·4	2·0	1·5

Find the mean of these temperatures.

(b) ....°C [3]

9

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7   Solve.

(a) $x + 5 = 15$

(a)..................................... [1]

(b) $x - 1 = 10$

(b) .... [1]

(c) $3x = 12$

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

3

[Turn over

8   This is a picture of the world s largest flag.
    It measures 156 m by 104 m.

    Calculate the area of a rectangle measuring
    156 m by 104 m.

.... m ^{2} [2]

2

9   (a) This number machine shows how to convert litres into pints.

Litres ⟶ ×7 ⟶ ÷4 ⟶ Pints
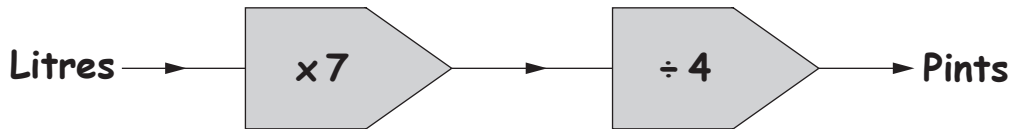
An average human has 5·6 litres of blood in their body.

Use the number machine to convert 5·6 litres into pints.

(a) .... pints [2]

(b) A baby has about 1100 millilitres of blood in their body.

What is 1100 millilitres in litres?
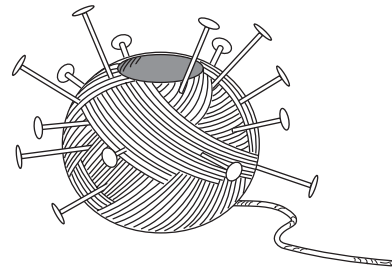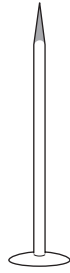
(b) .... litres [1]

(c) There are four main blood groups.

In the UK, $\frac{4}{5}$ of people have blood group A.

There are 60 million people in the UK.

Work out how many of these people have blood group A.

(c) .... million [2]

5

10 In a game, 100 nails are hammered into a ball of string.
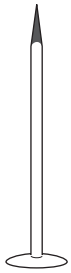
Some of the nails have painted tips:
    8 have blue tips,
    13 have red tips.
    The rest are not painted.

Amy picks a nail at random.

What is the probability that she

(a) picks a nail with a red tip,

(a)..................................... [1]

(b) picks a nail which is not painted?

(b) .... [2]

3	

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