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GENERAL CERTIFICATE OF SECONDARY EDUCATION

MATHEMATICS C (GRADUATED ASSESSMENT)
Terminal Paper – Section A
(Foundation Tier)

B281A

**Monday 1 June 2009
Morning**

Duration: 1 hour

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. Then start 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. Ask for more paper if you need it.

INFORMATION FOR CANDIDATES

•   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 **50**.
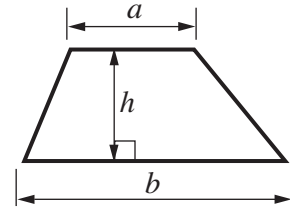•   This document consists of **12** pages. Any blank pages are indicated.
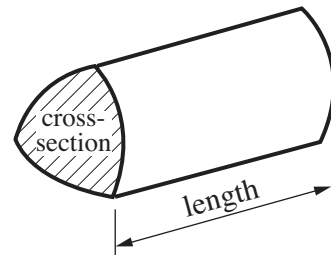
WARNING

No calculator can be used for Section A of this paper

Turn over

Formulae Sheet

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

Volume of prism = (area of cross-section) × length

PLEASE DO NOT WRITE ON THIS PAGE

1 Work out.

 (a) 300 – 139

(a) .... **[2]**

 (b) 65 ÷ 5

(b) .... **[1]**

2 At 9 am each day Andy records the temperature in his garden.
The table shows the temperatures for 5 days in January.

Day	Temperature (°C)
Monday	2
Tuesday	⁻4
Wednesday	⁻2
Thursday	5
Friday	1

 (a) On which day was the temperature lowest?

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

 (b) How many degrees warmer was Thursday than Wednesday?

(b) .... **[1]**

 (c) On Saturday the temperature was 4 degrees lower than on Friday.

  What was the temperature on Saturday?

(c) .... °C **[1]**

Turn over

3 Work out the value of $5a + 3b$ when $a = 4$ and $b = 2$.

.... **[2]**

4 (a) This bar chart shows the number of newspapers a shop sells on some days during one week.
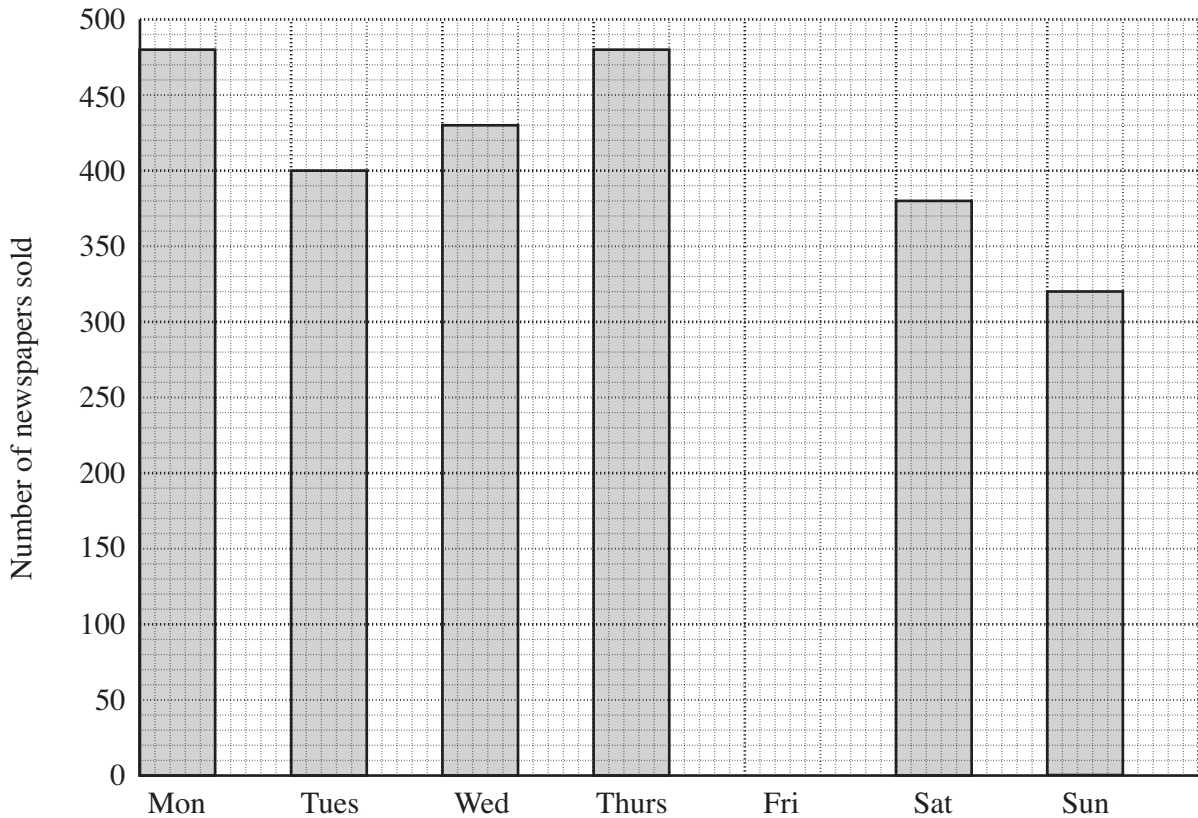
(i) How many newspapers did the shop sell on Monday?

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

(ii) On Friday the shop sold 440 newspapers.
Show this on the bar chart. **[1]**

(iii) How many **more** newspapers did the shop sell on Saturday than on Sunday?

(iii) .... **[1]**

(b) This table shows the average daily sales of newspapers in the UK in July 2007.

Newspaper	Average daily sales
Daily Express	735 307
Daily Mirror	1 496 572
Daily Star	811 988
Financial Times	130 007
The Daily Mail	2 205 172
The Daily Telegraph	833 430
The Guardian	311 768
The Independent	189 797
The Sun	2 916 821
The Times	595 172

(i) Which newspaper had the lowest average daily sales?

(b)(i) .... [1]

(ii) Write   2 916 821   correct to the nearest million.

(ii) .... [1]

(iii) Write   833 430   correct to the nearest thousand.

(iii) .... [1]

(c) These were the weekday prices, in pence, of the newspapers.

40   40   35   130   45   70   70   70   35   65

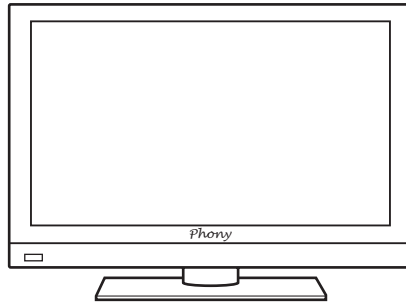**(i)** Find the mode and the median of these prices.

(c)(i) mode .... p

median .... p **[3]**

(ii) The median is a better average to use than the mode for these newspaper prices. Give a reason why.

....

....[1]

Turn over

5   The cash price of this TV is £600.

The shop offers a 'credit deal'.

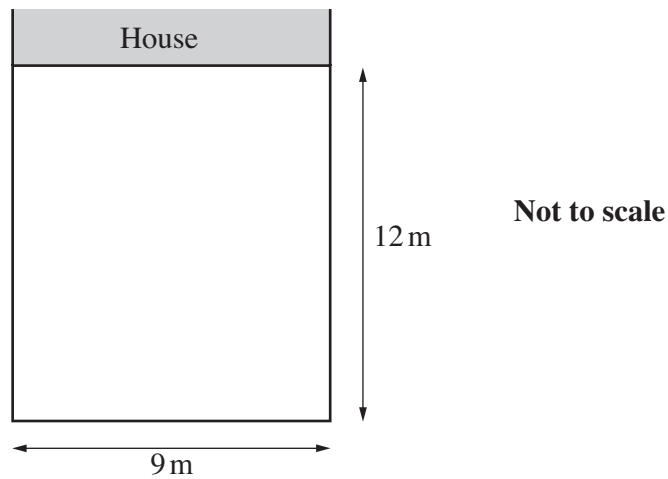| Pay 25% deposit and then 12 payments of £49 |
| --- |

(a)   Work out 25% of £600.

(a) £ .... **[2]**

(b)   John chooses the credit deal.

How much more does John pay than the cash price?

(b) £ .... **[4]**

6   This is a sketch of Mary's rectangular garden.

(a) Mary is buying new fence panels for the two long sides and one short side of the garden. Each fence panel is 1·5 m wide.

Work out how many panels Mary needs to buy.

(a) .... **[2]**

(b) Mary uses $\frac{1}{3}$ of the garden for growing vegetables.

Work out the area for growing vegetables.

(b) ....m^2 **[3]**

Turn over

7 Solve these equations.

(a) $\dfrac{x}{4} = 5$

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

(b) $2x - 5 = 21$

(b) .... **[2]**

8 Here are three consecutive integers.

$$n \qquad n + 1 \qquad n + 2$$

(a) Find an expression for the sum of these three integers.
Write your answer as simply as possible.

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

(b) Explain how you can tell from the answer to part **(a)** that the sum of three consecutive integers is **always** divisible by 3.

....

.... **[1]**

9 For a drink, Meera mixes lime cordial and lemonade in the ratio 1 : 4.

(a) How much lemonade does she need to use with 100 ml of lime cordial?

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

(b) Meera wants to make 800 ml of this drink.

Calculate how much lime cordial she needs.

(b) .... ml **[2]**

(c) Meera drinks 480 ml of the 800 ml.

Write the ratio   480 : 800   as simply as possible.

(c) .... : .... **[2]**

10 **(a)** Insert brackets in each of the following calculations so that they are correct.

$$2 + 5 \times {}^-4 \; = {}^-28$$

$$2 \times 5 + {}^-4^2 = 2$$

$$2 \times 5 + {}^-4^2 = 36 \hspace{4cm} \textbf{[3]}$$

(b) Expand.

$5(3x - 4)$

(b) .... **[1]**

(c) Factorise fully.

$6x + 3x^2$

(c) .... **[2]**

11 **(a)** Complete the table for $y = 3 + 3x - x^2$.

x	$^-1$	0	1	2	3	4
y	$^-1$	3			3	$^-1$

[1]

(b) Draw the graph of $y = 3 + 3x - x^2$.
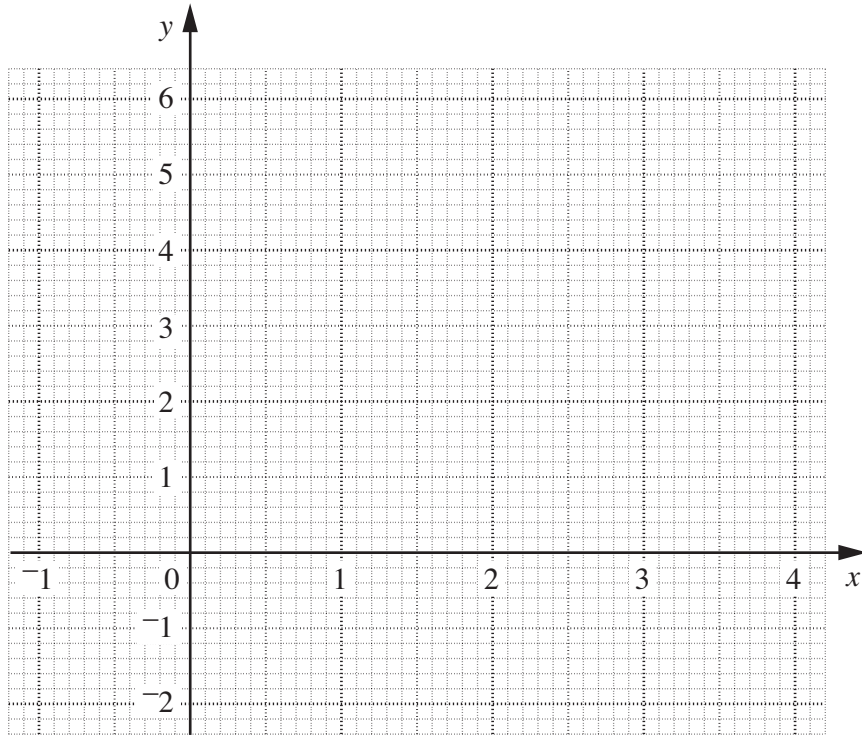
[2]

(c) Use your graph to find the values of x for which $3 + 3x - x^2 = 0$.

(c) .... [2]

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