

GENERAL CERTIFICATE OF SECONDARY EDUCATION
MATHEMATICS C (GRADUATED ASSESSMENT)
MODULE M6 – SECTION B

B276B

Candidates answer on the question paper

OCR Supplied Materials:

None

Other Materials Required:

- Geometrical instruments
- Tracing paper (optional)
- Scientific or graphical calculator

Tuesday 23 June 2009
Morning

Duration: 30 minutes



Candidate Forename		Candidate Surname	
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Centre Number						Candidate Number				
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INSTRUCTIONS TO CANDIDATES

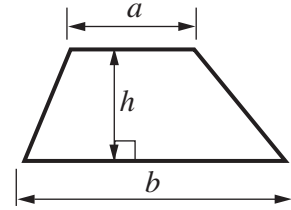
- Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes above.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- Show your working.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

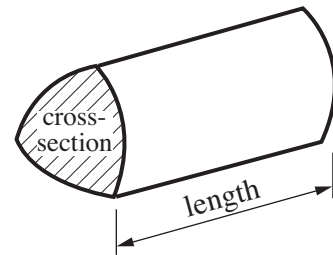
- The number of marks is given in brackets [] at the end of each question or part question.
- Section B starts with question 8.
- You are expected to use a calculator in Section B of this paper.
- Use the π button on your calculator or take π to be 3.142 unless the question says otherwise.
- The total number of marks for this Section is **25**.
- This document consists of **8** pages. Any blank pages are indicated.

Formulae Sheet

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

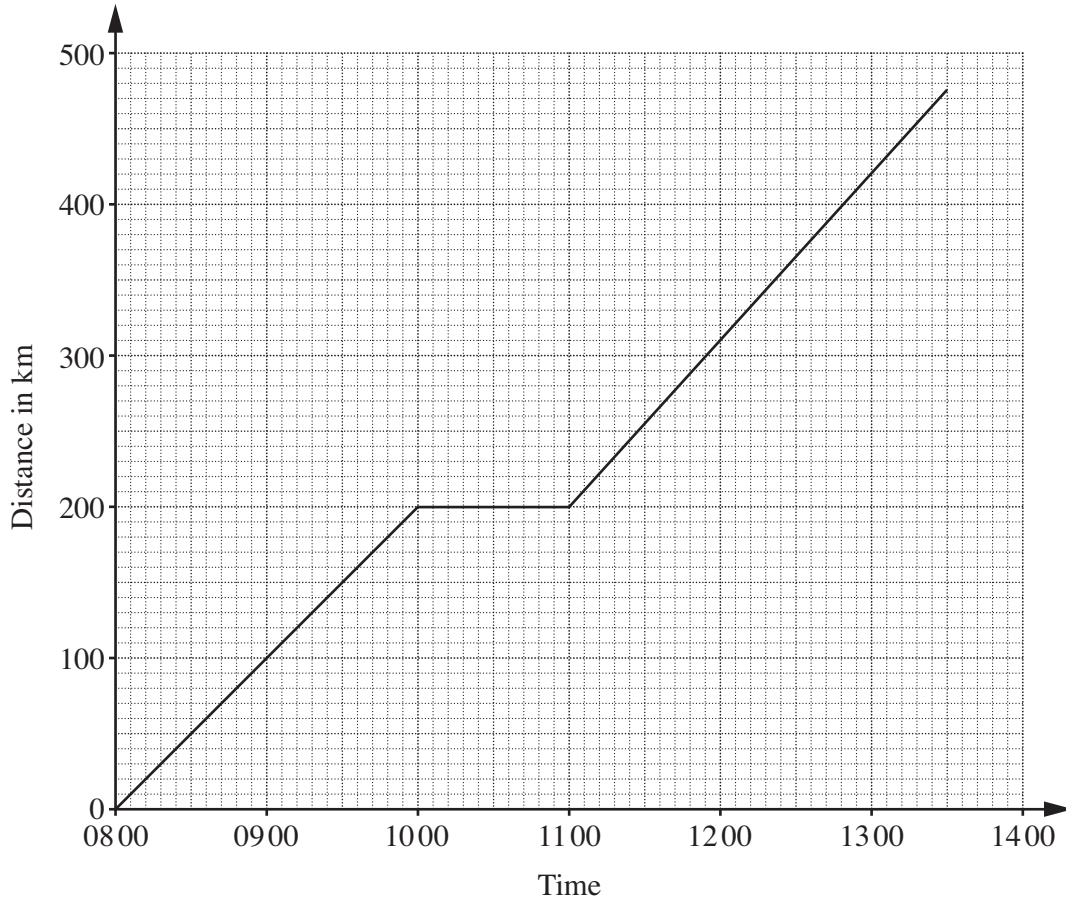


Volume of prism = (area of cross-section) \times length



PLEASE DO NOT WRITE ON THIS PAGE

- 8 A family is travelling along a motorway in a car.
The graph shows their journey between 08 00 and 13 30.



Here is the story of their journey.

Complete the story.

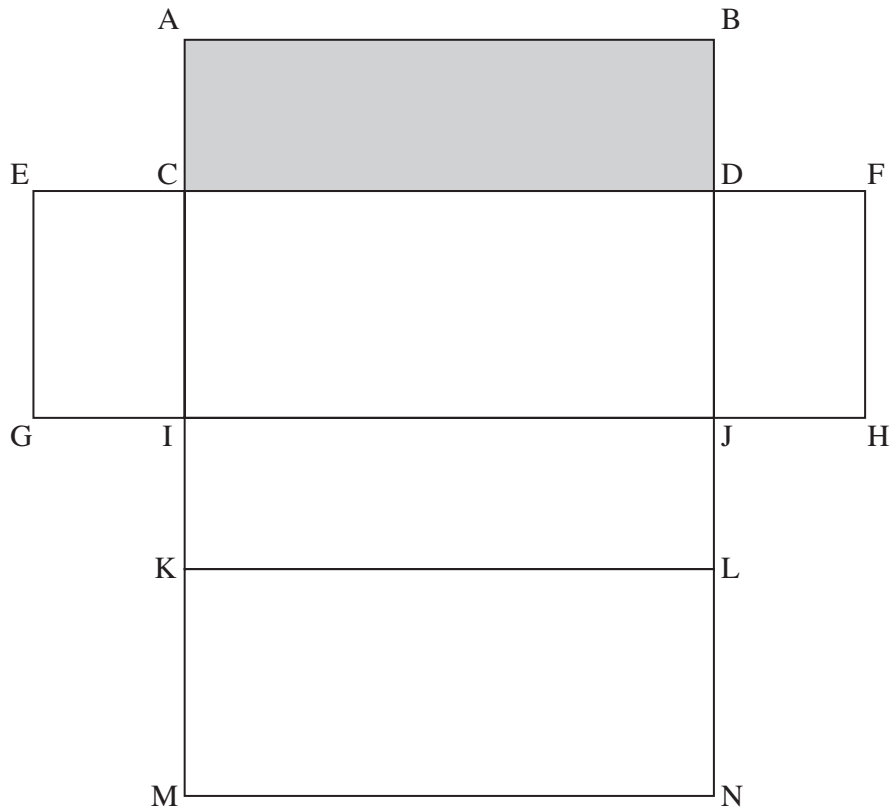
They started at 08 00. They travelled at a constant speed of 100 km per hour.

At 1000 they until 1100. They then travelled
at a constant speed of 110 km per hour for hours.

By 13 30 they had travelled a total distance of km.

[3]

9 Here is a full-size net of a cuboid.



(a) The net is folded into a cuboid.

(i) Which two other points meet with point B?

(a)(i) and [1]

(ii) Write an X on the face which is directly opposite the shaded face.

[1]

(b) Using measurements taken from the diagram,
work out the total surface area of the cuboid.

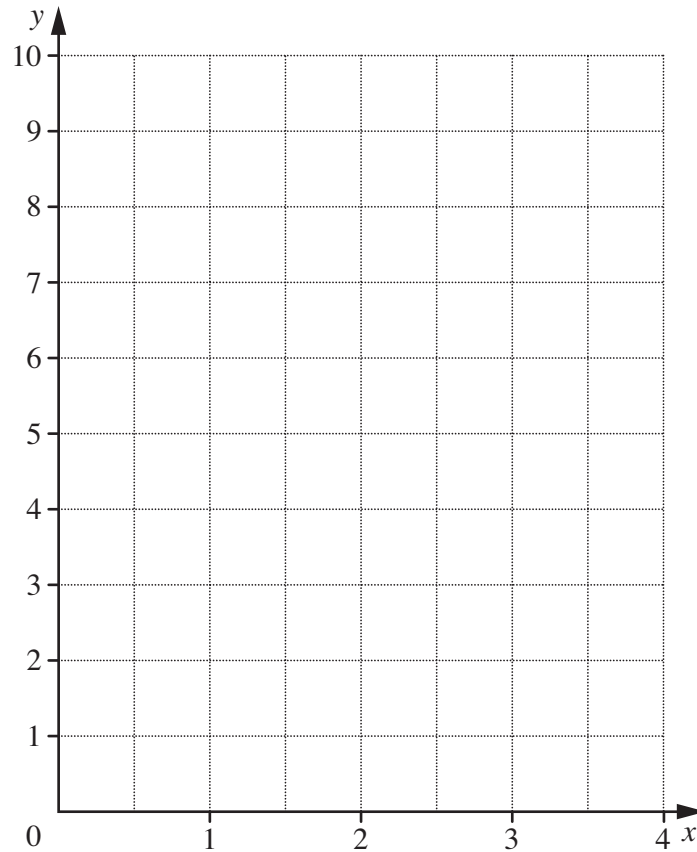
(b)cm² [3]

10 (a) Complete the table of values for $y = 2x + 1$.

x	0	1	2	3	4
y	1	3			9

[1]

(b) Draw the graph of $y = 2x + 1$.



[2]

11 Work out.

$$\frac{4.7 + 32.53}{12.08 \times 0.58}$$

Give your answer correct to 1 decimal place.

..... [2]

12 Solve.

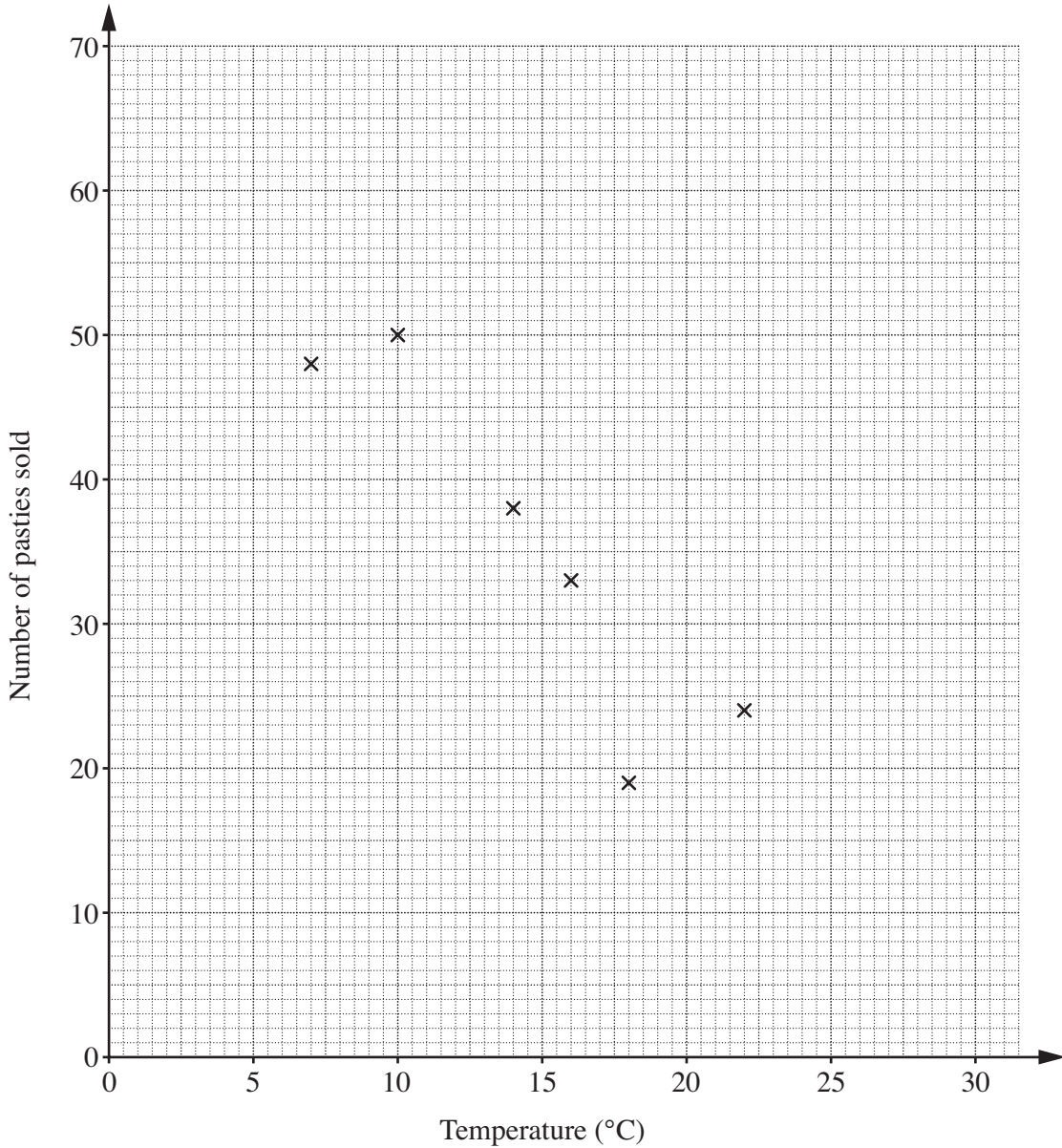
$$5x - 1 = 6 + 3x$$

..... [3]

13 Each day, the Trespice teashop keeps a record of the temperature at 9 am and the number of pasties it sells.

Temperature (°C)	7	10	22	18	14	16	4	20	16	25
Number sold	48	50	24	19	38	33	58	30	23	10

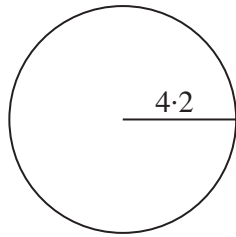
The first six points have been plotted on the scatter graph.



- (a) Complete the scatter graph. [2]
- (b) Describe the correlation.
..... [1]
- (c) Draw a line of best fit on the graph. [1]
- (d) Use your line to estimate the number of pasties sold when the temperature at 9 am is 12°C. (d) [1]

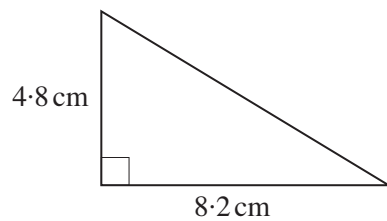
TURN OVER FOR QUESTION 14

- 14 (a) Calculate the area of a circle of radius 4.2 cm.



(a)cm² [2]

- (b) Calculate the area of this right-angled triangle.



Not to scale

(b)cm² [2]

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