Candidate Forename		Candidate Surname	

Centre Number						Candidate Number				

OXFORD CAMBRIDGE AND RSA EXAMINATIONS
GENERAL CERTIFICATE OF SECONDARY EDUCATION

B276B

MATHEMATICS C (GRADUATED ASSESSMENT)

MODULE M6 – SECTION B

TUESDAY 23 JUNE 2009: Morning
DURATION: 30 minutes

SUITABLE FOR VISUALLY IMPAIRED CANDIDATES

Candidates answer on the question paper.

OCR SUPPLIED MATERIALS:

None

OTHER MATERIALS REQUIRED:

Geometrical instruments
Tracing paper (optional)
Scientific or graphical calculator

READ INSTRUCTIONS OVERLEAF

DC (LEO/JG) OV90921 12074/1

INSTRUCTIONS TO CANDIDATES

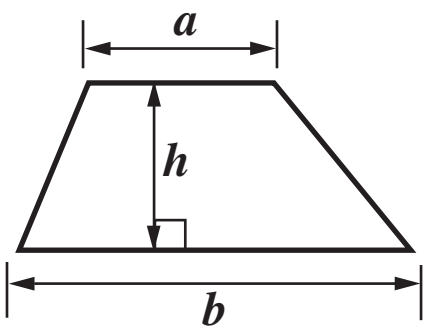
- **Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes on the first page.**
- **Use black ink. Pencil may be used for graphs and diagrams only.**
- **Read each question carefully and make sure that you know what you have to do before starting your answer.**
- **Show your working. Marks may be given for a correct method even if the answer is incorrect.**
- **Answer ALL the questions.**
- **Write your answer to each question in the space provided, however additional paper may be used if necessary.**

INFORMATION FOR CANDIDATES

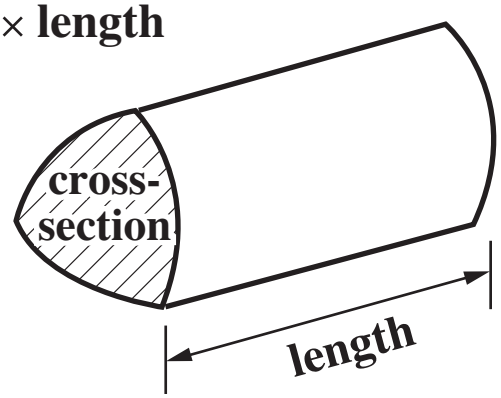
- **The number of marks is given in brackets [ ] at the end of each question or part question.**
- **Section B starts with question 8.**
- **You are expected to use a calculator in Section B of this paper.**
- **Use the π button on your calculator or take π to be 3·142 unless the question says otherwise.**
- **The total number of marks for this Section is 25.**

Formulae Sheet

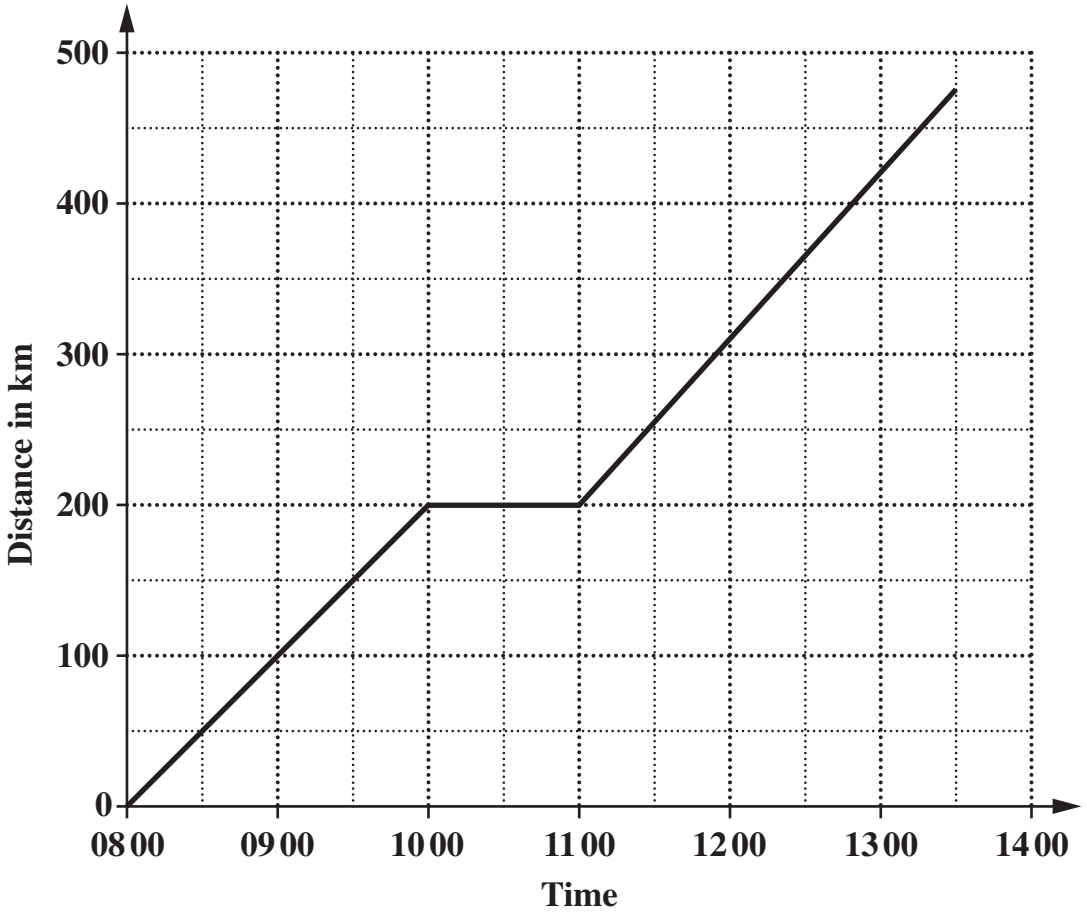
Area of trapezium $= \frac{1}{2}(a + b)h$



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



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 0800. They travelled at a constant speed of 100km per hour.

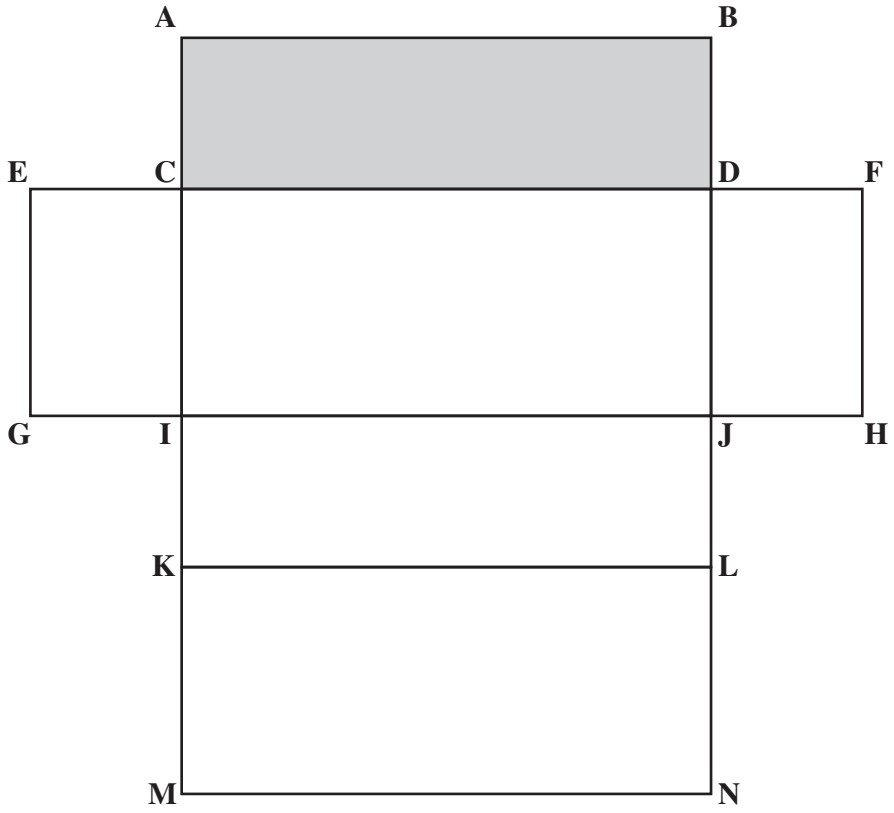
At 1000 they _____

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

By 1330 they had travelled a total distance of _____ km.

[3 marks]

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?
[1 mark]

(a)(i) _____ and _____

(ii) Write an X on the face which is directly opposite the shaded face.
[1 mark]

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

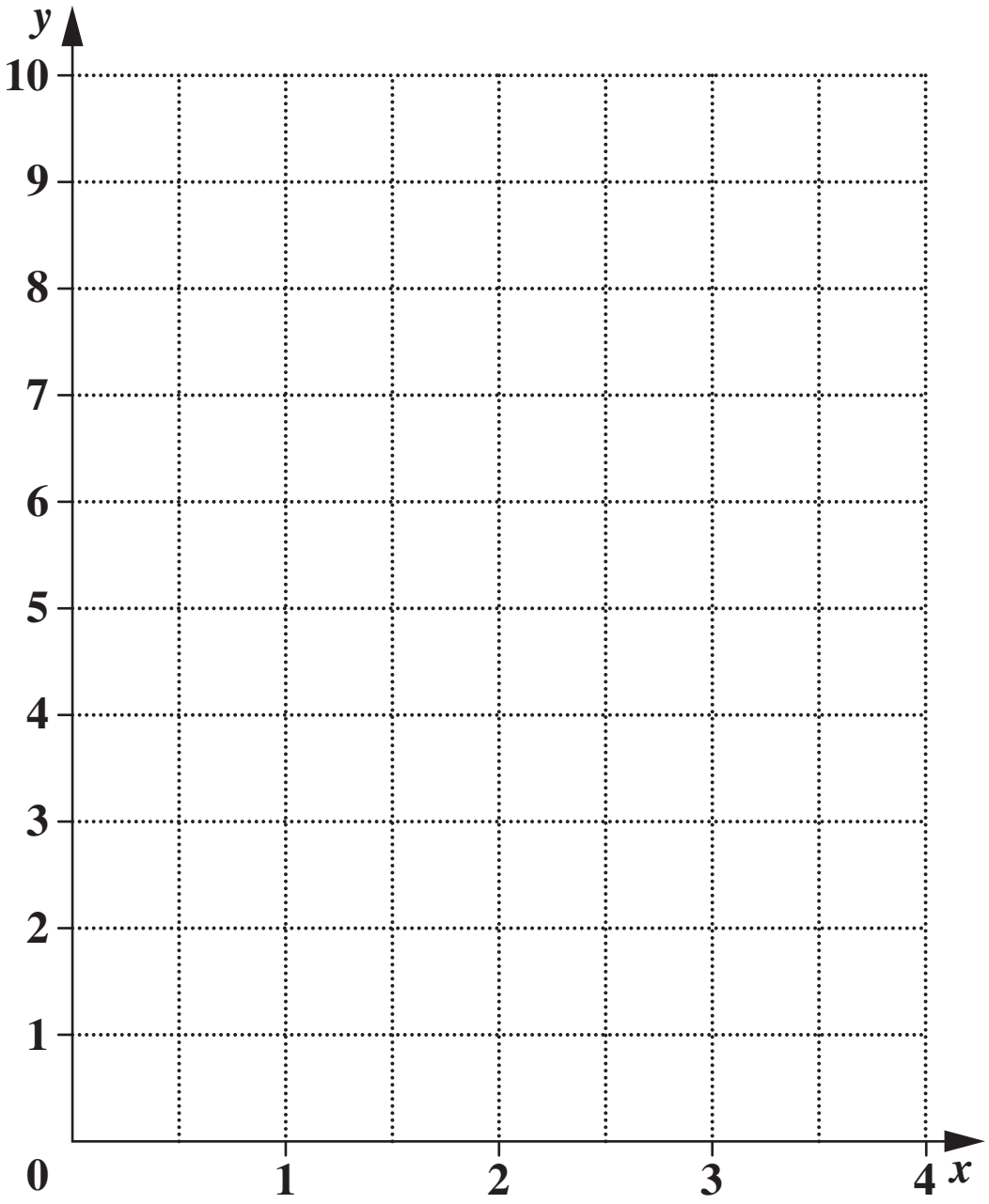
(b) _____ cm^2

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

x	0	1	2	3	4
y	1	3			9

[1 mark]

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



[2 marks]

11 Work out.

$$\frac{4{\cdot}7 + 32{\cdot}53}{12{\cdot}08 \times 0{\cdot}58}$$

Give your answer correct to 1 decimal place.
[2 marks]

_____

12 Solve.

$5x - 1 = 6 + 3x$

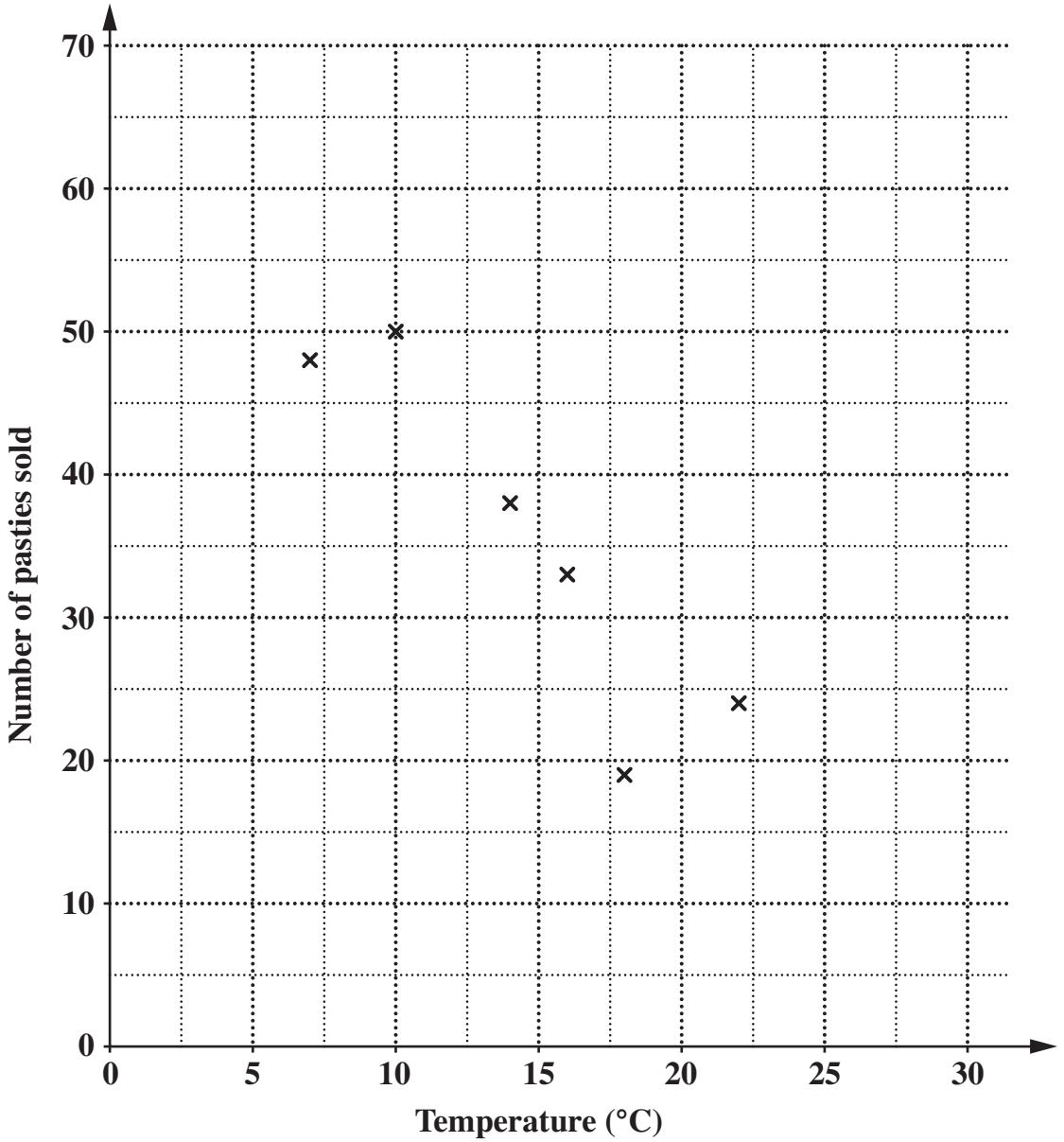
[3 marks]

_____

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 marks]

(b) Describe the correlation.
[1 mark]

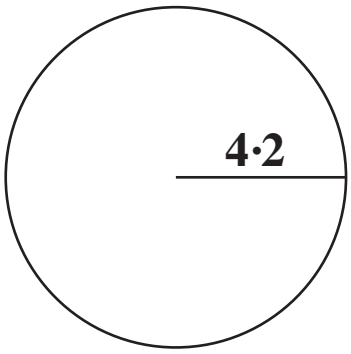
_____

(c) Draw a line of best fit on the graph.
[1 mark]

(d) Use your line to estimate the number of pasties sold when the temperature at 9 am is 12 °C.
[1 mark]

(d) _____

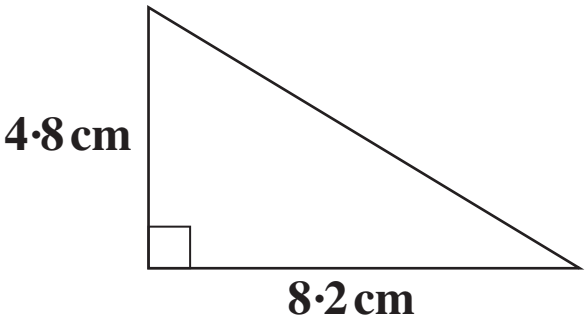
14 (a) Calculate the area of a circle of radius 4·2 cm.



[2 marks]

(a) _____ cm^2

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



Not to scale

[2 marks]

(b) _____ cm^2

BLANK PAGE

BLANK PAGE

BLANK PAGE