

Candidate Forename		Candidate Surname	
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Centre Number						Candidate Number				
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**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

INSTRUCTIONS TO CANDIDATES

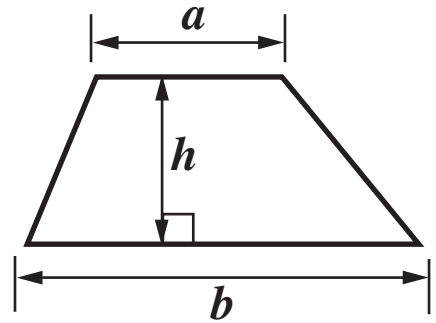
- **Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes on the first page.**
- **Use black ink. Pencil may be used for graphs and diagrams only.**
- **Read each question carefully and make sure that you know what you have to do before starting your answer.**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

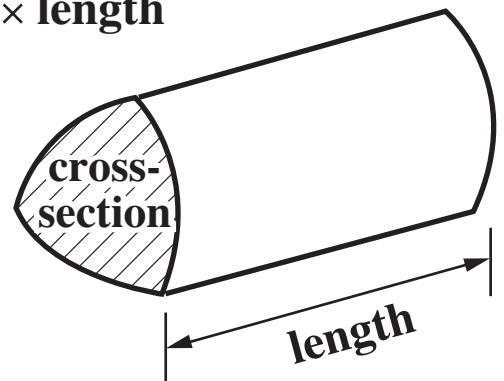
- **The number of marks is given in brackets [] at the end of each question or part question.**
- **Section B starts with question 8.**
- **You are expected to use a calculator in Section B of this paper.**
- **Use the π button on your calculator or take π to be 3.142 unless the question says otherwise.**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

Formulae Sheet

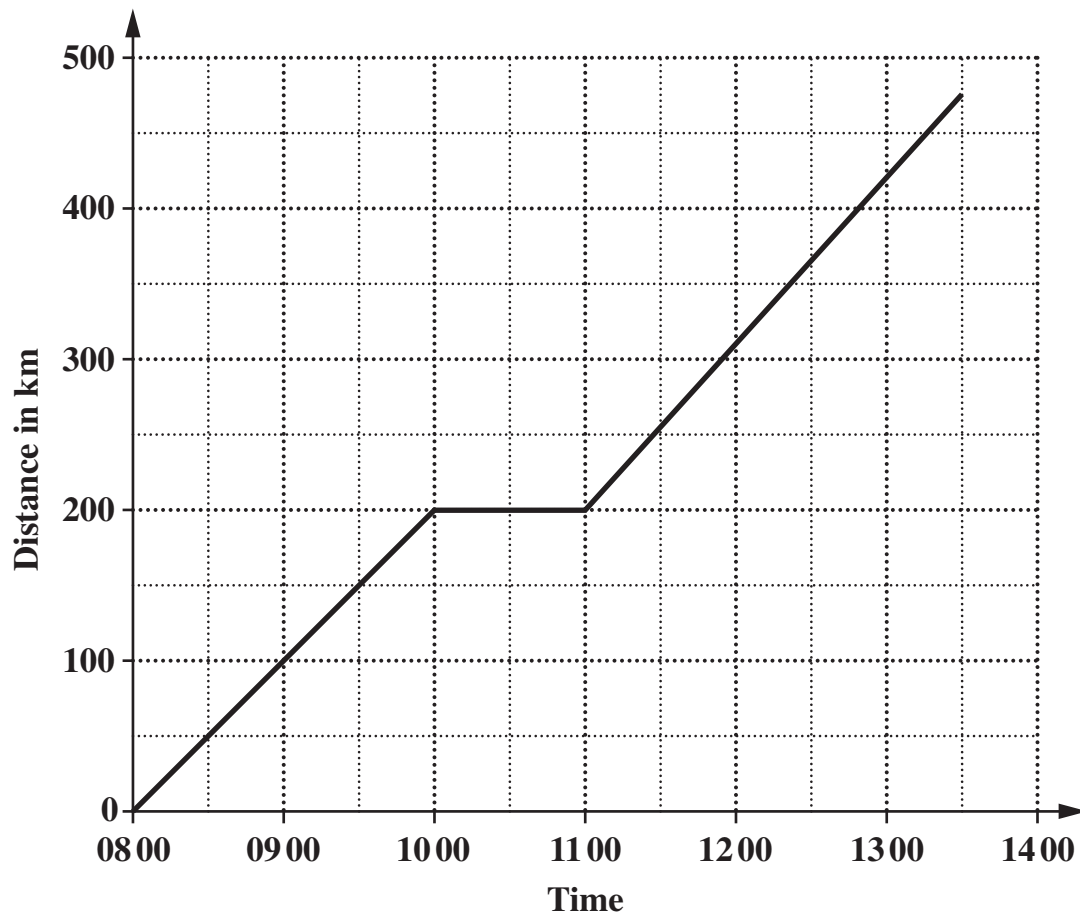
$$\text{Area of trapezium} = \frac{1}{2} (a + b)h$$



$$\text{Volume of prism} = (\text{area of cross-section}) \times \text{length}$$



**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

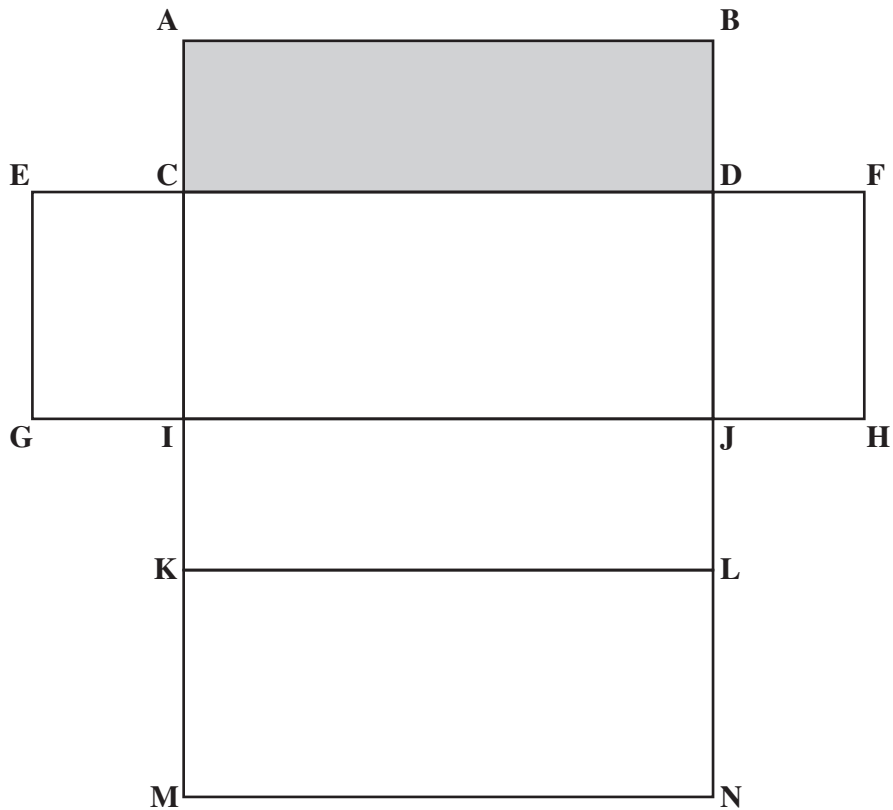
for _____ hours.

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]

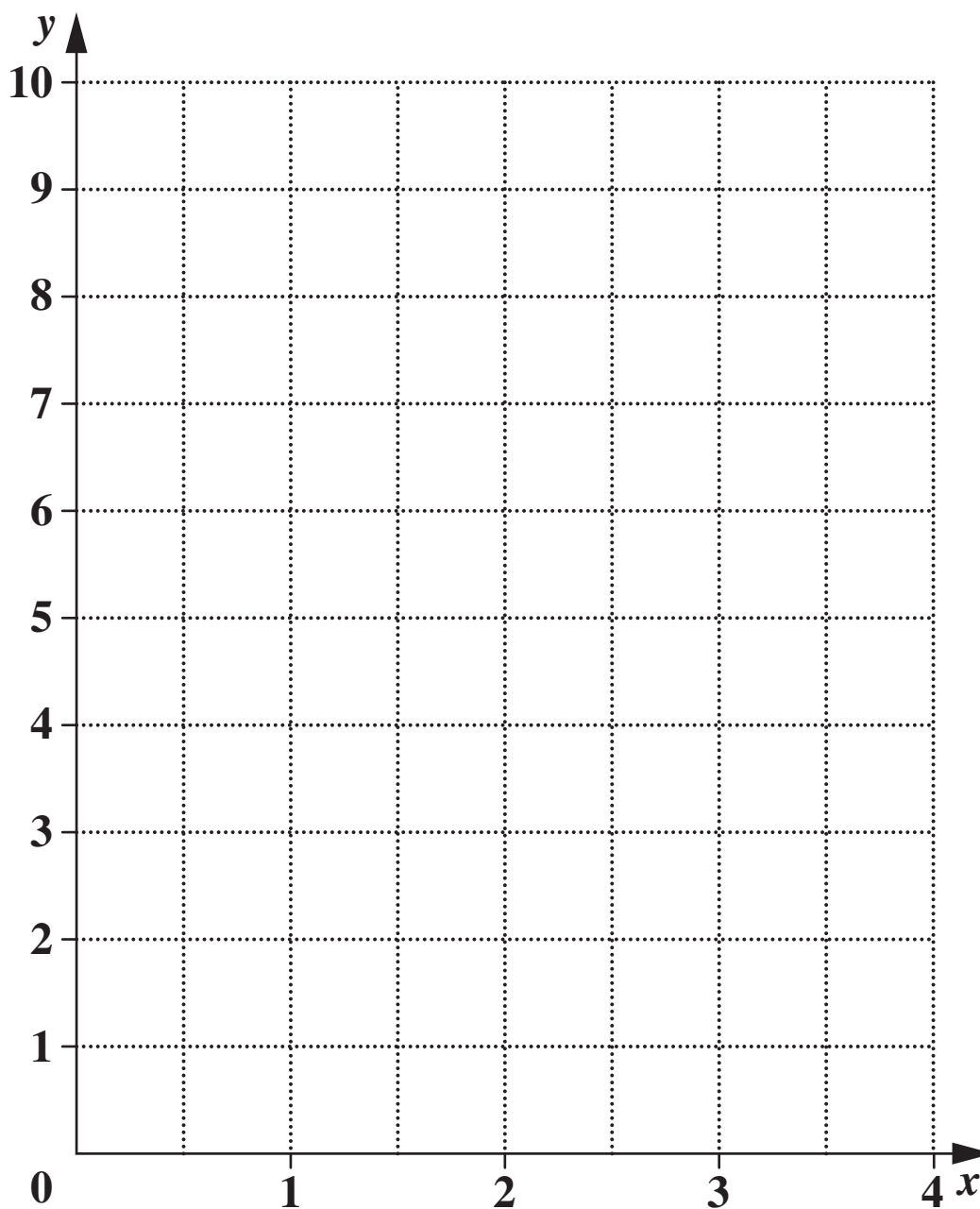
(b) _____ **cm²**

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.

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

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

12 Solve.

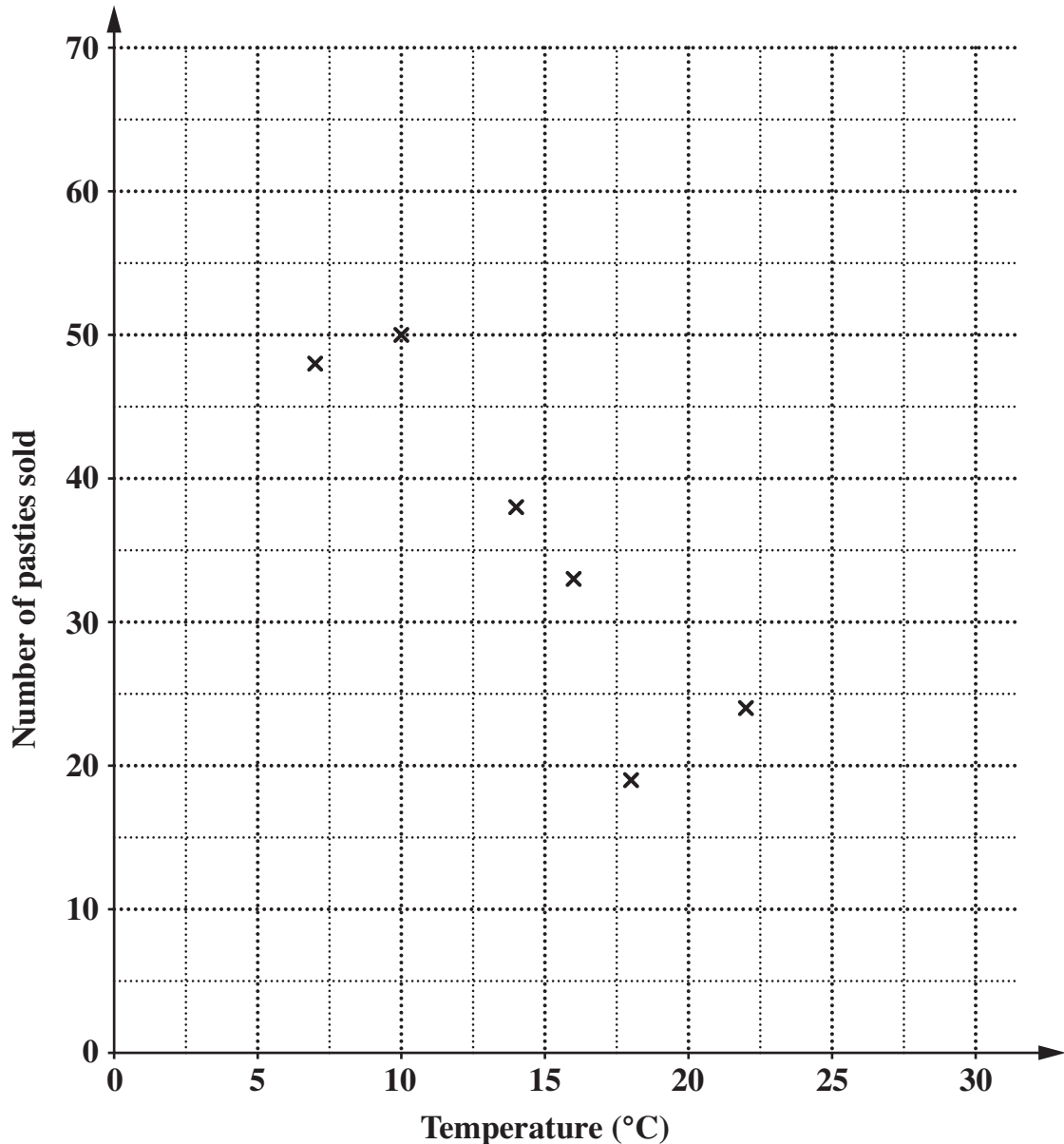
$$5x - 1 = 6 + 3x$$

[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]

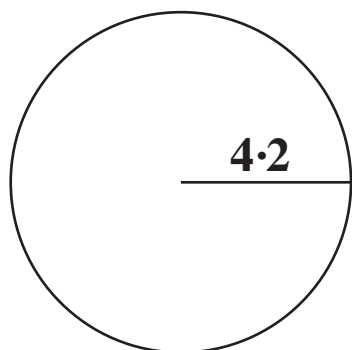
(b) Describe the correlation.
[1 mark]

(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) _____

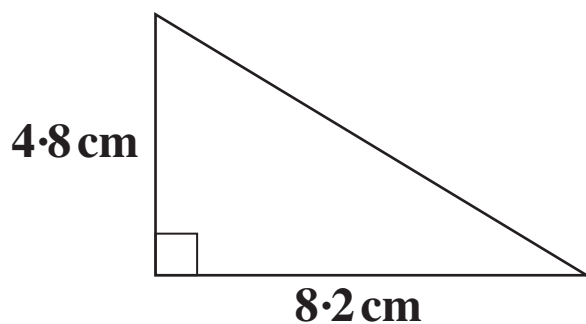
14 (a) Calculate the area of a circle of radius 4.2 cm.



[2 marks]

(a) _____ cm^2

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



Not to scale

[2 marks]

(b) _____ cm^2

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