Centre No.						Paper Reference							Surname	Initial(s)
Candidate No.						5	5	3	6	/	1	7	Signature	

Paper Reference(s)

5536/17

Examiner's use only

Team Leader's use only

Edexcel GCSE

Mathematics B – 1388

Paper 17 (Calculator)

Intermediate Tier

Wednesday 15 June 2005 – Morning

Time: 1 hour 15 minutes

Materials required for examination

Ruler graduated in centimetres and millimetres, protractor, compasses, pen, HB pencil, eraser, calculator. Tracing paper may be used.

Items included with question papers

Nil

Instructions to Candidates

In the boxes above, write your centre number, candidate number, your surname, initials and signature.
Check that you have the correct question paper.
Answer **ALL** the questions in the spaces provided in this question paper.
You must NOT write on the formulae page. Anything you write on the formulae page will gain NO credit.
If you need more space to complete your answer to any question, use additional answer sheets.

Information for Candidates

There are 17 questions in this question paper. The total mark for this paper is 62.
The marks for individual questions and the parts of questions are shown in round brackets: e.g. **(2)**.
Calculators may be used.
If your calculator does not have a π button, take the value of π to be 3.142 unless the question instructs otherwise.

Advice to Candidates

Show all stages in any calculations.
Work steadily through the paper. Do not spend too long on one question.
If you cannot answer a question, leave it and attempt the next one.
Return at the end to those you have left out.

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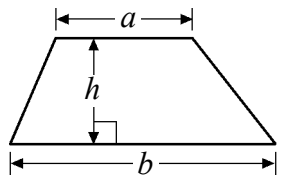
GCSE Mathematics 1387/8

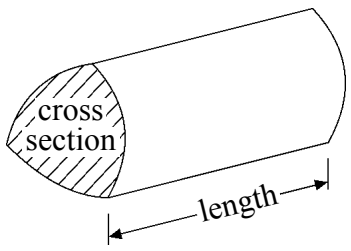
Formulae: Intermediate Tier

You must not write on this formulae page.
Anything you write on this formulae page will gain NO credit.

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



Volume of prism = area of cross section × length



N 2 1 0 6 3 A 0 2 1 6

Leave blank

Answer ALL SEVENTEEN questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

1. Margaret goes on holiday to Switzerland.
The exchange rate is £1 = 2.10 francs.

She changes £450 into francs.

(a) How many francs should she get?

……..francs
(2)

In Switzerland, Margaret buys a railway ticket.
The cost of the railway ticket is 63 francs.

(b) Work out the cost of the ticket in pounds.

£……
(2)

(Total 4 marks)

Q1

N 2 1 0 6 3 A 0 3 1 6

Leave blank

2. The table shows some expressions.

$2(y + y)$	$2y + y$	$2y \times 2y$	$2y + 2y$	$2 + 2y$

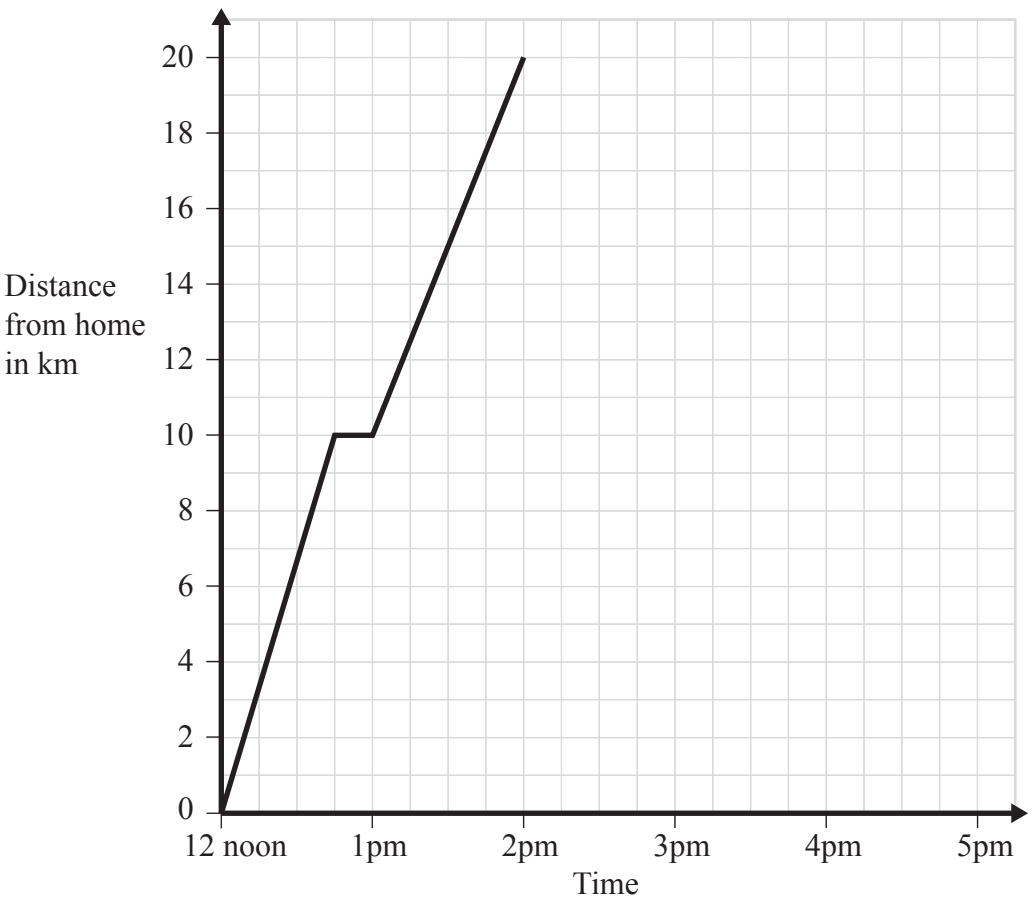
Two of the expressions **always** have the same value as $4y$.
Tick (✓) the boxes underneath the **two** expressions.

Q2

(Total 2 marks)

Leave blank

3. A man left home at 12 noon to go for a cycle ride.
The travel graph represents part of the man's journey.



At 12.45pm the man stopped for a rest.

(a) For how many minutes did he rest?

…… minutes
(1)

The man stopped for another rest at 2pm.
He rested for one hour.
Then he cycled home at a steady speed. It took him 2 hours.

(b) Complete the travel graph.

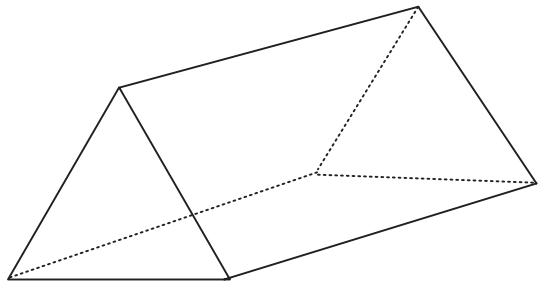
(2)

(Total 3 marks)

Q3

Leave blank

4.



The diagram shows a triangular prism.
The cross-section of the prism is an equilateral triangle.

(a) In the space below, draw a sketch of a net for the triangular prism.

(2)

Leave blank

(b) In the space below, use ruler and compasses to **construct** an equilateral triangle with sides of length 6 centimetres.
You must show all construction lines.
One side of the triangle has already been drawn for you.

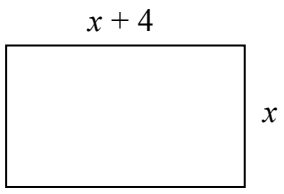
(2)

(Total 4 marks)

Q4

Leave blank

5. The width of a rectangle is x centimetres.
The length of the rectangle is $(x + 4)$ centimetres.



(a) Find an expression, in terms of x, for the perimeter of the rectangle.
Give your expression in its simplest form.

.....

(2)

The perimeter of the rectangle is 54 centimetres.

(b) Work out the length of the rectangle.

..... cm

(3)

(Total 5 marks)

Q5

6. Mr Brown chooses one book from the library each week.
He chooses a crime novel or a horror story or a non-fiction book.

The probability that he chooses a horror story is 0.4
The probability that he chooses a non-fiction book is 0.15

Work out the probability that Mr Brown chooses a crime novel.

Q6

.....

(Total 2 marks)

Leave blank

7. Change 7 m^2 to cm^2.

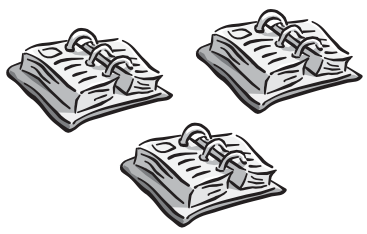
…….. cm^2 **Q7**

(Total 2 marks)

8. Michael buys 3 files.

The total cost of these 3 files is £5.40

Work out the total cost of **7** of these files.



£ …….. **Q8**

(Total 3 marks)

N 2 1 0 6 3 A 0 9 1 6

Leave blank

9. Three women earned a total of £36
They shared the £36 in the ratio 7:3:2

Donna received the largest amount.

(a) Work out the amount Donna received.

£.....
(3)

A year ago, Donna weighed 51.5 kg.
Donna now weighs $8\frac{1}{2}\%$ less.

(b) Work out how much Donna now weighs.
Give your answer to an appropriate degree of accuracy.

.....kg
(4)

Q9

(Total 7 marks)

N 2 1 0 6 3 A 0 1 0 1 6

Leave blank

10. The table shows information about the number of hours that 120 children used a computer last week.

Number of hours (h)	Frequency
$0 < h \leqslant 2$	10
$2 < h \leqslant 4$	15
$4 < h \leqslant 6$	30
$6 < h \leqslant 8$	35
$8 < h \leqslant 10$	25
$10 < h \leqslant 12$	5

Work out an estimate for the mean number of hours that the children used a computer.
Give your answer correct to 2 decimal places.

…….hours

Q10

(Total 4 marks)

N 2 1 0 6 3 A 0 1 1 1 6

Leave blank

11.

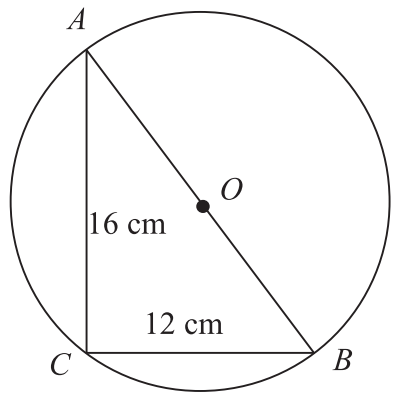


Diagram **NOT** accurately drawn

The diagram shows triangle ABC and a circle, centre O.
A, B and C are points on the circumference of the circle.
AB is a diameter of the circle.

$AC = 16$ cm and $BC = 12$ cm.

(a) Angle $ACB = 90°$.
Give a reason why.

.....

(1)

(b) Work out the diameter AB of the circle.

……..cm

(3)

(c) Work out the area of the circle.
Give your answer correct to 3 significant figures.

……..cm^2

(3)

(Total 7 marks)

Q11

N 2 1 0 6 3 A 0 1 2 1 6

Leave blank

12. 340 475 people live in Brinton.
A company carried out a survey.
It used a random sample of 1500 of the 340 475 people.
870 of this sample of 1500 people were male.

Work out an estimate for the number of **females** living in Brinton.

.....

(Total 3 marks)

Q12

13. (a) Simplify $a^3 \times a^4$

.....

(1)

(b) Simplify $3x^2y \times 5xy^3$

.....

(2)

(c) Simplify $\dfrac{(x-1)^2}{x-1}$

.....

(1)

(d) Factorise $x^2 - 9$

.....

(1)

(Total 5 marks)

Q13

N 2 1 0 6 3 A 0 1 3 1 6

Leave blank

14. In a sale, normal prices are reduced by 20%.

Andrew bought a saddle for his horse in the sale.
The sale price of the saddle was £220

Calculate the normal price of the saddle.

£ ……. **Q14**

(Total 3 marks)

15. Solve

$$x + 2y = 4$$
$$3x - 4y = 7$$

x = ……..

y = …….. **Q15**

(Total 3 marks)

N 2 1 0 6 3 A 0 1 4 1 6

Leave blank

16. Work out $(3.2\times10^5) \times (4.5\times10^4)$

Give your answer in standard form correct to 2 significant figures.

.....

Q16

(Total 2 marks)

17. A lighthouse, L, is 3.2 km due West of a port, P.
A ship, S, is 1.9 km due North of the lighthouse, L.

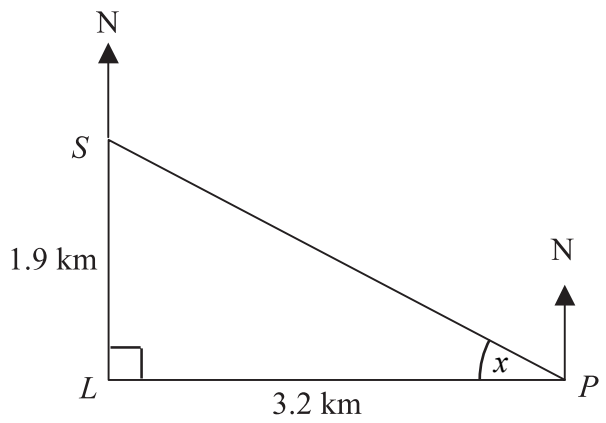


Diagram **NOT** accurately drawn

Calculate the size of the angle marked x.
Give your answer correct to 3 significant figures.

x = ... °

Q17

(Total 3 marks)

TOTAL FOR PAPER: 62 MARKS

END

N 2 1 0 6 3 A 0 1 5 1 6

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