Centre No.						Paper Reference							Surname	Initial(s)
Candidate No.						4	4	0	0	/	1	F	Signature	

Examiner's use only

Team Leader's use only

Paper Reference(s)

4400/1F

London Examinations IGCSE

Mathematics

Paper 1F

Foundation Tier

Monday 10 May 2004 – Morning

Time: 2 hours

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

Page Numbers	Leave Blank
3	
4	
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16	
17	
18	
Total	

Instructions to Candidates

In the boxes above, write your centre number and candidate number, your surname, initial(s) and signature.
The paper reference is shown at the top of this page. Check that you have the correct question paper.
Answer **ALL** the questions in the spaces provided in this question paper.
Show all the steps in any calculations.

Information for Candidates

There are 20 pages in this question paper. All blank pages are indicated.
The total mark for this paper is 100. The marks for parts of questions are shown in round brackets: e.g. **(2)**.
You may use a calculator.

Advice to Candidates

Write your answers neatly and in good English.

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London Examinations
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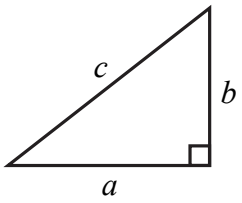
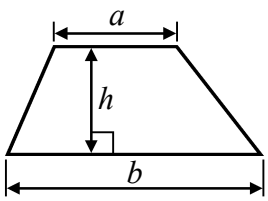
IGCSE MATHEMATICS 4400

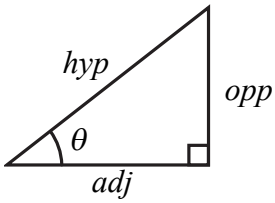
FORMULA SHEET – FOUNDATION TIER

Pythagoras' Theorem
$a^2 + b^2 = c^2$



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





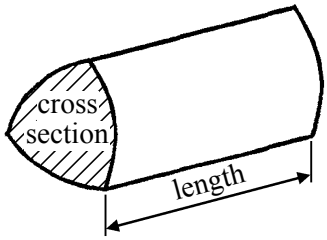
adj = hyp × cos θ
opp = hyp × sin θ
opp = adj × tan θ

or $\sin\theta = \frac{\text{opp}}{\text{hyp}}$

$\cos\theta = \frac{\text{adj}}{\text{hyp}}$

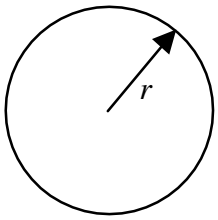
$\tan\theta = \frac{\text{opp}}{\text{adj}}$

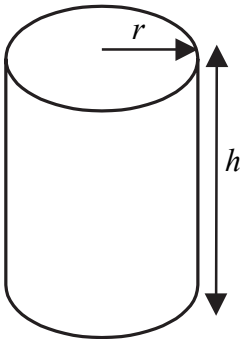
Volume of prism = area of cross section × length



Circumference of circle = $2\pi r$

Area of circle = πr^2





Volume of cylinder = $\pi r^2 h$

Curved surface area of cylinder = $2\pi rh$

Answer ALL TWENTY FOUR questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

Leave blank

1. (a) Write the number three thousand and eighteen in figures.

.....

(1)

(b) Write the number 7862 correct to the nearest hundred.

.....

(1)

(c) Write down the value of the 8 in the number 7862

.....

(1)

(d) 57 9 104 75 98

Write these numbers in order of size.
Start with the smallest number.

.....

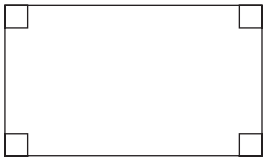
(1)

Q1

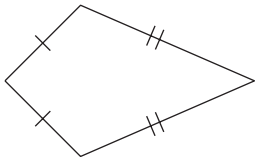
(Total 4 marks)

2. Write down the mathematical name of each of these quadrilaterals.

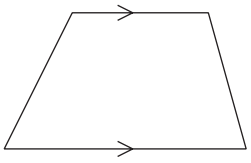
(i)



(ii)



(iii)



(i) ..... (ii) ..... (iii) .....

Q2

(Total 3 marks)

3. The first four terms of a number sequence are

Leave blank

2 5 8 11

Here is the rule for the sequence. **Add 3 each time**.

(a) Write down the next two terms of the sequence.

..... , ...

(1)

The 20th term of the sequence is 59.

(b) Work out the 22nd term of the sequence.

.....

(1)

The 31st term of the sequence is 92.

(c) Work out the 30th term of the sequence.

.....

(1)

(d) Explain, without working it out, why the 100th term of the sequence is an odd number.

.....

.....

(1)

Q3

(Total 4 marks)

4. In a survey, 1000 people in each of six countries were asked if they owned a computer. The pictogram shows the results of the survey.

Leave blank

Greece	
Hong Kong	
Italy	
Korea	
Kuwait	
Malaysia	

 represents 50 people who owned a computer.

(a) In which country did the greatest number of people own a computer?

.....

(1)

(b) Write down the number of people in Malaysia who owned a computer.

.....

(1)

(c) Write down the number of people in Italy who owned a computer.

.....

(1)

(d) In which country did 240 people own a computer?

.....

(1)

Q4

(Total 4 marks)

Leave blank

5. (a) Write 0.7 as a fraction.

.....

(1)

(b) Write 75% as a fraction.

.....

(1)

(c) Write 23% as a fraction.

.....

(1)

(d) On the dotted line, write a number so that the two fractions are equivalent.

$$\frac{5}{7} = \frac{.....}{21}$$

(1)

(e) Find the simplest form of $\frac{40}{48}$.

.....

(1)

(f) Work out $\frac{3}{8}$ of 72 cm.

..... cm

(2)

Q5

(Total 7 marks)

6. (a) Complete the following sentence by writing a sensible metric unit on each of the dotted lines.



An average adult male gorilla is 1.75 …… tall

and weighs 195 ……

(2)

(b) Change 1.5 litres to millilitres.

..... ml

(1)

Q6

(Total 3 marks)

Leave blank

7. There are 27 students in Mrs Din's class.
Mrs Din buys 4 boxes of chocolates.
There are 36 chocolates in each box.
She shares out the chocolates equally amongst her 27 students.

(a) Work out the number of chocolates each student receives.

.....

(2)

(b) Work out the number of chocolates left over.

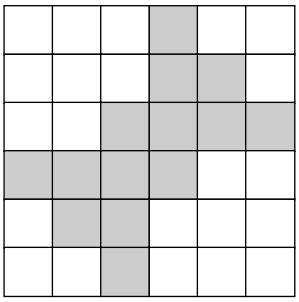
.....

(2)

Q7

(Total 4 marks)

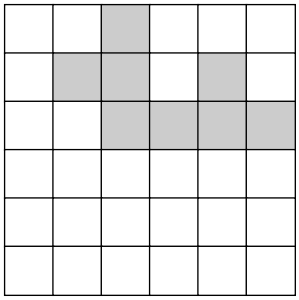
8.



(a) On the above pattern, draw all the lines of symmetry.

(2)

(b) On the grid below, a pattern is to be drawn.
It is to have rotational symmetry of order 4.
The pattern has been started.
Complete the pattern.



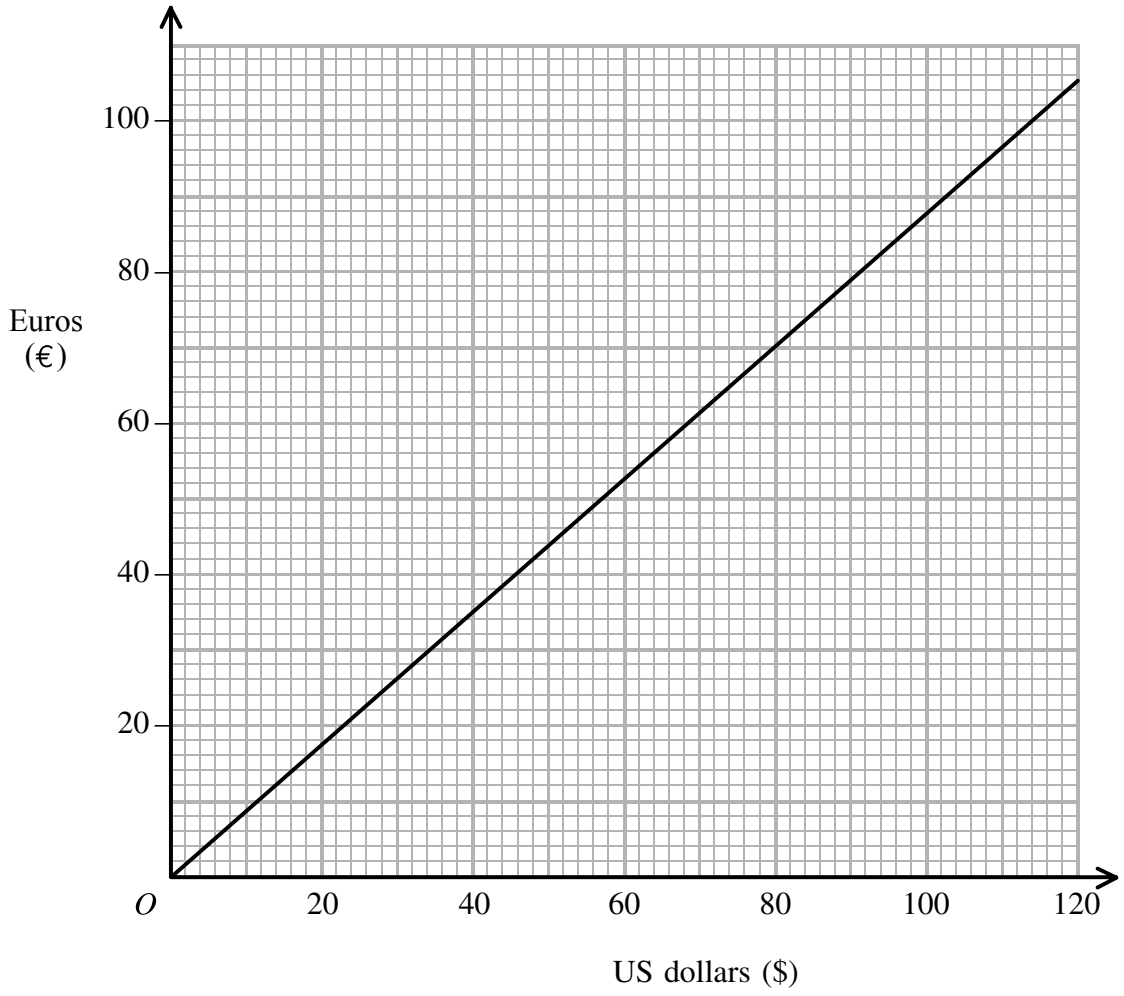
(2)

Q8

(Total 4 marks)

9. This graph can be used to convert between US dollars ($) and euros (€).

Leave blank



Use the graph to convert

(i) $110 to euros, € .....

(ii) $32 to euros, € .....

(iii) €56 to US dollars. $ .....

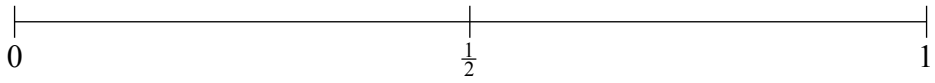
(Total 3 marks)

Q9

Leave blank

10. On the probability scale, mark the following probabilities.

(i) The next baby born in the world will be a girl. Use the letter G.
(ii) It will snow at the South Pole sometime this year. Use the letter S.



Q10

(Total 2 marks)

11.

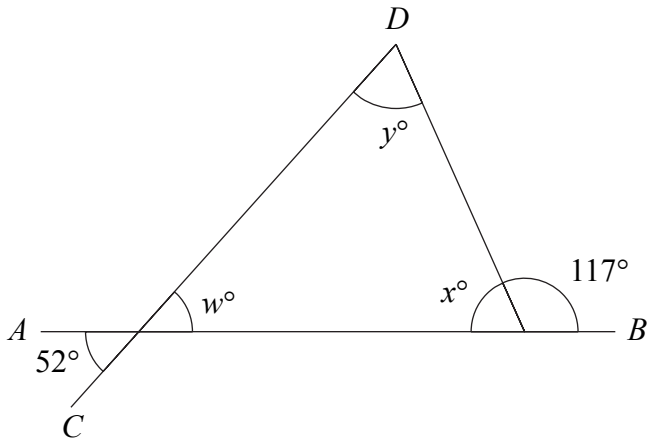


Diagram **NOT** accurately drawn

In the diagram, *AB* and *CD* are straight lines.

(a) Write down the value of *w*.

w = ...

(1)

(b) Work out the value of *x*.

x = ...

(1)

(c) Work out the value of *y*.

y = ...

(2)

Q11

(Total 4 marks)

12. (a) Use your calculator to work out the value of $\sqrt{(3.9 + 6.2)}$
Write down all the figures on your calculator display.

Leave blank

.....

(2)

(b) Give your answer to part (a) correct to 2 significant figures.

.....

(1)

Q12

(Total 3 marks)

13. (a) Simplify $pq + pq + pq$

.....

(1)

(b) Simplify $5x + 1 - 2x - 6$

.....

(2)

(c) Solve $4y - 3 = 7$

$y =$ .....

(2)

Q13

(Total 5 marks)

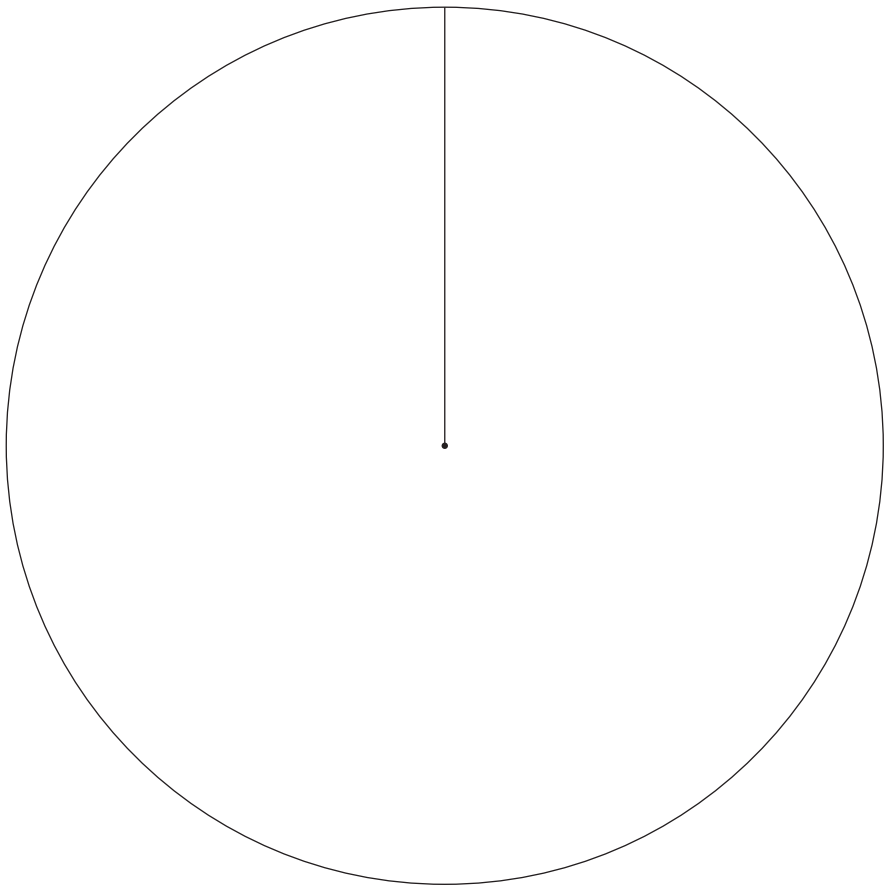
Leave blank

14. The table shows information about the favourite type of food of each of 72 people. The information can be used to draw a pie chart.

(i) Complete the table with the size of each angle of the pie chart.

Type of food	Number of people	Angle
Chinese	15	
Indian	21	
Greek	13	
French	16	
Thai	7	

(ii) Draw the pie chart.

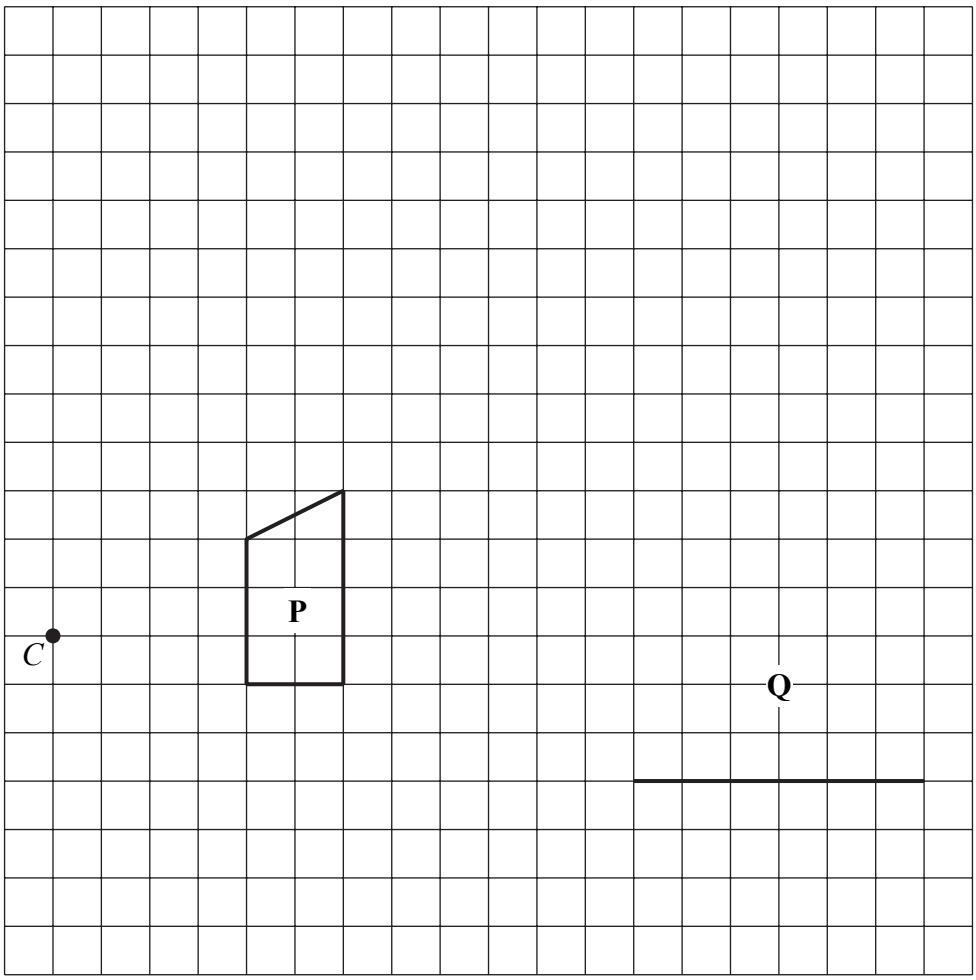


Q14

(Total 4 marks)

15.

Leave blank



Shape **P** is shown on the grid.
With centre *C*, shape **P** is enlarged to obtain shape **Q**.
One side of shape **Q** has been drawn for you.

(a) Write down the scale factor of the enlargement.

.....

(1)

(b) On the grid, complete shape **Q**.

(2)

Q15

(Total 3 marks)

16. In July 2002, the population of Egypt was 69 million.
By July 2003, the population of Egypt had increased by 2%.

Work out the population of Egypt in July 2003.

Leave blank

..... million

(Total 3 marks)

Q16

17. (a) Expand $3(2t + 1)$

.....

(1)

(b) Expand and simplify $(x + 5)(x - 3)$

.....

(2)

(c) Factorise $10p - 15q$

.....

(1)

(Total 4 marks)

Q17

18.

Leave blank

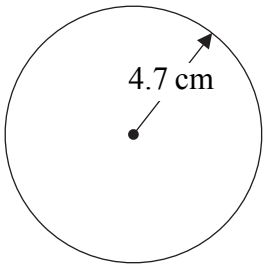


Diagram **NOT** accurately drawn

A circle has a radius of 4.7 cm.

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

..... cm^2
(2)

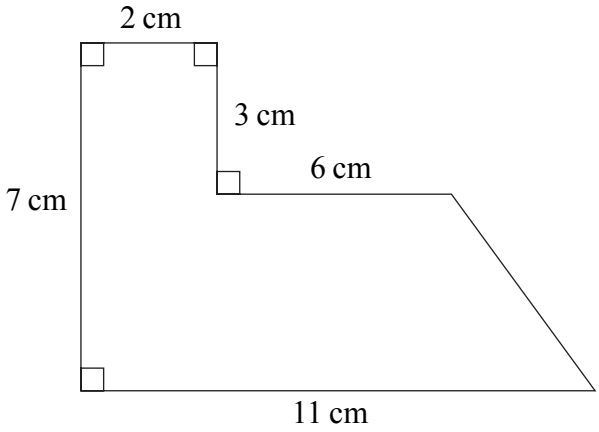


Diagram **NOT** accurately drawn

The diagram shows a shape.

(b) Work out the area of the shape.

..... cm^2
(4)

Q18

(Total 6 marks)

19. The diagram shows a pointer which spins about the centre of a fixed disc.

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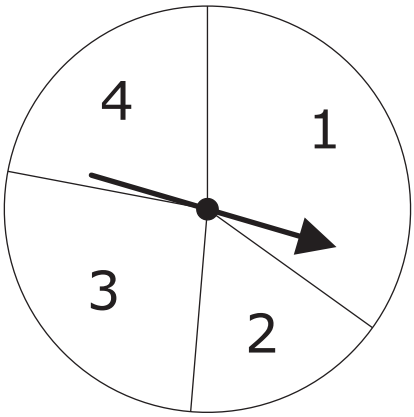


When the pointer is spun, it stops on one of the numbers 1, 2, 3 or 4.
The probability that it will stop on one of the numbers 1 to 3 is given in the table.

Number	1	2	3	4
Probability	0.35	0.16	0.27	

Magda is going to spin the pointer once.

(a) Work out the probability that the pointer will stop on 4.

.....

(2)

(b) Work out the probability that the pointer will stop on 1 or 3.

.....

(2)

Omar is going to spin the pointer 75 times.

(c) Work out an estimate for the number of times the pointer will stop on 2.

.....

(2)

Q19

(Total 6 marks)

20. (a) Calculate the cube of 7

Leave blank

.....

(1)

(b) Calculate the value of

(i) 2^5

.....

(ii) $3^2 \times 5^3$

.....

(2)

(c) Express 200 as the product of its prime factors.

.....

(2)

Q20

(Total 5 marks)

21. $A = \{1, 2, 3, 4\}$
$B = \{1, 3, 5\}$

(a) List the members of the set

(i) $A \cap B$,

.....

(ii) $A \cup B$.

.....

(2)

(b) Explain clearly the meaning of $3 \in A$.

.....

(1)

Q21

(Total 3 marks)

Leave blank

22. Two points, A and B, are plotted on a centimetre grid.
A has coordinates (2, 1) and B has coordinates (8, 5).

(a) Work out the coordinates of the midpoint of the line joining A and B.

(..... , ...)
(2)

(b) Use Pythagoras' Theorem to work out the length of AB.
Give your answer correct to 3 significant figures.

..... cm
(4)

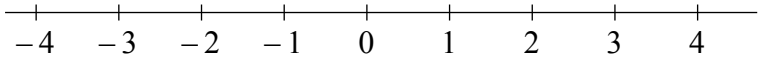
Q22

(Total 6 marks)

23. (i) Solve the inequality $3x + 7 > 1$

.....

(ii) On the number line, represent the solution to part (i).



Q23

(Total 4 marks)

24. The grouped frequency table gives information about the distance each of 150 people travel to work.

Leave blank

Distance travelled (d km)	Frequency
$0 < d \leq 5$	34
$5 < d \leq 10$	48
$10 < d \leq 15$	26
$15 < d \leq 20$	18
$20 < d \leq 25$	16
$25 < d \leq 30$	8

(a) Work out what percentage of the 150 people travel more than 20 km to work.

..... %
(2)

(b) Work out an estimate for the mean distance travelled to work by the people.

..... km
(4)

Q24

(Total 6 marks)

TOTAL FOR PAPER: 100 MARKS

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