Paper Reference(s)

5536/16

Edexcel GCSE

Mathematics B – 1388

Paper 16 (Non-Calculator)

Intermediate Tier

Tuesday 6 November 2007 – Morning

Time: 1 hour 15 minutes

Materials required for examination	**Items included with question papers**
Ruler graduated in centimetres and millimetres, protractor, compasses, pen, HB pencil, eraser. Tracing paper may be used.	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. Write your answers 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

The marks for individual questions and the parts of questions are shown in round brackets: e.g. **(2)**.
There are 15 questions in this question paper. The total mark for this paper is 62.
There are 16 pages in this question paper. Any blank pages are indicated.
Calculators must not be used.

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.
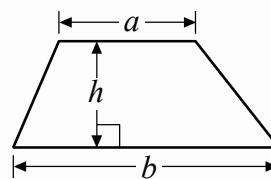Return at the end to those you have left out.

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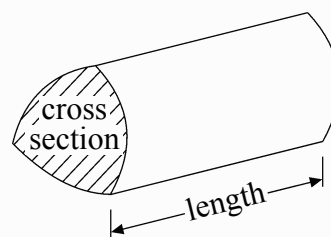
GCSE Mathematics 1387/8

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

Answer ALL FIFTEEN questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

You must NOT use a calculator.

1. The two-way table shows some information about the colours of Ford cars and of Toyota cars in a garage.

	white	blue	red	Total
Ford	5			21
Toyota		7		
Total	9	16		40

(a) Write down the total number of white cars.

....
(1)

(b) Complete the two-way table.

(3)

(Total 4 marks)

Q1

2. Work out £3.75 × 24

£ ....

(Total 3 marks)

Q2

Turn over

3. (a) Write these fractions in order of size.
Start with the smallest fraction.

$$\frac{3}{4} \qquad \frac{5}{6} \qquad \frac{2}{3} \qquad \frac{7}{12}$$

....

(2)

(b) Work out $\dfrac{3}{4} + \dfrac{1}{6}$

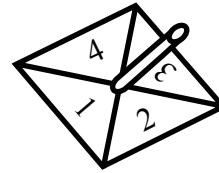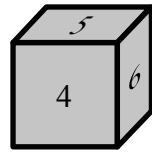.....................................

(2)

(Total 4 marks)

4. Joe rolls a 6-sided dice and spins a 4-sided spinner.

The dice is labelled 1, 2, 3, 4, 5, 6

The spinner is labelled 1, 2, 3, 4

Joe adds the score on the dice and the score on the spinner to get the total score.

He records the possible total scores in a table.

+	1	2	3	4	5	6
1	2	3	4	5	6	7
2	3					
3	4					
4	5					

(a) Complete the table of possible total scores.

(2)

(b) Write down all the ways in which Joe can get a total score of 5
One of them has been done for you.

(1, 4), ...
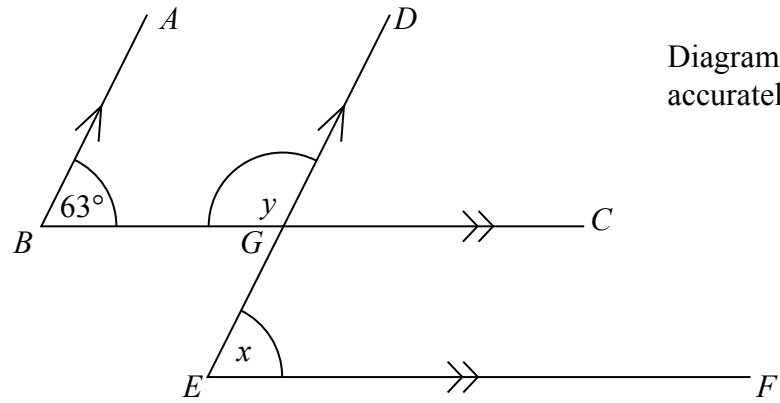
(2)

(Total 4 marks)

Q4

5.

Diagram **NOT** accurately drawn

BA is parallel to *EGD*.
BGC is parallel to *EF*.
Angle *ABC* = 63°.

(a) (i) Find the size of angle *x*.

.... °

(ii) Give a reason for your answer.

....

....

(2)

(b) Work out the size of angle *y*.

.... °

(1)

(Total 3 marks)

6. Lillian, Max and Nazia share a sum of money in the ratio 2 : 3 : 5

(a) What fraction of the money does Max receive?

....
(2)

Nazia receives £60

(b) Work out how much money Lillian receives.

£ ....
(3)

(Total 5 marks)

7. Here are the first five terms of a number sequence.

$$-4 \qquad -1 \qquad 2 \qquad 5 \qquad 8$$

(a) Write down the next term of this sequence.

....
(1)

(b) Find, in terms of *n*, an expression for the *n*th term of this number sequence.

....
(2)

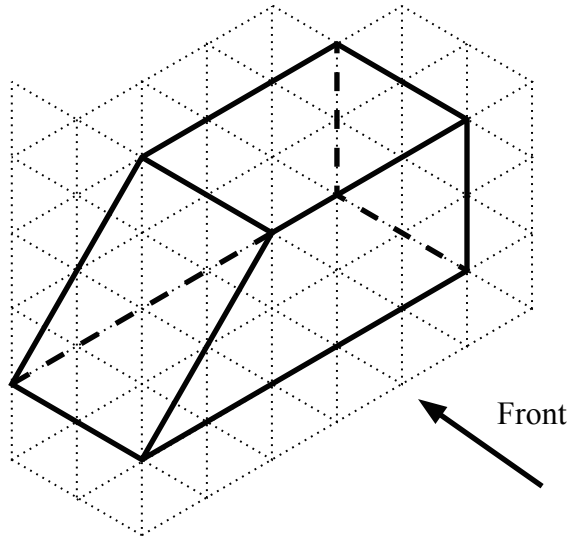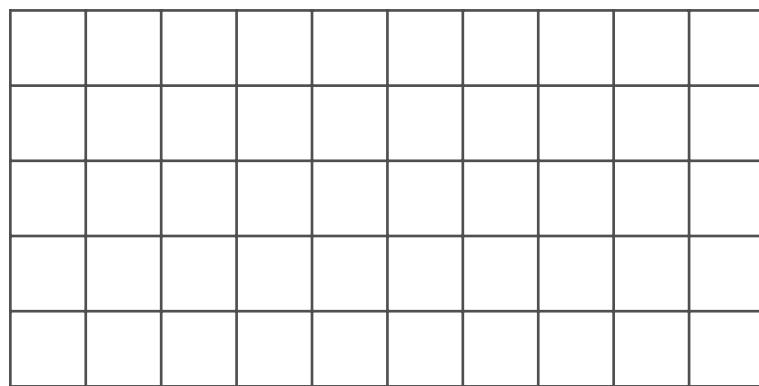**(Total 3 marks)**

8. The diagram shows a prism drawn on a centimetre isometric grid.
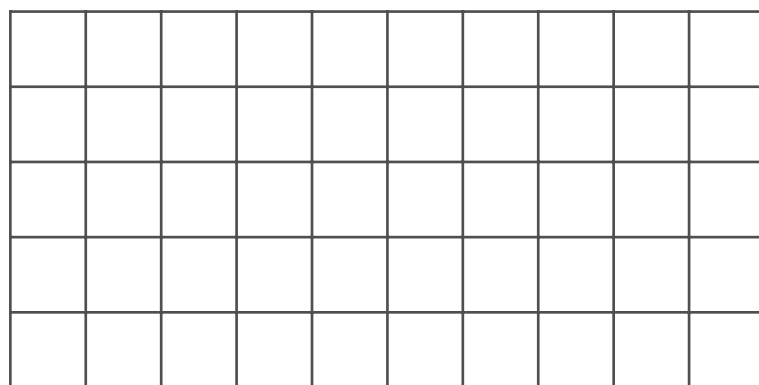
Front

(a) On the centimetre grid, draw the front elevation of the prism from the direction marked by the arrow.

(2)

(b) On the centimetre grid draw a plan of the prism.

(2) Q8

(Total 4 marks)

9. (a) Simplify $m^6 \times m^3$

....
(1)

(b) Simplify $\dfrac{p^8}{p^2}$

....
(1)

(c) Simplify $12x^3y^5 \div 2xy^2$

....
(2)

(d) Simplify $(t^3)^2$

....
(1)

(e) Simplify $\dfrac{3-3x}{1-x}$

....
(2) **Q9**

(Total 7 marks)

10.
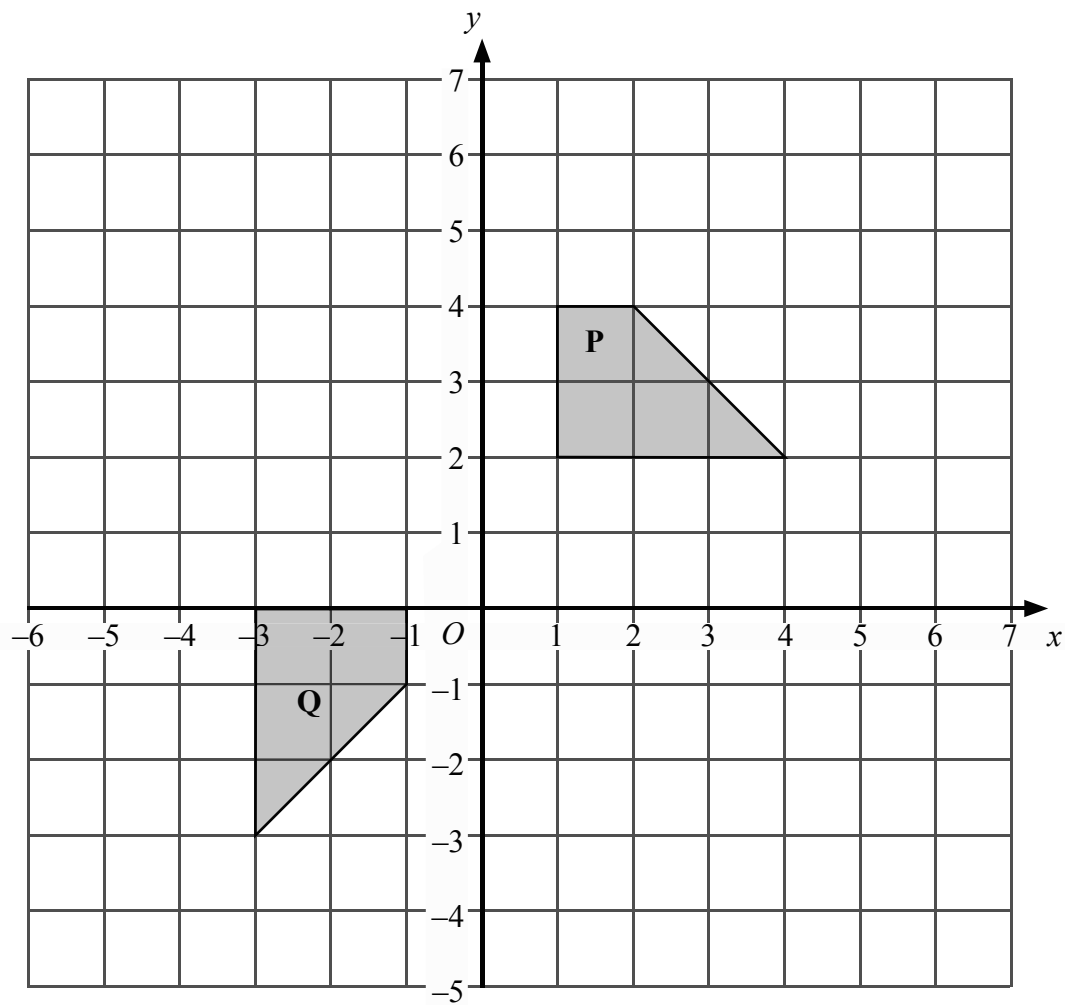
Describe fully the single transformation that will map shape **P** onto shape **Q**.

....

....

11. (a) Factorise $x^2 - 5x$

....

(b) Factorise completely $3a^2 - 6a$

....
(2)

(c) Make q the subject of the formula $P = 2q + 10$

$q =$ ....
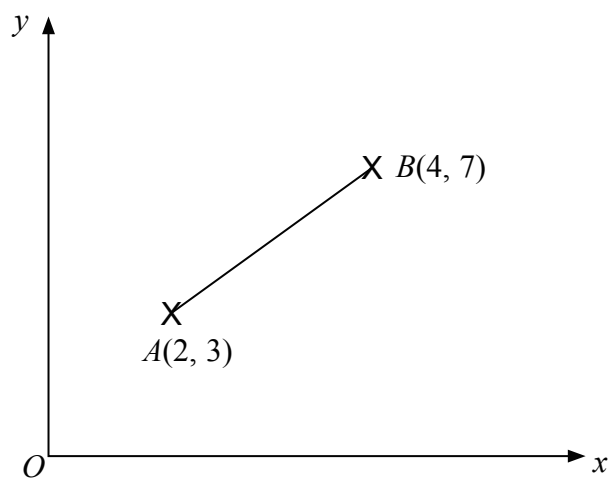(2) **Q11**

(Total 6 marks)

12.

Diagram **NOT** accurately drawn

A is the point with coordinates (2, 3).
B is the point with coordinates (4, 7).

(a) Work out the coordinates of the midpoint of AB.

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

(b) Find the gradient of the line segment AB.

....
(2)

(Total 4 marks)

Q12

13. (a) (i)   Write 7900 in standard form.

....

(ii) Write 0.00035 in standard form.

....

(2)

(b) Work out $\dfrac{4\times10^3}{8\times10^{-5}}$

Give your answer in standard form.

....

(2)

(Total 4 marks)

Q13

14. Here is the cumulative frequency curve of the weights of 120 girls at Mayfield Secondary School.
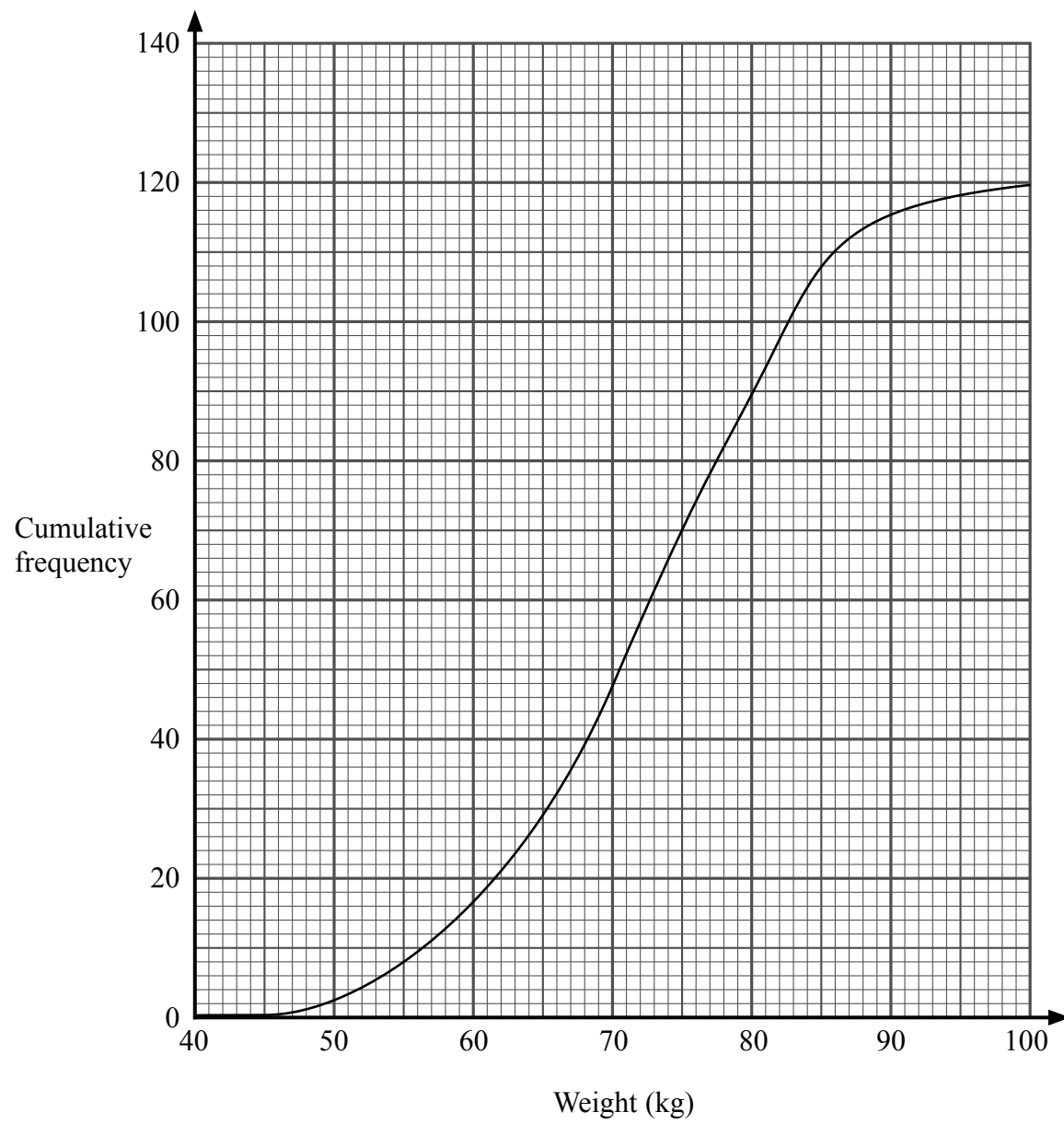
Weight (kg)

Use the cumulative frequency curve to find an estimate for the

(i) median weight,

.... kg

(ii) interquartile range of the weights.

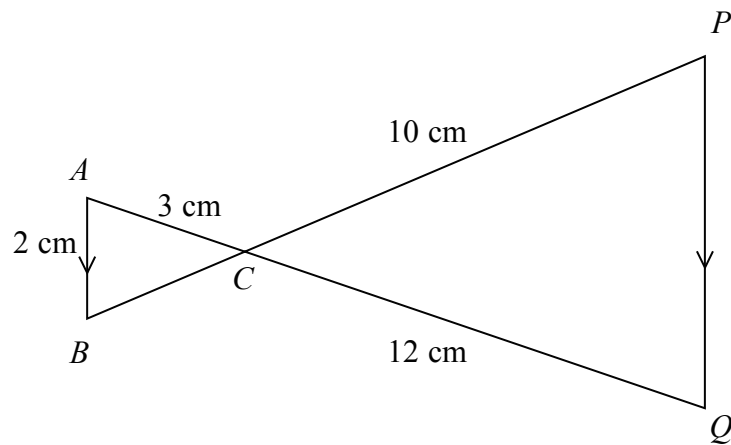...................................... kg

(Total 3 marks)

15.

Diagram **NOT** accurately drawn

ACQ and *BCP* are straight lines.
AB is parallel to *PQ*.
AB = 2 cm.
AC = 3 cm.
CQ = 12 cm.
CP = 10 cm.

(a) Work out the length of *PQ*.

.... cm

(2)

(b) Work out the length of *BP*.

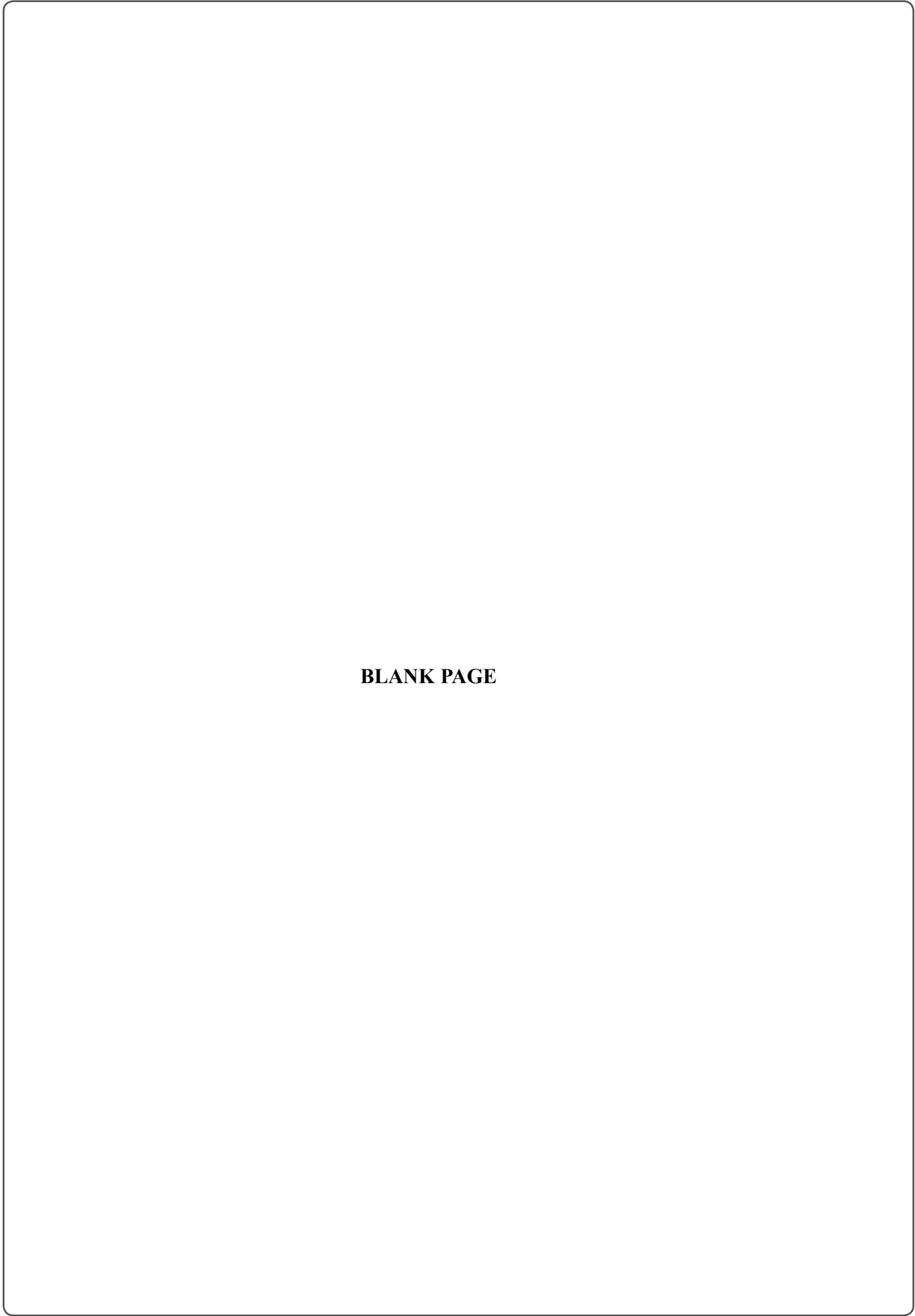...................................... cm

(3)

(Total 5 marks)

TOTAL FOR PAPER: 62 MARKS

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