

REGISTRATION CENTRE NUMBER		CENTRE NAME
CANDIDATE FULL NAME		
CANDIDATE IDENTIFICATION NUMBER	SUBJECT CODE 0570	PAPER NUMBER 2
FOR OFFICIAL USE ONLY (Candidate Random Code)		
GENERAL CERTIFICATE OF EDUCATION BOARD ORDINARY LEVEL EXAMINATION		
SUBJECT TITLE MATHEMATICS	SUBJECT CODE 0570	PAPER NUMBER 2
EXAMINATION DATE: JUNE 2025		

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Duration: Two and a Half Hours Enter the information required in the boxes above. This paper is arranged in two sections, A and B. Answer ALL questions in Sections A and B. Section A: Answer All the questions in the spaces provided. The mark allocation for each question is indicated. Section B: All questions in section B carry equal marks <i>You are reminded of the necessity for good English and orderly presentation in your answers. In calculations, you are advised to show all the steps in your working, giving your answer at each stage</i> Non-programmable calculators are allowed	NUMBER	MARK
	Section A	
	Section B	
	1	
	2	
	3	
	4	
TOTAL		

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Marked by: _____ Signature: _____ Date: _____	SCORE _____ _____ _____ _____
Checked by: _____ Signature: _____ Date: _____	

Turn Over

SECTION A**ANSWER ALL 10 QUESTIONS IN THIS SECTION**

1. Evaluate $9 + 12 \div 4 - 2 \times 5$

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(4 marks)

2. a) Express 125 as a product of its primes

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- b) Hence, find the cube root of 125

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- c) Find the L.C.M of 18 and 24

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(5 marks)

3. Given two statements p and q . Draw a truth table for $\sim p \wedge \sim q$, using T for True and F for False.

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(5 marks)

4. Given that R is 30km East of P and Q is 40km South of R.

Calculate:

- (a) the distance PQ

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.....

.....

- (b) the angle QPR

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.....

.....

(4 marks)

5. Given the matrices $P = \begin{pmatrix} 2 & 1 \\ 5 & 4 \end{pmatrix}$ and $Q = \begin{pmatrix} -3 & 1 \\ -2 & 4 \end{pmatrix}$.

Find:

- (a) $P - Q$

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.....

.....

- (b) $2P + Q$

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(5 marks)

6. A bag contains 6 black pens and 4 red pens. Given that a pen is chosen at random from the bag.

Find the probability that:

- a) the pen is red

.....

.....

- b) the pen is either red or black.

.....

.....

(5 marks)

Turn Over

7. In a network, two roads link town A to town B, one road links town A to town C and two roads link town B to town C

Find the number of:

a) nodes (towns)

b) arcs (roads)

c) regions

(4 marks)

8. In a cyclic quadrilateral, ABCD, AC is a chord. Given that angle $ABC = x$ is opposite to angle $ADC = 94^\circ$ and that angle $CAD = 46^\circ$ while angle $ACD = y$. Find angle:

a) x

b) y

(4 marks)

9. Given the vector diagram in figure 4, $\overrightarrow{PQ} = \underline{d}$, $\overrightarrow{RQ} = \underline{c}$,

$\overrightarrow{TP} = \overrightarrow{PQ}$ and

M is the mid-point of $\overrightarrow{PR}$.

Find the vector:

a) $\overrightarrow{PR}$

b) $\overrightarrow{PM}$

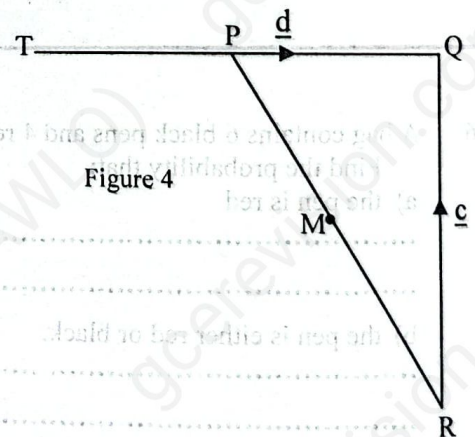


Figure 4

(4 marks)

10. Given the geometric sequence: 3, 9, 27, ...

Find:

a) the common ratio

b) the sum of the first three terms.

Turn Over

SECTION B

**ANSWER ALL FOUR QUESTIONS IN THIS SECTION.
EACH QUESTION CARRIES 15 MARKS**

Question No. 1

i) A palm wine seller buys overnight palm wine at 200 FCFA per litre and fresh palm wine at 400 FCFA a litre. He mixes the overnight palm wine and fresh palm wine in the ratio 2 : 3 before selling to customers. Given that he sells 100 litres of the mixture daily at 500 FCFA per litre.

Find:

- (a) the number of litres of fresh palm wine in the mixture that he sells daily.
- (b) the total cost of 100 litres of the mixture.
- (c) his daily percentage profit.

(8 marks)

ii) The polynomial $f(x)$ is given as $f(x) = x^3 + x^2 - 4x - 4$.

- (a) Show that $(x - 2)$ is a factor of $f(x)$.
- (b) Factorize $f(x)$ completely.
- (c) Hence, solve the equation $f(x) = 0$.

(7 marks)

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Question No. 2

i) The scores of students in an examination are recorded as follows

Score (x)	Frequency (f)
8 – 12	6
13 – 17	8
18 – 22	12
23 – 27	8
28 – 32	6

State:

- (a) the number of classes or intervals in the distribution
 - (b) the upper limit of 23 – 27
 - (c) the lower and upper class boundaries of 13 – 17
 - (d) the modal class
- find:
- (e) the total number of students who wrote the examination
 - (f) the class mark of the class 18 – 22.

(10 marks)

- ii) In a certain class of 40 students, where they speak both English and French,
- 18 students speak English (E) only
 - 10 students speak French (F) only
 - 3 do not speak neither English nor French

By drawing a Venn diagram or otherwise,

Find the number of students speaking both English and French

(5 marks)

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Question No. 3

i) Given the functions f and g such that $f: x \mapsto 2x + 3$ and $g: x \mapsto x - 1$.

Find,

- a) $f(-2)$
- b) $g^{-1}(x)$
- c) $fg(x)$
- d) the value of x , for which $f(x) = g(x)$.

(10 marks)

ii) Using only a pencil, ruler and a pair of compasses,

- a) Draw the line $PQ = 6\text{cm}$
- b) Construct the perpendicular bisector of PQ to meet PQ at M
- c) Draw the line $PS = 5\text{cm}$, where S is a point on the perpendicular bisector

(5 marks)

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Question No. 4

(i) Given the function $f(x) = x^2 - 3x - 4$, for $-2 \leq x \leq 5$:

(a) Copy and complete the following table

x	-2	-1	0	1	2	3	4	5
$y=f(x)$			-4					6

By drawing a graph of $y = f(x)$ using 1cm to represent 1 unit on both axes or otherwise,

(b) Find the minimum value of $y = f(x)$ and the corresponding value of x .

(c) Solve the equation $f(x) = 0$

(10 marks)

(ii) Given a 2×2 matrix, P defined by $P = \begin{pmatrix} 3 & 2k \\ k & 6 \end{pmatrix}$, where, k is a constant.

(a) Find P when $k=2$.

(b) Hence or otherwise, find $\text{Adj. } P$, the adjoint of P .

(5 marks)

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