FORM TP 2026-098

TEST CODE **01234020**

MAY–JUNE 2026

CARIBBEAN EXAMINATIONS COUNCIL

CARIBBEAN SECONDARY EDUCATION CERTIFICATE® EXAMINATION

MATHEMATICS

Paper 02 – General Proficiency

2 hours 40 minutes

READ THE FOLLOWING INSTRUCTIONS CAREFULLY.

1. This paper consists of TWO sections: I and II.
2. Section I has SEVEN questions and Section II has THREE questions.
3. Answer ALL questions, writing your answers in the spaces provided in this booklet.
4. Numerical answers that are non-exact should be given correct to 3 significant figures or 1 decimal place for angles in degrees unless a different level of accuracy is specified in the question.
5. Do NOT write in the margins.
6. All working MUST be clearly shown.
7. **A list of formulae is provided on page 4 of this booklet.**
8. If you need to rewrite any answer and there is not enough space to do so on the original page, you must use the extra page(s) provided at the back of this booklet. **Remember to draw a line through your original answer.**
9. **If you use the extra page(s), you MUST write the question number clearly in the box provided at the top of the extra page(s) and, where relevant, include the question part beside the answer.**
10. **Diagrams in this booklet are NOT drawn to scale, unless otherwise stated.**

Required Examination Materials

Electronic calculator
Geometry set

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO.

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LIST OF FORMULAE

Volume of a prism — $V = Ah$ where A is the area of a cross-section and h is the perpendicular length.

Volume of a cylinder — $V = \pi r^2 h$ where r is the radius of the base and h is the perpendicular height.

Volume of a right pyramid — $V = \frac{1}{3}Ah$ where A is the area of the base and h is the perpendicular height.

Circumference — $C = 2\pi r$ where r is the radius of the circle.

Arc length — $S = \frac{\theta}{360} \times 2\pi r$ where θ is the angle subtended by the arc, measured in degrees.

Area of a circle — $A = \pi r^2$ where r is the radius of the circle.

Area of a sector — $A = \frac{\theta}{360} \times \pi r^2$ where θ is the angle of the sector, measured in degrees.

Area of a trapezium — $A = \frac{1}{2}(a + b)\,h$ where a and b are the lengths of the parallel sides and h is the perpendicular distance between the parallel sides.

Roots of quadratic equations — If $ax^2 + bx + c = 0$,

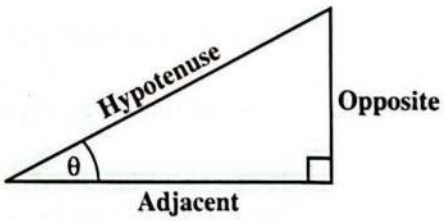
$$\text{then } x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Trigonometric ratios

$$\sin\theta = \frac{\text{length of opposite side}}{\text{length of hypotenuse}}$$

$$\cos\theta = \frac{\text{length of adjacent side}}{\text{length of hypotenuse}}$$

$$\tan\theta = \frac{\text{length of opposite side}}{\text{length of adjacent side}}$$

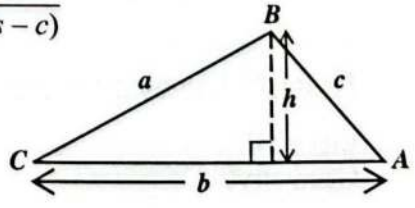


Area of a triangle — Area of $\Delta = \frac{1}{2}bh$ where b is the length of the base and h is the perpendicular height.

$$\text{Area of } \Delta ABC = \frac{1}{2}ab\sin C$$

$$\text{Area of } \Delta ABC = \sqrt{s(s-a)(s-b)(s-c)}$$

$$\text{where } s = \frac{a+b+c}{2}$$



Sine rule — $\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$

Cosine rule — $a^2 = b^2 + c^2 - 2bc\cos A$

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SECTION I

Answer ALL questions.

All working MUST be clearly shown.

1. (a) (i) Write the following numbers correct to 1 significant figure.

0.367

.....

3.94

.....

(2 marks)

(ii) Hence, estimate the **integer value** of

$$\frac{\sqrt{1000 \times 0.367}}{3.94}.$$

.....

(1 mark)

(b) Aiden, Brooke and Caden share berries in the ratio 3:2:5 respectively. Aiden receives 12 more berries than Brooke. Calculate the TOTAL number of berries shared.

.....

(2 marks)

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(c) In a sale, all prices are reduced by 15%.

(i) Blake buys a book which has an original price of $16.40. Calculate how much he pays for the book.

.....

(2 marks)

(ii) Jude pays $27.20 for a toy. Calculate the original price of the toy.

.....

(2 marks)

Total 9 marks

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2. (a) Given that $A = \frac{p-q}{2r}$,

(i) find the value of A when $p = 2$, $q = -1$ and $r = 1$

.....

(1 mark)

(ii) express q in terms of A, p and r.

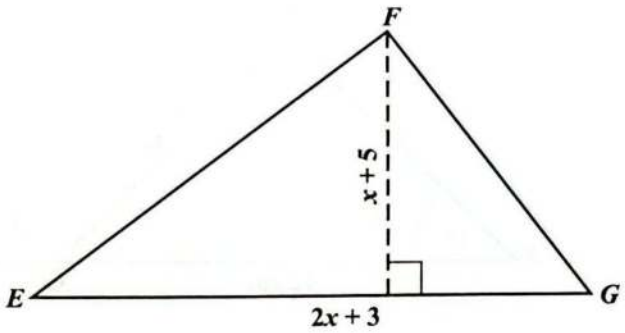
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(2 marks)

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(b) In the triangle EFG shown below, $EG = (2x + 3)$ cm and the perpendicular height from F to EG is $(x + 5)$ cm.



Given that the area of Triangle $EFG = 50$ cm^2,

(i) show that $2x^2 + 13x - 85 = 0$

.....

(3 marks)

(ii) find the value of x, giving your answer correct to 2 decimal places. **Show all working.**

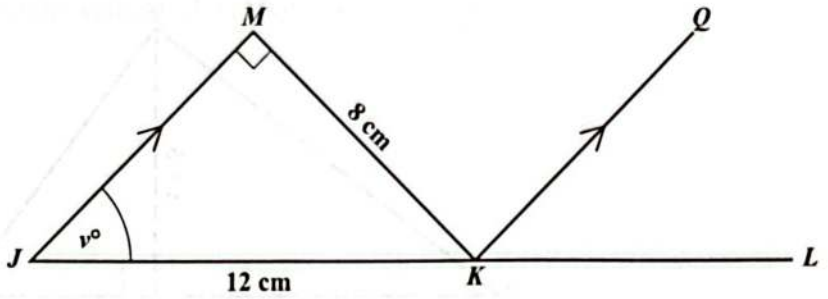
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(3 marks)

Total 9 marks

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3. In the diagram below, JKL is a straight line and JMK is a right-angled triangle. The line segment JM is parallel to KQ, $JK = 12$ cm and $MK = 8$ cm.



(a) Determine

(i) $\sin v°$

.....

(1 mark)

(ii) the length JM

.....

(2 marks)

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(iii) $\angle MKL$.

.....

(2 marks)

(b) Construct a trapezium, $WXYZ$, in which $WX = 9$ cm, $XY = 5$ cm, $YZ = 3$ cm, $\angle WXY = 60°$ and $WX \parallel YZ$.

(4 marks)

Total 9 marks

GO ON TO THE NEXT PAGE

4. (a) The coordinates of A and B are $(-3, -4)$ and $(2, 6)$ respectively. For the line segment AB, determine the

(i) midpoint, M

.....

(2 marks)

(ii) gradient, m

.....

(2 marks)

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(iii) equation of its perpendicular bisector.

.....

(3 marks)

(b) Another point, Z, has coordinates $(-5, -8)$. Show that points A, B and Z are collinear.

.....

(2 marks)

Total 9 marks



NOTHING HAS BEEN OMITTED.

5. (a) The frequency table below shows the number of goals scored in a series of football matches.

Number of Goals Scored	0	1	2	3	4	5
Number of Matches	3	10	k	15	4	3

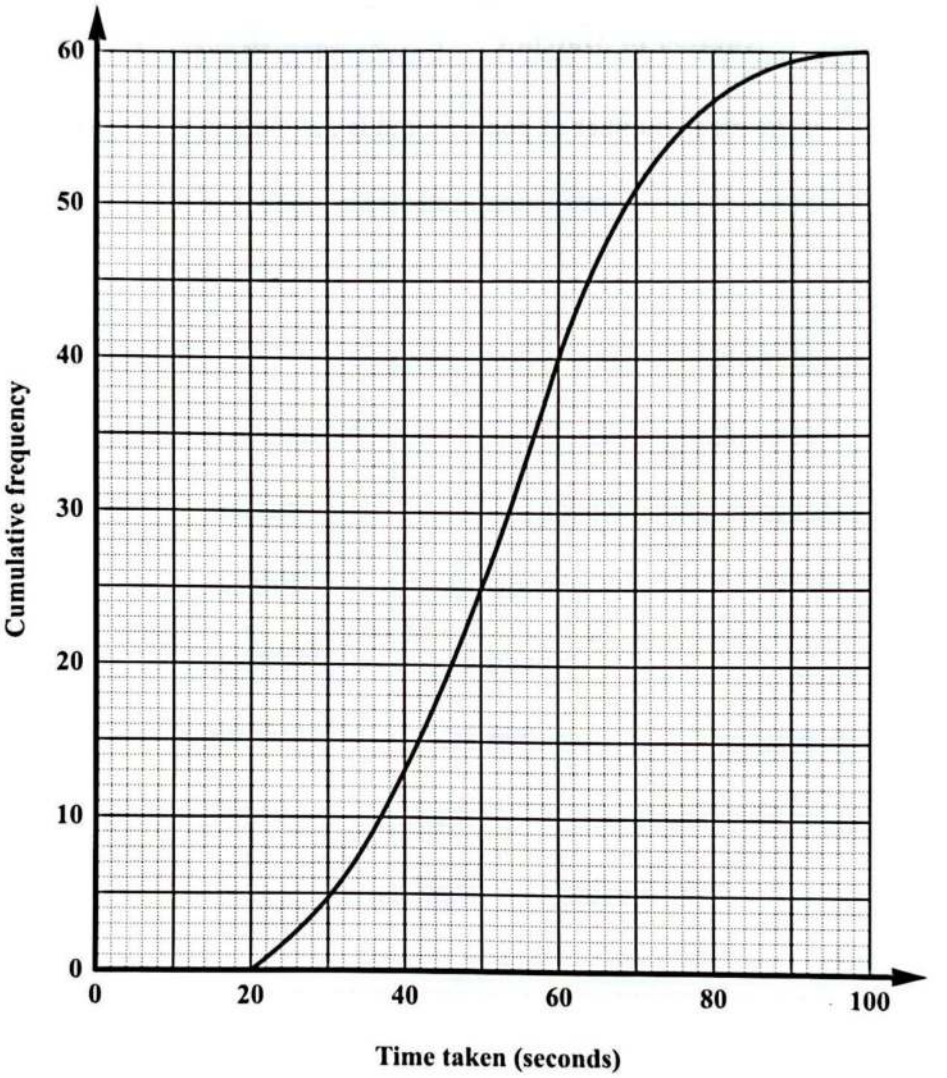
If the mean number of goals scored is 2.2, determine the value of k.

.....

(3 marks)

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(b) Teacher Joy recorded the time taken for the 60 students in her Math Club to complete a 12-piece puzzle. The cumulative frequency graph below shows information regarding the time it takes 60 students to complete the puzzle.



Use the cumulative frequency curve to

(i) determine the probability that a student chosen at random will take **at least** 42 seconds to complete the puzzle

.....

(2 marks)

(ii) determine the semi-interquartile range of the time taken by the 60 students to complete the puzzle.

.....

(2 marks)

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(iii) Complete the table below.

Time Taken (seconds)	Number of Students (f)	Midpoint (x)	Frequency × Midpoint (fx)
21–40	13	30.5	396.5
41–60	.....	50.5	.....
61–80	.....	70.5	.....
81–100	3	90.5	271.5

(2 marks)

Total 9 marks

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NOTHING HAS BEEN OMITTED.

6. (a) A recipe for making 20 bite-size cookies uses 175 g flour, 125 g of butter and 75 g of sugar.

(i) Write, in its simplest form, the ratio of flour to butter to sugar.

flour : butter : sugar = ... : ..... : .....

(2 marks)

(ii) Determine the amount of flour, butter and sugar needed to make 52 such cookies.

flour ..... g

butter ..... g

sugar ..... g **(3 marks)**

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(b) The cookies are made and sold in packs of 12. A bag of flour contains 12.65 kg of flour. Using this information, complete the statements below. **Show all working.**

One bag of flour makes a MAXIMUM of ..... **packs** of cookies.

The amount of flour left over is ..... g. **(4 marks)**

Total 9 marks

GO ON TO THE NEXT PAGE

7. (a) The diagram below shows part of a number chart. The numbers on the chart follow various patterns. Study the patterns and answer the questions that follow.

	Column 1	Column 2	Column 3
Row 1	7	9	11
Row 2	14	16	18
Row 3	21	23	25
Row 4	28	30	32
Row 5	35	37	39
Row 6	42	44	46

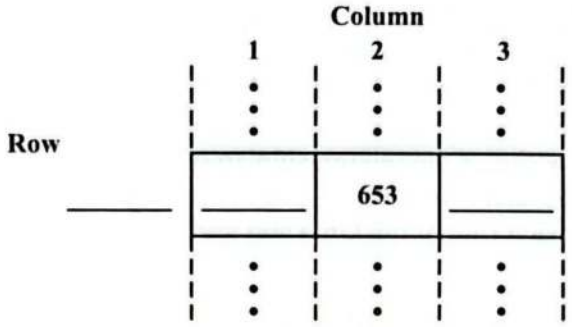
(i) What number should be placed in **Column 1 of Row 9**?

.....

(1 mark)

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(ii) The following diagram represents a given row from the chart described **on page 22**.



Fill in the three missing numbers in the diagram above. **(2 marks)**

(iii) Which **row** would contain the number 942? Explain how you arrived at your answer.

Row number .....

Explanation .....

.....

.....

.....

(2 marks)

GO ON TO THE NEXT PAGE

(b) A sequence is formed using diagrams made up of equilateral triangles, each constructed from sticks of unit length. The first four diagrams in the sequence are shown below.



Diagram 1 **Diagram 2** **Diagram 3** **Diagram 4**

The table below shows the relationship among the number of equilateral triangles, E, the number of sticks that form each diagram, S, and the number of dots, D. Study the pattern of numbers in each row of the table and answer the questions that follow.

Diagram	**Number of Equilateral Triangles (E)**	**Number of Sticks (S)**	**Number of Dots (D)**
1	1	3	3
2	3	7	5
3	5	11	7
4	7	15	9
⋮	⋮	⋮	⋮
n	.....	.....	.....

(i) Complete the row in the table that corresponds to Diagram n. **(3 marks)**

(ii) Using your answers in (b) (i), show that the difference between the number of equilateral triangles and the number of dots will always be equal to 2.

.....

(2 marks)

Total 10 marks

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NOTHING HAS BEEN OMITTED.

SECTION II

Answer ALL questions.

ALL working MUST be clearly shown.

ALGEBRA, RELATIONS, FUNCTIONS AND GRAPHS

8. A quadratic function is defined as follows.

$f(x) = 5 + 4x - 2x^2$

(a) Write the function in the form $f(x) = a(x + h)^2 + k$, where a, h and k are constants.

.....

(2 marks)

(b) A table of values for the function $f(x) = 5 + 4x - 2x^2$ is shown below.

x	–2	–1	0	1	2	3	4
y	–11	–1	5	.....	5	.....	–11

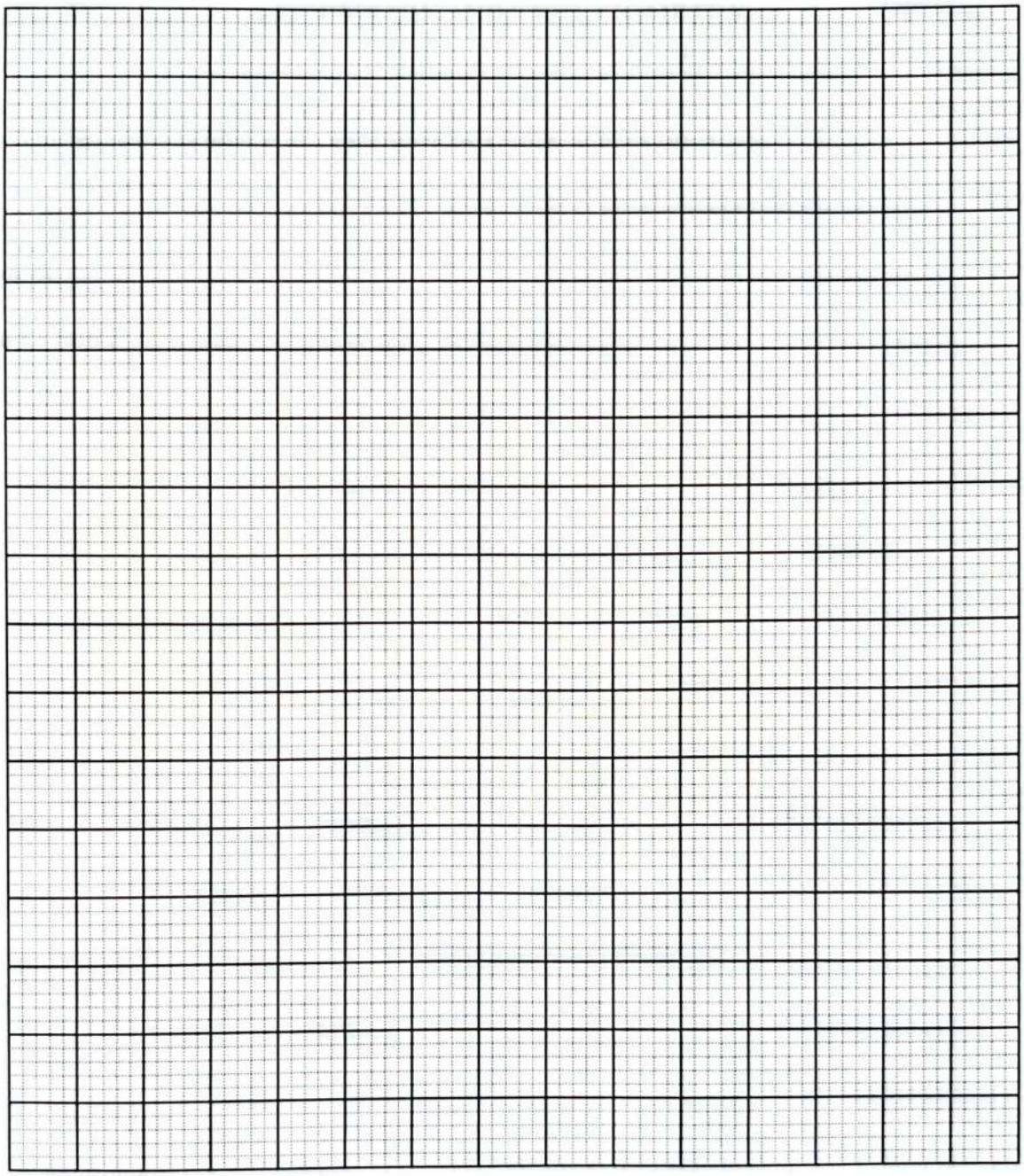
(i) Insert the missing values in the table above. **(2 marks)**

(ii) Using a scale of 2 cm to represent 1 unit on the x-axis and 1 cm to represent 2 units on the y-axis, plot the graph of $f(x) = 5 + 4x - 2x^2$ for $-2 \leq x \leq 4$ on the grid shown **on page 27**. **(5 marks)**

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(c) Draw an appropriate line on your graph and use it to determine estimates of the solutions of the equation $5 + 4x - 2x^2 = 3$.

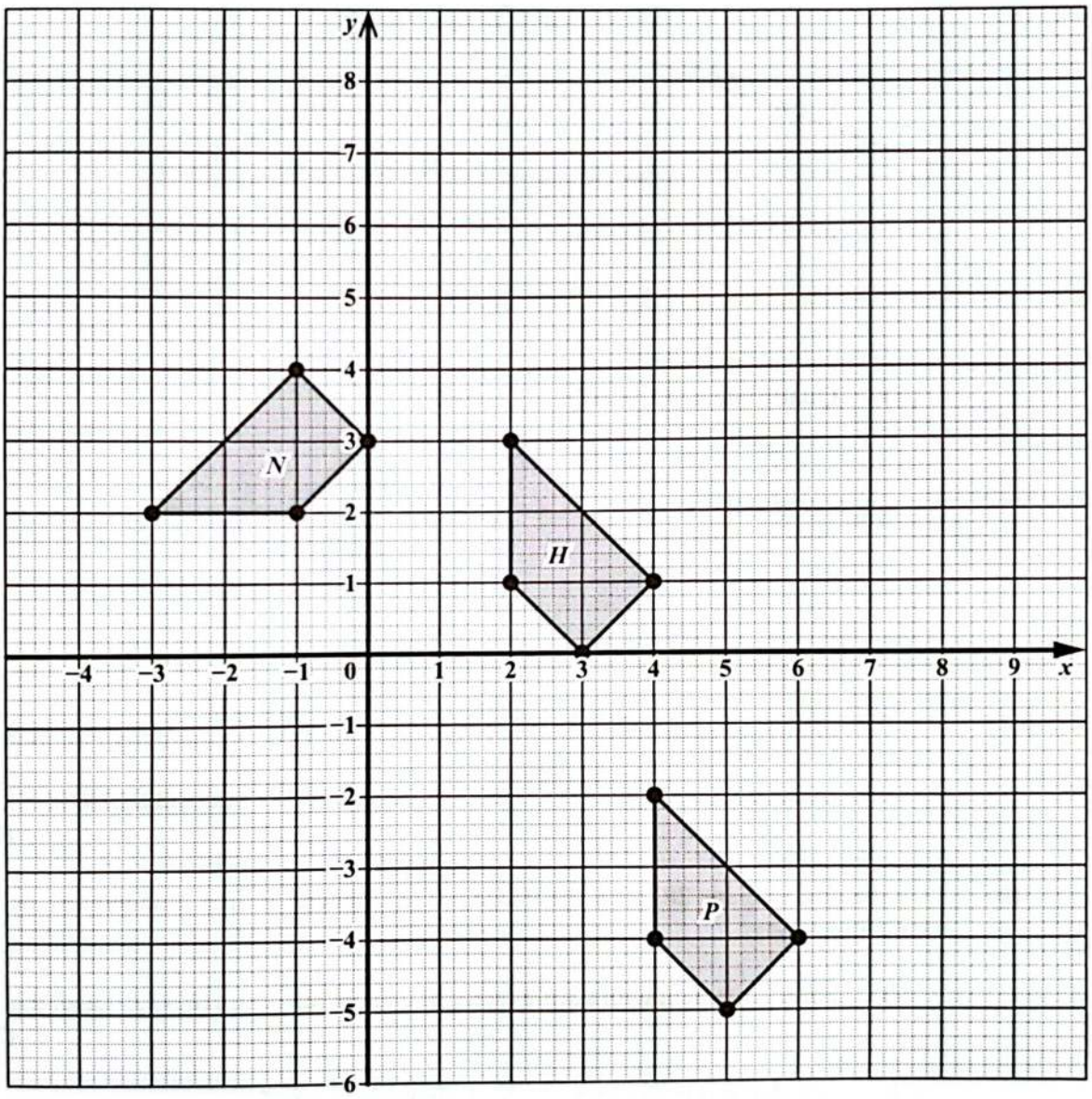
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(3 marks)

Total 12 marks

GEOMETRY AND TRIGONOMETRY

9. The diagram below shows quadrilaterals H, P and N. Quadrilaterals P and N are the images of Quadrilateral H after it has undergone two different transformations.



(a) Describe fully the **single** transformation that maps

(i) Quadrilateral H onto Quadrilateral N

.....

.....

.....

.....

.....

.....

(3 marks)

(ii) Quadrilateral H onto Quadrilateral P.

.....

.....

.....

.....

.....

.....

(2 marks)

(b) On the grid **on page 28**, draw the image of Quadrilateral H after it undergoes the following transformations.

(i) An enlargement with a scale factor of 2 about the centre $(0, -1)$. Label this image M.

(2 marks)

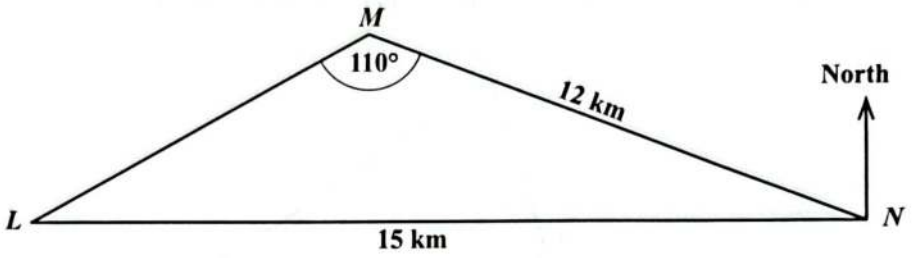
(ii) A reflection in the line $y = -x$. Label this image L.

(2 marks)

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(c) The diagram below shows three pillars, L, M and N, that are located on level ground. MN is 12 km and LN is 15 km.

L is due west of N. The bearing of M from N is 291°.



Calculate

(i) Angle MNL

.....

(1 mark)

(ii) the length of LM.

.....

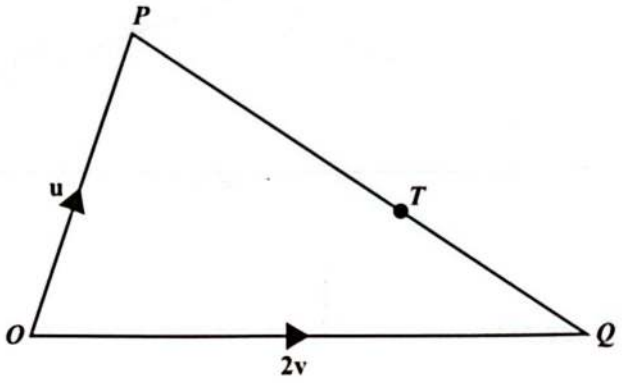
(2 marks)

Total 12 marks

GO ON TO THE NEXT PAGE

VECTORS AND MATRICES

10. (a) The diagram below shows a scalene triangle, OPQ, with vectors $\overrightarrow{OP} = \mathbf{u}$ and $\overrightarrow{OQ} = 2\mathbf{v}$. The point T is positioned on the line PQ such that $PT : TQ = 3 : 2$.



Derive a simplified expression, in terms of **u** and **v**, for

(i) $\overrightarrow{PQ}$

.....

(1 mark)

(ii) $\overrightarrow{OT}$.

.....

(2 marks)

GO ON TO THE NEXT PAGE

(b) (i) Write down the 2 × 2 matrices that represent the following transformations.

a) An enlargement with centre (0, 0) and a scale factor of 8

.....

b) A reflection in the x-axis

.....

c) an enlargement with centre (0, 0) and a scale factor of 8, followed by a reflection in the x-axis.

.....

(4 marks)

(ii) The matrices R and Q, expressed in terms of the constants k and c, are as follows.

$$R = \begin{pmatrix} 6 & 1 \\ 4 & 2 \end{pmatrix} \text{ and } Q = \begin{pmatrix} k & 1 \\ c & -6 \end{pmatrix}.$$

a) Calculate, in terms of k and c, the matrix product RQ.

.....

(2 marks)

b) The matrix RQ represents the transformation of an enlargement with centre (0, 0) and a scale factor of 8, followed by a reflection in the x-axis. Determine the values of k and c.

.....

(3 marks)

Total 12 marks

END OF TEST

IF YOU FINISH BEFORE TIME IS CALLED, CHECK YOUR WORK ON THIS TEST.

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TEST CODE **01234020**

MAY–JUNE 2026

CARIBBEAN EXAMINATIONS COUNCIL

CARIBBEAN SECONDARY EDUCATION CERTIFICATE® EXAMINATION

MATHEMATICS

Paper 02 – General Proficiency

2 hours 40 minutes

12 MAY 2026 (a.m.)

ERRATUM SHEET

Instructions to Candidates

Page 30 Question 9. (b)

(b) On the grid **on page 28**, draw the image of Quadrilateral *H* after it undergoes the following transformation.

Should read

(b) On the grid **on page 29**, draw the image of Quadrilateral *H* after it undergoes the following transformation.