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GCE REVISION

CANDIDATE IDENTIFICATION NUMBER	SUBJECT CODE 0570	PAPER NUMBER 2

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CAMEROON GENERAL CERTIFICATE OF EDUCATION BOARD
ORDINARY LEVEL EXAMINATION

SUBJECT TITLE **MATHEMATICS**	SUBJECT CODE 0570	PAPER NUMBER 2
http://www.gcerevision.com	EXAMINATION DATE: JUNE 2020	

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.

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.
Calculators are allowed

Question	MARKS
TOTAL	

----- Turn Over

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	SCORE
Marked by: ---	
Signature:------------------------------ Date ----------------------------	
Checked by: --	
Signature:------------------------------ Date ----------------------------	

1-/0570/2/A/Q

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SECTION A

ANSWER ALL 15 QUESTIONS IN THIS SECTION

1. Simplify $\dfrac{2}{3} + \dfrac{3}{4} \div \dfrac{6}{7} - \dfrac{11}{12}$

....

....

(4 marks)

2. Given the sets A=$\{0 \le x < 4, x \in \mathbb{Z}\}$ and B =$\{-1 \le x < 2, x \in \mathbb{Z}\}$, list

(a) The elements of the set A

....

(b) The elements of the set B

....

(c) Draw a Venn diagram to represent the sets.

....

....

....

(7 marks)

3. (a) Complete the logic table in figure

p	q	~q	P⊡ ~q
T	T		
T	F		
F	T		
F	F		

Figure 1

(5 marks)

4. (a) Solve the inequality $-7 < 5x - 2 \leq 3$

....

....

....

....

    (b) Represent the solution of (a) on a real number line.

....

....

(**6 marks**)

---

5. The functions g and h are defined on R, the set of real number as follows

    $g : x \mapsto x^2 + 2$ and $h : x \mapsto x + 2$, find

    (a) g(2)

....

....

    (b) $h^{-1}(x)$

....

....

....

....

    (c) $hg(x)$

....

....

....

....

....

(**7 marks**)

---

6. Given y varies directly as x and that $y = 10$ when $x = \dfrac{1}{3}$,

    (a) Find the relation between x and y.

....

....

....

    (b) Hence find the value of x when $y = 6$

....

....

(**5 marks**)

Turn Over

7. The angle of elevation of the top of a tower from a point M, 20m away from the base of the tower on a level ground is 050⁰. Find

(a) The height of the tower to one decimal place

....

....

....

(b) The angle of depression of the point M from the top of the tower. ....

....

(4 marks)

8.
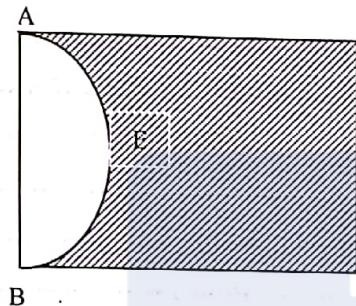
Figure 2

In figure2, AEB is a semi-circle. ABCD is rectangle with AC= 20m and AB= 14m, Find the area of the shaded region.

....

....

....

....

....

....

(6 marks)

9. The sum of the first n term of a sequence is given by $s_n = 2n^2 - n, n \in Z^*$.

(a) Find the first three terms of the sequence

....

....

(b) State the type of sequence.

....

(5 marks)

5

10. Given the matrices $A = \begin{pmatrix} 5 & 2 \\ 3 & -1 \end{pmatrix}$ and $B = \begin{pmatrix} -3 & 0 \\ 1 & 4 \end{pmatrix}$,

(a) State the transpose of the matrix A

....

....

(b) Find the matrix A-B

....

....

(5 marks)

11.
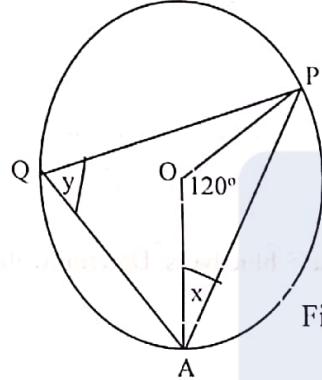
Figure 3

In figure3 APQ is a circum-circle. The chord AP subtends an angle of 120^0 at the centre, O, of the circle. Calculate the values of the angles

(a) x

....

....

(b) y

....

(5 marks)

Turn Over

6

12. The coordinates of the points A,B,C are (1,3), (2,y), and (4, 6) respectively. Given that A, B and C are on a straight line, find

(a) the value of y

....

....

....

(b) the lengths of the line segments AB , leaving your answer in surd form.

....

....

....

(c) The ratio AB: BC

....

....

(6 marks)

13. A ball is drawn at random from a box containing 6red balls , 4 white balls and 5 blue balls. Determine the probability that it is

(a) A white ball

....

....

(b) Not a red ball

....

....

(c) A red or white ball

....

....

(6 marks)

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14.
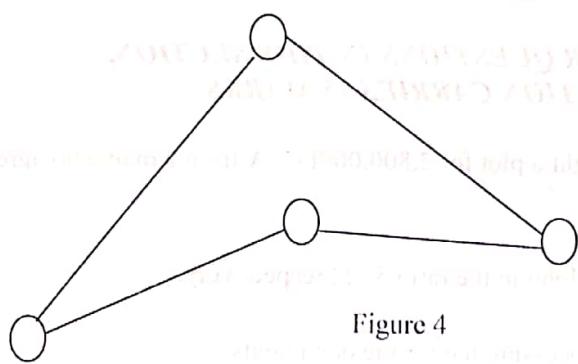
Figure 4

In the network graph in figure 4, state

(a) The number of nodes

....

(b) The number of edges

....

(c) The number of regions.

(4 marks

15.
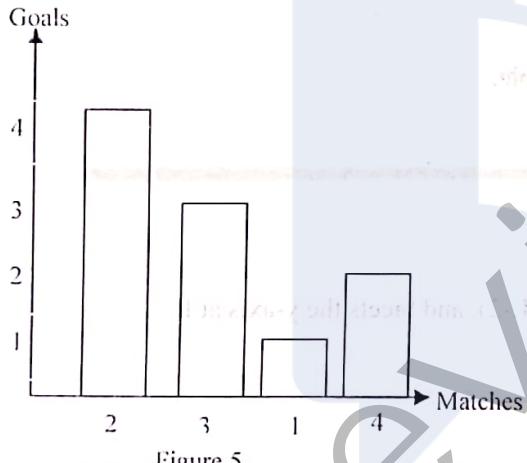
Figure 5

Fig5 is a bar chart showing 10 matches played and the number of goals scored per match by a certain team last football season. Find:

(a) The number of goals scored in two matches by the team

....

(b) The total number of goals scored by the team last football season

....

....,

(5 marks)

Turn Over

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SECTION B

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

1. (i) Three friends Michael, Peter and John bought a plot for 2,800,000FCFA from a man who agreed to be paid 65% of its value as initial deposit.
   (a) Calculate the initial deposit
       The deposit is paid by Michael, Peter and John in the ratio 5:3:2 respectively.
   (b) Determine the amount paid by Peter
       Given that 91000FCFA is to be paid as processing fee for the documents
   (c) Find the percentage of the initial deposit needed to process the documents
   (d) Calculate the balance expected to be paid to the man.

   (ii) Given the matrix $M = \begin{pmatrix} 4 & 5 \\ 2 & 3 \end{pmatrix}$, find
   (a) The determinant of M
   (b) The adjugate of M
   (c) Hence the inverse of M

2. (i) The scores of twenty students in a Physics test are recorded as follows
       70 80 78 98 84 67 98 70 80 100
       87 83 70 70 88 91 70 78 88 88
   (a) Represent the above scores on a frequency distribution table.
       Determine,
   (b) The mode of the distribution
   (c) The median score
   (d) The mean score

   (ii) A straight line l_1 passes through the points P(3,4) and Q (1,-2), and meets the y-axis at R.
   (a) Determine the equation of the line l_1.
   (b) The coordinates of the point R.

3. Given the coordinates of the vertices of triangle, ABC as A(1,4), B(1,1) and C(3,1),

   (a) Find the coordinates of the vertices of the triangle A'B'C' obtained by rotating triangle ABC through 90^0, anticlockwise, about the origin.

   (b) On a graph paper taking 1cm to represent 1unit on both axis for values $-4 \leq x \leq 7$ and $-2 \leq y \leq 10$, plot triangle, ABC and A'B'C'.

   Triangle A'B'C' is mapped onto triangle A"B"C" by a reflection on the mirror line $x + y = 6$

   (c) Draw the line $x + y = 6$.

   (d) Reflect A'B'C' on the line $x + y = 6$.

   (e) Determine the coordinates of triangle A"B"C"

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4. (i) Given the function $f(x) = 5 + 3x - x^2$.

   Taking values of x for -2 to +5 and using a scale of 1cm to represent 1unit on both axis ,
   (a) Draw the graph of $f(x)$
   Using your graph,

   (b) Determine the value of x for which $5 + 3x - x^2 = 0$.
   (c) Find the gradient of the curve at the point it cuts the y-axis

   (ii) **P** and **Q** have position vectors $3i + 2j$ and $-i + 2j$ respectively. $\mathbf{OP} = 3\mathbf{OQ} + 2\mathbf{OR}$, find
   (a) **2OR** in terms of **i** and **j**
   (b) The position vector of **R**

Turn Over