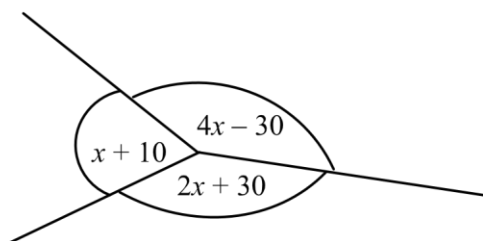


## 2012 MATHEMATICS – BECE [PAPER 2]

1.

- (a) Evaluate  $\frac{0.035 \times 1.02}{0.00015}$ , leaving the answer in standard form.
- (b) An amount of GH¢4,200.00 was shared between Aba and Kwame. If Aba had  $\frac{5}{7}$  of the amount,
- how much did Kwame receive?
  - what percentage of Aba's share did Kwame receive?
- (c) Find the value of  $x$  in the diagram below.



2. (a) A car consumes a gallon of petrol for every 30 km drive. The driver of the car set out on a journey of 420 km with 10 gallons of petrol in the fuel tank.
- How many more gallons of petrol will be needed to complete the journey?
  - Find the cost of the petrol used for the journey of 420 km if a gallon of petrol costs GH¢5.50
- (b) The average number of spectators at a football competition for the first five days was 3,144. The attendance on the sixth day was 3,990. Find the
- The total attendance on the first five days
  - The average attendance for the 6 days
- (c) The area enclosed by a square garden is  $121 \text{ m}^2$ . What is the distance around the garden?

3.

- (a) The table below shows the number of students who scored more than 80% in the listed subjects

Subject	Number of students

Biology	26
---------	----

Physics	30
Chemistry	32
French	38
Geography	24
History	30

- (i) Draw a pie chart for the distribution  
(ii) What is the probability that a student chosen at random from the distribution offers Chemistry?

(b) A woman bought 210 oranges for GH¢7.50. She sold all of them at 3 for 15 Gp. Find the

- (i) total selling price of the oranges  
(ii) percentage profit

4. The marks scored by some students in a Mathematics test are as follows:

3	3	5	6	3	4	7	8	3	4
5	4	7	4	3	7	4	6	4	8
4	5	6	3	8	4	5	6	4	5

- (a) Construct a frequency distribution table for the scores.  
(b) Using the table, find for the distribution, the  
(i) mode;  
(ii) mean, correct to one decimal place  
(iii) median

5. (a) (i) Find the least Common Multiple (L.C.M.) of 9, 18 and 16.  
(ii) Arrange  $\frac{8}{9}$ ,  $\frac{7}{18}$  and  $\frac{10}{16}$  in **ascending** order of magnitude

- (b) Using a ruler and a pair of compasses only,  
(i) construct a triangle  $PQR$  with length  $PQ = 10$  cm, angles  $QPR = 45^\circ$  and  $PQR = 60^\circ$ .  
(ii) Construct the perpendicular bisectors of  $PR$  and  $RQ$  to meet at  $T$ .  
(iii) Measure the length of  $TP$ .

6. (a) (i) Using a scale of 2 cm to 1 unit on both axes, draw two perpendicular axes  $Ox$  and  $Oy$  on a graph sheet.
- (ii) Mark on the same graph sheet, the  $x$ -axis from -5 to 5 and  $y$ -axis from -6 to 6.
- (iii) Plot the points  $P(4, 2)$ ,  $Q(2, 5)$  and  $R(2, 2)$ . Join the points  $P, Q, R$  to form a triangle  $PQR$
- (iv) Using the  $x$ -axis as a mirror line, draw the image  $P_1Q_1R_1$  of the triangle  $PQR$  such that  $P \rightarrow P_1, Q \rightarrow Q_1, R \rightarrow R_1$
- (v) Write down the coordinates of  $P_1, Q_1$  and  $R_1$ .
- (vi) Translate triangle  $PQR$  by the vector  $\begin{pmatrix} -1 \\ -1 \end{pmatrix}$  such that  $P \rightarrow P_2, Q \rightarrow Q_2, R \rightarrow R_2$
- (vii) Label the vertices of triangle  $P_2Q_2R_2$