1.(a) Fifty students in a class took an examination in French and Mathematics. If 14 of them passed French only, 23 passed in both French and Mathematics and 5 of them failed in both subjects, find

(i) the number of students who passed in French
(ii) the probability of selecting a student who passed in Mathematics

(b) Solve the inequality

2. (a) Convert 444_5 to a base two numeral

(b) A man had three GH¢ 50.00, seven GH¢ 20.00 and five GH¢ 10.00 notes in his pocket. If he bought a bicycle for GH¢ 150.00 and two mobile phones at GH¢ 80.00 each, how many GH¢ 20.00 and GH¢ 10.00 notes did he have left?

3. (a) Using a ruler and a pair of compasses only,
(i) construct a triangle XYZ with length |XY| = 7cm, length YZ = 5cm and angle XYZ = 45°
(ii) Measure and write down the length of XZ

(b) Given that the circumference of a circle is 44 cm, find
(i) the radius of the circle
(ii) the area of the circle [Take π = 22/7]

4. The table shows the distribution of marks of students in a class test

Mark	1	2	3	4	5	6
Frequency	5	6	5	3	4	2

(a) Using a graph sheet, draw a bar chart for the distribution.

(b) Calculate the mean mark of the distribution correct to the nearest whole number.

5. (a) Simplify $6(3\frac{5}{6} - 1\frac{1}{4})$

(b) Copy and complete the magic square so that the sum of numbers in each row or column or diagonal is 18

	4	
7	8	

(c) Find the sum of all the factors of 24.

$$m = \begin{pmatrix} 3 \\ -1 \end{pmatrix}, n = \begin{pmatrix} -1 \\ 2 \end{pmatrix}, and\ r = \begin{pmatrix} 18 \\ -6 \end{pmatrix},$$

(d) Given that m, find m + n + r

6. (a) Copy and complete the table for the relation y=2x+5

X	-3	-2	-1	0	1	2	3	4
y	-1	1		5				13

(b) (i) Using a scale of 2 cm to 2 units on both axes, draw two perpendicular axes OX and OY on a graph sheet.
(ii) Mark the x-axis from –6 to 10 and y-axis from –6 to 14.
(iii) Using the table, plot all the points of the relation y=2x+5 on the graph.
(iv) Draw a straight line through the points.

(c) Use the graph to find
(i) y when x = 1.6
(ii) x when y = 10