

THE PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT
FRANCISCAN GIRLS SECONDARY SCHOOL
FORM ONE & FORM TWO JOINT EXAMINATION

041

BASIC MATHEMATICS

Time : 02:30 Hours

03rd AUGUST 2024

Instructions

1. This paper consists of **ten (10)** compulsory questions. Each question carries **ten (10)** marks.
2. Show clearly all the workings and answers in the space provided.
3. All writing must be in blue or black ink except drawings which must be in pencil.
4. Where necessary use $\pi = 3.14$

FOR ASSESSOR'S USE ONLY		
QUESTIONNUMBER	SCORE	ASSESSOR'S INITIALS
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
TOTAL		
CHECKER'S INITIALS		

1. (a) Kionambali has three classes. Each class has 28, 42, and 56 respectively, he wants to divide each class into groups so that every group in every class to have the same number of students and there should be no left over. What is the maximum number of students he can put into each group ?

(b) Convert the following decimals into fractions

(i) 22.3333333333.....

(ii) $1.\dot{8}3\dot{5}$

2. (a) The cost of goods increases from Tsh 7,000 to Tsh 12,000 by what percentage did the cost increase ?
- (b) A certain secondary school has a total of 440 form one students if 150 students are day scholars
- (i) What fraction of the students are hostelers
- (ii) Express the number of the day scholars and hostelers in percentage.

3. (a) A house was sold at a profit of 900,000 Tanzanian shillings. If the percentage profit was $37\frac{1}{2}\%$, what was the buying price of the house ?
- (b) A book dealer bought 10 books for 20,000 Tanzanian shillings. If $\frac{2}{5}$ of the books were sold at 3 000 Tanzanian shillings each, and the remaining books were sold at 2,500 Tanzanian shillings each, what was the percentage profit ?
4. (a) Mitomingi borrowed 2,800,000 Tanzanian shillings from a bank which charges an interest rate of 8%. How much interest did she pay after two years and eight months ?

(b) Given that $(m * n) = m^2 + n$. Find the value of x if $4 * (2 * x) = 25$

5. (a) A rectangle is 72 cm long and 40 cm wide. If a triangle with a base of 60 cm is equal to the area of the rectangle, find the height of the triangle

(b) A circular pond has 75 cm wide footpath along its edge. A person walks 56 cm per step around the outer edge of the footpath. In 354 steps, this person makes a complete round. Find the diameter of the pond.

6. (a) Solve the following system of simultaneous equation

$$\begin{cases} 2y + 12 = 3x \\ 4y + 8 = 2x \end{cases}$$

- (b) If the line joining the points A (2k, 2) and B (k, 5+k) has a gradient of 2. Find the co-ordinates of the given points

7. (a) If A and B complementary angles such that $A = 25$ and $B = x + 25$, find the value of x

- (b) If 3 is subtracted from a certain number y , the result is less than 11.
Find the value of y

8. (a) Solve for x if $-4x - 3 < \frac{1}{2}$

- (b) A rope of length 25 m is tied to the top of a flag pole. The other end of the rope is fixed at a point 7 m from the base of the flagpole. How high is the flag pole ?

9. (a) Given that $A = \{2, 4, 6\}$.

(i) Find the number of subsets in set A

(ii) List all subsets found in set A

(b) A survey was conducted to 30 form three students in Franciscan girls secondary school about their subject preference, it was found that 18 like Biology, 15 like Physics and 11 like both Biology and Physics and the rest didn't show up

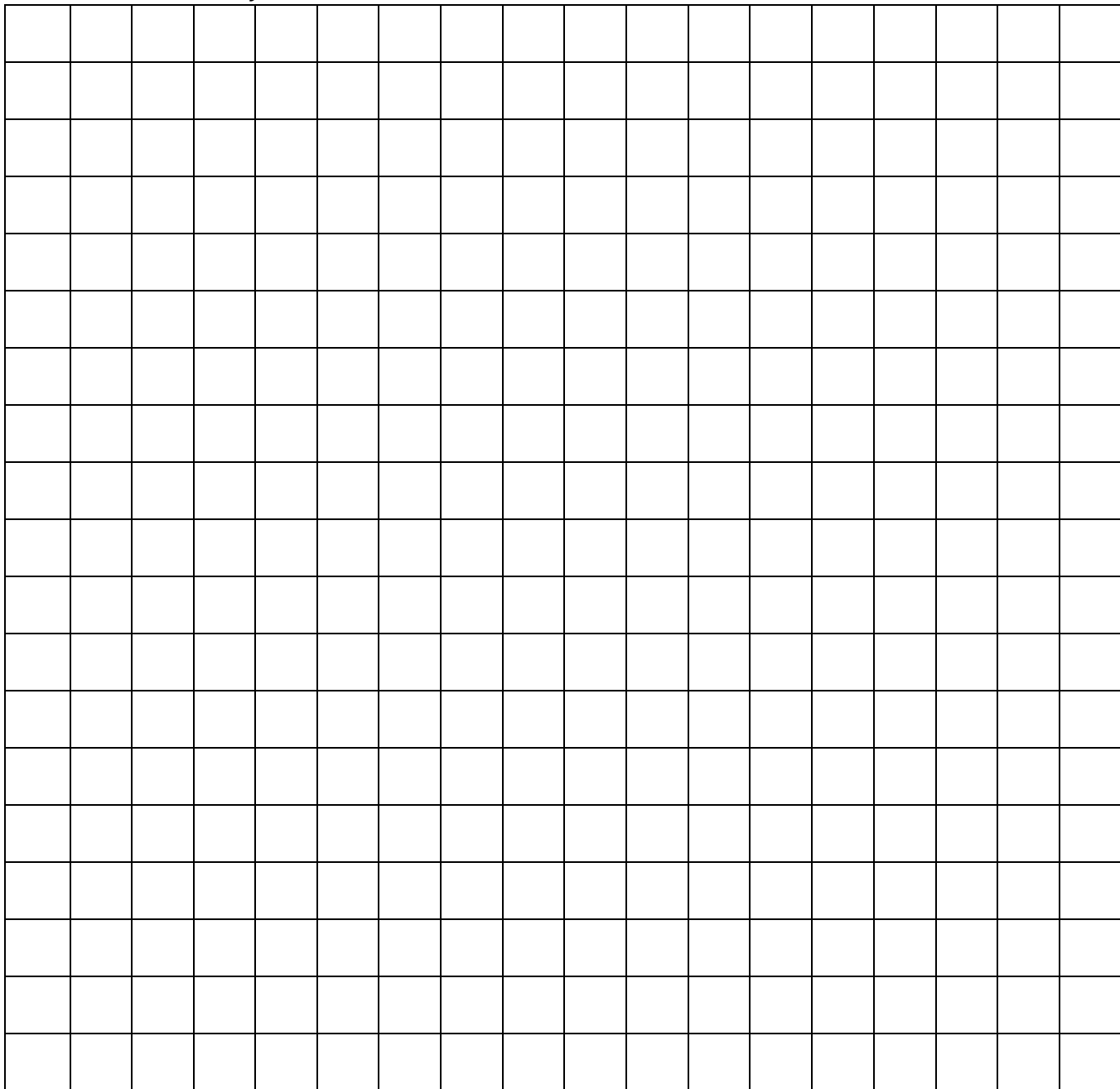
(i) Create a venn diagram to model the information

(ii) How many students like at most one subject

10. (a) If 1 is subtracted from both the numerator and denominator of a fraction, the result is $\frac{2}{5}$. If 2 is added to twice the numerator and 6 is added to thrice the denominator of the same fraction, the result is $\frac{1}{3}$. Find the fraction

(b) Solve the following simultaneous equation graphically

$$\begin{cases} 3x - y = 2 \\ 2x - y = 3 \end{cases}$$



******ALL THE BEST******

“The best way of learning mathematics is through practice”

DEPARTMENT OF MATHEMATICS

Sir Alex Qamara, Sir Mlangi & Madam Florine