

PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT
FRANCISCAN GIRL'S SECONDARY SCHOOL
FORM ONE MONTHLY EXAMINATION

041

BASIC MATHEMATICS

Time : 2:30 Hours

23rd APRIL 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.

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

1. (a) Draw a circle with center O and hence indicate the following

- (i). Arc AB
- (ii). Chord CD
- (iii). Sector AOB
- (iv). Radius AO

(b) If $\overline{AB}$ is parallel to $\overline{CD}$ and $\overline{PQ}$ is a transversal. Sketch the line segments and label on the same diagram the following pairs of angles

- (i). Corresponding angles a and g
- (ii). Alternate interior angles f and g
- (iii). Vertically opposite angles c and d

2. (a) Find the difference between the LCM and GCF of the numbers 21, 35 and 56

(b) If A and B are complementary angles such that angle A is 18° less than angle B, Determine the angles.

3. (a) When 6 is subtracted from a certain number, the result is greater than 29. Write down an inequality that represent this information. And hence show the solution of it on the number line

(b) If $\frac{6}{x+1} = 12$. find the value of x

4. (a) A dog, a cat and a goat have masses of 30.7 kg, 13.44 kg, and 18.26 kg respectively.
- (i). Calculate the total mass of all three animals, giving the answer to the nearest whole number.
 - (ii). Round off the mass of dog to the nearest ones, the mass of cat correctly to one decimal place and goat to 3 significant figures.

(b) Insert an appropriate sign ($>$, $<$ or $=$) between each of the following pair of integers to make true statement

(i) $\frac{2}{3} \dots\dots \frac{5}{6}$

(ii) $0.\dot{2}\dot{7} \dots\dots \frac{3}{11}$

(iii) $\frac{1}{16} \dots\dots 0.0625$

(iv) $-5 \dots\dots -5.5$

5. (a) Given that $x = 0.\dot{2}\dot{3}$ and $y = 0.5\dot{9}$. Express x and y in the form of $\frac{a}{b}$, where $b \neq 0$, a and b are integers, then find the value of $\frac{x}{y}$

(b) Show on the number line the solution set of the inequality $|2x + 1| > 3$

6. (a) The ratio between an exterior angle and an interior angle of a regular polygon is 2:3. Find

- (i). Interior angle
- (ii). Exterior angle
- (iii). Number of sides
- (iv). Name and draw the polygon

(b) Solve the following system of simultaneous equation by using elimination method

$$\begin{cases} 2x + 3y = 5 \\ 4x + 23 = 5y \end{cases}$$

7. (a) An alloy consists of three metals A, B and C in the proportion A:B = 3:5 and C:B=6:7. Calculate the proportion A:C

(b) Sikujua and Mawazo received 630,000 shillings from their father. The father wanted to give Sikujua twice as much money as the amount that could be given to Mawazo. How much did Sikujua receive ?

8. (a) Three airplanes arrived at Kilimanjaro International Airport (KIA) at the intervals of 30 minutes, 40 minutes and 55 minutes. If all three airplanes arrived at KIA at 2:00 p.m, on Saturday, at what day and time would they arrive together again ?

(b) Sir mlangi has 39 pencils and 26 pens to distribute to his students, each student must receive the same amount of pens and pencils and there will be no pens or pencils left. What is the greatest number of students in that class ?

9. (a) The sum of the number of boys and girls in the class is 36. If twice the number of girls exceeds the number of boys by 12. Find the number of boys and girls in the class.

(b) The age of the father is three times the age of his son. If the sum of their age is 64 years. Find their ages.

10. (a) Simplify the expression $9(a - 3b) + 5(4b + a) - b$ and state the coefficient of a and b

(b) Solve the following system of simultaneous equation

$$\begin{cases} \frac{x}{2} - \frac{y}{3} = -7 \\ \frac{x}{4} + \frac{y}{3} = \frac{5}{2} \end{cases}$$

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

“The best way of learning mathematics is through practice”

Prepared By Sir Mlangi April 2024