

PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT
UKEREWE DISTRICT COUNCIL



FORM TWO MOCK EXAMINATION

041

BASIC MATHEMATICS

Time: 2:30 Hrs

Year, 2025

INSTRUCTIONS

1. This paper consists of (10) questions
2. Answer all questions
3. Cellular phones, calculators and any unauthorized materials are not allowed in the examination room
4. Write your examination number on every page of your answer sheet (s)

1. (a) A teacher in a class is planning to teach equivalent fraction to her students. She uses the example of a pizza that is cut into 10 slices. If 7 out of 10 slices of Pizza are eaten, what are five other fractions that represent the same amount of pizza?

(b) (i) Write in numerals, nine hundred and ninety-nine million eight hundred and eight thousand, seven hundred and seventy-seven

(ii) Arrange the given fractions in ascending order $\frac{2}{3}$, $\frac{4}{7}$, $\frac{3}{8}$ and $\frac{5}{8}$

2. (a) David, Miriam and Rose shared a harvest of mangoes. The ratio of mangoes received by David to Miriam was 2:3. If rose received 21 mangoes than David how many mangoes did Miriam receive?

(b) Mwajuma Deposited Tsh 360,000/= in her bank account if the bank charges Tsh 1,000 for every withdrawal, calculate the amount of money remained in her account, if

(i) she withdrawal Tsh 106,00/=

(ii) She makes a further withdraw of Tsh 50,000/= from the remaining account

3. (a) What is the mass in Kg (kilogram) of 1500 packets each weighing 5hg 9dag and 8g

(b) Subtract 0.222.... of Tsh 2,700,000/= from 36% of Tsh 50,000

4. (a) What is the principal amount which can give an interest of Tsh 114,000 at a simple interest of $9\frac{1}{2}\%$ in 3 years

(b) An equilateral triangle has sides 20cm in length, find

(i) Its area and

(ii) Perimeter

5. (a) Express P in terms of other letters if $tp^{1/2} = q(p + r)$

(b) Solve for x by completing the square $4x^2 - x - 8 = 0$

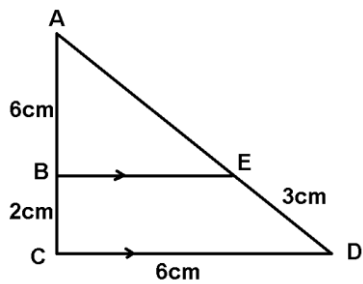
6. (a) Find the y intercept of the line passing through $(-3,4)$ and $(4,-3)$

(b) A straight line cut the y -axis at 4, what the x -intercept if the line has a slope of $x/2$?

7. (a) Find x from the equation $3 - x \log 2 = \log 250$

(b) Express x in terms of P and q from the formula $P = \sqrt{q + x}$ hence find the value of x if $P = 3$ and $q = -1$

8. (a) In figure below $AB=6\text{cm}$, $BC=2\text{cm}$, $PE=3\text{cm}$, $\overline{BE} \parallel \overline{CD}$, $\overline{CD}=6\text{cm}$ find



(i) Length AE

(ii) Length BE

(b) Prove that $\triangle ABE \sim \triangle ACD$

9. (a) By using $(a+b)^2 = a^2 + 2ab + b^2$ find $(104)^2$

(b) Solve the following simultaneous equations $x^2 + y^2 = 13$
 $2x - 3y = 5$

10. (a) The area of a rectangle is 98m^2 and its perimeter is 42m. Find its length and width

(b) Given that $3^n = 1.2$, without using tables, find the value of $\frac{9^{2n-1}}{27^{n-1}}$