

**THE PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT
FORM TWO OPENING TEST
BASIC MATHEMATICS**

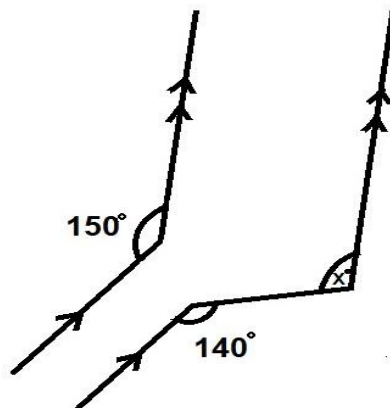
TIME 2:30

January 2024

INSTRUCTIONS

1. This paper consists of a total **ten (10) compulsory** questions
2. Show your work clearly
3. All writing must be in **blue** or **black** ink, except drawings which should be in **pencil**
4. All communication devices, programmable calculators and any unauthorized materials are **not** allowed in the examination room

1. (a) Solve the equation $5x + 2(4 - 3x) = 11 - 2x$
 (b) Convert the repeating decimal $0.5\overline{25}$ to fraction
2. (a) The LCM and GCF of two numbers are respectively 200 and 10. If one of the numbers is 40, find the other number.
 (b) The sum of the digits of a two -digit number is 9. If this number exceeds a number formed by reversing its digits by 45, find the number.
3. (a) Solve the following absolute value equation: $|2x - 8| = 5$
 (b) If $2x - 6y = 14$ and $-x + 2y = -3$, find $1\frac{2}{3}(x + y)$.
4. (a) Find the range of values of x for which the inequality $2x + 5 < 2(5 - 3x)$ holds
 (b) If $a : b = 2 : 3$ and $b : c = 5 : 6$, find $a : c$
5. Find the slopes of lines passing through the following pair of points:
 (a) (10, 6) and (2, 2)
 (b) (4, 3) and (- 6, 3)
6. (a) Evaluate: $75.98 \times 2.385 - 1.285 \times 75.98$. Give your answer into two significant figures
 (b) Find the degree measure of the angle x from the figure below



7. (a) How long will it take for Tsh 85,000/= to grow to Tsh 136,000/= at a simple interest of $7\frac{1}{2}\%$ per annum?
 (b) Find the sum of the interior angles of a polygon having 17 sides.
8. (a) Find the coordinate of the point at which a line through (- 1, 3) with a slope of -1, intersects a line through (5, 3) with a slope of -2
 (b) If the basic salary of Tsh8,000/=, increased to Tsh 10,000/=, find the percentage increase

9. (a) Use substitution method to find x, y and z such that: $2x + y = 1$,
 $7x - 2z = 17$ and $\frac{1}{2}z - y = 6$

(b) The radii of the bicycle wheels are 35cm . What is the speed of the bicycle when the wheels are rotating at 50 revolutions per minutes without slipping? Give your answer in km per hour

10. (a) The ratio of the ages of a father and his son now is $8 : 3$. If ten years ago, the ratio of their ages was $6 : 1$, find their present ages

(b) Solution A contains 65% of concentrated Hydrochloric acid, and solution B contains 90% of the same acid. How many litres of each solution must be used to make 200 litres of 80% Hydrochloric acid?

KWA MAHITAJI YA

01. MITIHANI YA KILA MWEZI (MONTHLY TEST) KWA MASOMO YOTE NA VIDATO VYOTE

02. SERIES ZA 0-LEVEL KWA MASOMO YOTE NA VIDATO VYOTE

03. MITIHANI YA KIDATO CHA TANO NA SITA (ADVANCED SERIES) KWA COMBINATION ZOTE

OFA OFA

U.B.N COOPERATION TUNATOA OFA MAALUM YA KUJIUNGA NA GROUP LETU LA “U.B.N COOPERATION” KWA WAKUU WA SHULE NA WATAALUMA KWA TSH 50,000/= KWA KIDATO KIMOJA AMBAPO UTAPATA MITIHANI YA KILA MWEZI (MONTHLY TEST) KWA MASOMO YOTE NDANI YA MIEZI SITA. OFA HII NI KWA KIDATO CHA PILI NA CHA NNE TUU. ITAANZA (MWEZI JANUARI – JUNE) MWISHO WA KUJIUNGA NA OFA HII NI TAREHE 05/01/2024

**KWA MAWASILIANO TUCHEKI KWENYE NAMBA
0624 254 757 WHATSAPP TU**