Student's Assessment Number…….....

PRESIDENT'S OFFICE
REGIONAL ADMINSTRATION AND LOCAL GOVERNMENT
KIGAMBONI MUNICIPAL COUNCIL
FORM TWO TERMINAL EXAMINATION

041 **BASIC MATHEMATICS**

Time 2:30 Hours **Wednesday 17TH JUNE. 2023 A. M**

INSTRUCTIONS

1. This paper consists of 10 questions.
2. Answer all questions, and each question consist 10 marks.
3. All answer must be written in the space provided
4. All writing must be in blue or black ink. EXCEPT diagrams which must be in pencil
5. Write your assessment Number at the top right hand corner of every page

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

1. (a) Ali and Catherine completed around in 20 minutes and 24 minutes respectively. If they are started in the same direction, after how many minutes will they meet again at the starting point?

   (b) If there were 12000 fish in a pond and later 8.5% were found dead. What was the new population of fish in the pond?

2. (a) Work out the following giving your answer in meters:
   i. 2 cm + 10 dm

   ii. 0.85 km – 168 m

   (b) Write the number 0.09963 correct to:

i. 3 decimal places

ii. 3 significant figures

iii. Hundredth

3. (a) If $(3x + 43^0)$ and $(2x - 28^0)$ are supplementary angles. Find the value of ''x''

(b) The perimeter of a rectangle is 144 m, if the width of the rectangle is 30m. Find the area of the rectangle.

4. (a) Find the possible values of ''m'' if the expression $x^2 + mx + 121$ is a perfect square.

(b) The cost of one skirt and two blouses is Tshs. 7000. If the cost of two skirts and three blouses of the same quality is Tshs. 12000. Find the cost of each item.

5. (a) A mixture is made up of powders A and B in the ratio 5:4, if 72 kg of this mixture are required how much of each powder should be used?

(b) How much money will you lend in order to get Tshs. 48000/= interests at 6% if you lend it for 6 months?

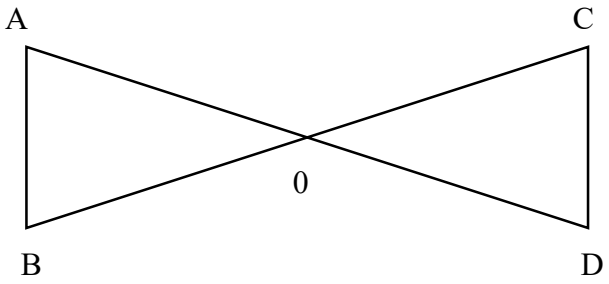
6. (a) The line $8x + qy = 12$ crosses the y-axis at -2. Find the value of ''q''

(b) Find the equation of the line passing through point (-1,-3) and (-2, -5)

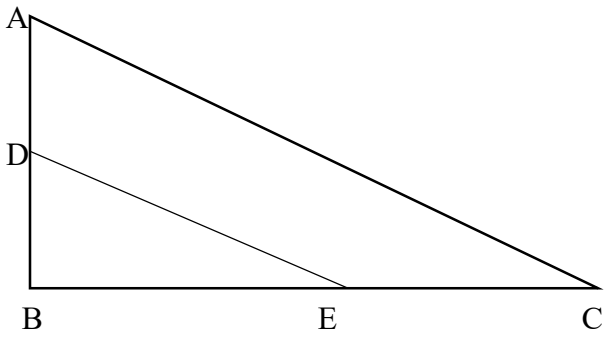
7. (a) Given that: $\left(\frac{3}{2}\right)^{3x} = \frac{16}{81}$. Determine the value of x

(b) Rationalize the denominator of the expression $\frac{4\sqrt{3}}{\sqrt{7}-2\sqrt{5}}$

8. (a) In the following figure $\overline{OA} = \overline{OC}$ and $\overline{OB} = \overline{OD}$. Prove that $\Delta AOB \equiv \Delta DOC$



(b) From the figure below angle ABC = 90^0, $\overline{DE} = 6.4\ cm, \overline{BE} = 3.6\ cm\ and\ \overline{BC} = 4.5\ cm. If\ \Delta ABC \sim \Delta DBE$, find the value of length $\overline{AC}$



9. (a) Solve the value of ''x'' if $\frac{x+5}{x-3} = x$

(b) A stone is thrown upwards after time (t) seconds its height (h) meters is given by $h = 30t - 5t^2$. Find the time when the stone is 25 m high.

10. (a) (i) Find without using table or calculator, the value of $2\log 5 + \log 36 - \log 9$

(ii) If $\log y + 2\log x = 3$, express y in term of x

(b) Calculate the value $\frac{9804 \times 23.19}{0.086 \times 41750}$ by using Mathematical tables.