

CANDIDATE'S NUMBER

**THE UNITED REPUBLIC OF TANZANIA
PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT
LUDEWA DISTRICT COUNCIL
FORM TWO MOCK EXAMINATION (2022)**

041**BASIC MATHEMATICS****TIME: 2:30 HOURS****07TH JUNE 2021****INSTRUCTIONS**

1. This paper consists of **ten (10) compulsory** questions.
2. Show clearly all the working and answers in the space provided.
3. NECTA mathematical tables Geometrical instruments may be used.
4. All **communication devices, calculators** and any **unauthorized** materials are **not allowed** in the examination room.
5. Write your **name** at the top right corner of every page.

QUESTION NUMBER	PUT A TICK (√)	FOR EXAMINERS' USE ONLY	
		MARKS	EXAMINER'S INITIALS
01			
02			
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10			
TOTAL			

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1. (a) Joyce used one-third of her money to buy sugar. She used one-quarter of the remained amount to buy soap. Two-thirds of the remained amount after buying soap, saved in her account. If at the end of all she remained with Tsh 6,000/=, determine the total amount she had before uses.

- (b) Leonard' home is 12 km from his sister's home. Leonard lives with his sister. If Leonard goes to school daily, how many kilometers does he travel in 196 days?

2. (a) (i) A butcher sells 150 kg of meat each day. How many kilograms of meat did he sell in January of 2021?

- (ii) A rope of 18 m and 80 cm is to be divided into four equal parts. How long will each part be?

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- (b) The population of a certain country is 35,985,373. Round off this number of people to the nearest thousands.
3. (a) Two angles of an irregular pentagon are 58° and 83° . The other three angles are in the ratio 5:6:8. Work out for the difference between the smallest angle and the greatest angle of the Polygon.
- (b) Twice the width of a rectangle is greater than its diagonal by 2 cm. If the perimeter of this rectangle is 28 cm, determine its area.
4. (a) if x is 4 less than y and twice the value of x is 4 more than the value of y , find the value of x and y .

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- (b) The product of two numbers which differ by 4 is 77. Find the difference between their product and their sum.

5. (a) A shopkeeper makes 40% profit by selling an article for Tsh 63,000/=. What would be his percentage loss if he sold the article for Tsh 40,000/=?

- (b) James borrowed Tsh 8,000/= for a period of 6 years at 20% simple interest per annum. Calculate the total amount James will pay for back after 6 years.

6. (a) Find the y –intercept of the line joining the points $(-5,3)$ and $(3,2)$

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- (b) (i) Find the new position of the point P(1,3) after a reflection on the line with equation $x = 2$, and followed by a rotation through 90° about the origin in the anticlockwise direction.

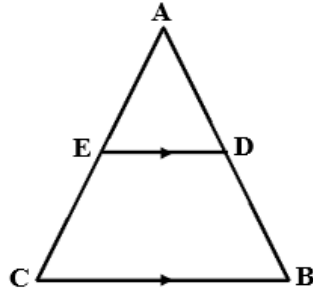
- (ii) Find the image of (-1,0) after a translation by a translation vector (3,2)

7. (a) If $(3^{x-2})(2^{3y-3}) = 72$, find x and y .

- (b) Find the solution set of the system:
$$\begin{cases} \log(x + y) = 0 \\ 2\log x = \log(y + 1) \end{cases}$$

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8. (a) On the following figure, $AE:EC = 2:3$, and the area of the quadrilateral EDBC is 21 cm^2 . Find the area of the triangle ABC.



- (b) Are the left shoe and right one of your feet, similar or congruent? Give reason(s).
9. (a) A square field of a certain school compound is occupied by cabbages. The ratio of its perimeter to its area is $2:3$. Find the length of its diagonal (leave the answer in surd form)
- (b) From a window in a building, 25 meters above the ground, the angle of depression to the base of a nearby building is 60° , and the angle of depression to its top is 45° . Find the height of the nearby building.
10. (a) A study on food preference of three types of foods: Potatoes, Rice and Ugali, done on a group of

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students, revealed the following: 45% likes potatoes, 50% likes Rice, 54% likes Ugali, 22% likes both potatoes and Rice, 20% likes both Rice and Ugali, and 24% likes Potatoes and Ugali. 5% do not like any of these types of foods.

(i) What percentage of students like Rice and Potatoes but not Ugali?

(ii) How many does not like Ugali if the number of those likes Potatoes and Rice only is 20 students?

(b) Age distribution of the villagers Matika village is given on the following table:

Age range	0 - 15	16 - 31	32 - 47	48 - 63	Above 64
Number	80	100	110	60	25

Construct the frequency cumulative table and the Histogram for the given data