

**THE UNITED REPUBLIC OF TANZANIA**

**PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT  
TUNDUMA TOWN COUNCIL**

**FORM TWO JOINT EXAMINATION**

**041**

**BASIC MATHEMATICS**

**TIME: 2:30 Hours**

**MAY, 2025**

**Instructions**

1. This paper consists of sections of **ten (10) compulsory** questions. Each question carries **ten (10) marks**
2. Show clearly all the working and answer **all** in the space provided.
3. All writing must be in blue or black ink **except** drawings which must be in pencil.
4. NECTA Mathematical table, geometric instruments and graph paper may be used where necessary.
5. All communication devices, calculators and any unauthorized materials are **not** allowed in the assessment room.
6. Write your **Assessment Number** at the top right corner of every page.

<b>FOR ASSESSOR'S USE ONLY</b>		
<b>QUESTION NUMBER</b>	<b>SCORES</b>	<b>ASSESSOR'S INITIALS</b>
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
<b>TOTAL</b>		
<b>CHECKER'S INITIALS</b>		

1. (a) (i) The population of a city is 13984765 people. There are 5679482 men and 4947652 women and the remaining are children. How many children are there in the city?

(ii) Write 2400 as the product of its prime factors.

(b) Jackline spent  $\frac{3}{8}$  of her salary on transport and  $\frac{3}{5}$  of the remaining on food. If finally left with Tsh. 160000. What was her salary?

2. (a) Write 823.085 correct to.

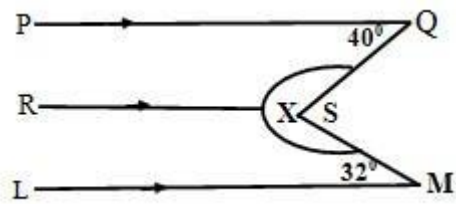
(i) Two (2) decimal places

i) Five (5) significant figures

(iii) Tenths

(b) One tea spoon full of sugar is added to every 80g of coffee. How many tea spoon full of sugar will be added to 2kg 400g of coffee?

3. (a) Use the following figure to find the value of  $x$



- (b) A hall measure 12m long and 8m wide. A carpet is laid at the center of the hall leaving a path of uniform width all around the hall. Given that the area of the carpet is  $60\text{m}^2$ . Find the possible width of the path.

- 4.(a) The cost of 4 pencils and 5 pens together is 6000Tsh, while the cost of six pencils and 8 pens together is 9400 Tanzanian shillings. Calculate the cost of one pencil and one pen.

(b) (i) If  $a*b = a^2 - b$ , find  $y$  given that  $4*(2*y) = 4$

(ii) Use the definition  $a^2 - b^2$  factorize  $4p^2 - 9k^2$ .

5.(a) For how long should Tsh 1,200,000 be invested at simple interest of 5% to get an interest of Tsh 180,000?

(b) (i) Calculate the selling price of a basic mathematics book which costs at Tsh.8500 and a percentage loss of 20%

- (ii) Agnes and David received 720000/= shillings from her mother. The mother wanted to give Agnes twice as much money as the amount that would be given to David. How much did Agnes receive?

6(a) The gradient of the line passing through point (3,7) and (-2 ,a) is 2. Find

- (i) The value of a

- (ii) Equation of the line

(iii) The x-intercept

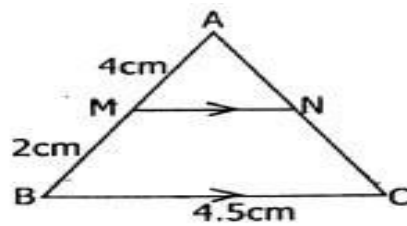
(b) Find the coordinates of the image of the point A(3,4) after a reflection in the line  $y = -x$  followed by another reflection in the line  $y = 0$ . Sketch the point A and the images formed.

7.(a) Find the value of p; if  $\left(\frac{1}{64}\right)^{2+p} = 2^6$

(b) Solve for x from the following equation

$$3\log_x \sqrt{2} + 2\log_3 27 = 6\frac{1}{4}$$

8(a) ) In triangle  $\triangle ABC$ , M is on  $AB$  with  $AM=4\text{cm}$  and  $MB=2\text{cm}$ . N is on the  $AC$  and  $\overline{MN}$  is parallel to  $\overline{BC}$



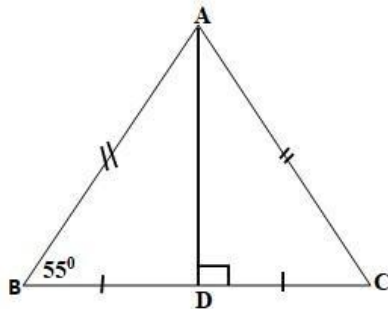
(i) Show that  $\triangle AMN$  is similar to  $\triangle ABC$

(ii) If  $BC = 4.5\text{ cm}$ , find  $MN$

(b) ABC is an isosceles triangle in which AB and AC are equal. If D is the midpoint of BC

i) Prove that  $\triangle ABD \equiv \triangle ACD$

ii) Find  $\angle BAD$  if  $\angle ABC = 55^\circ$



9. (a) A man travels 15km due to North and then 8km due to West. How far is he from the starting point?

(b) Find the value of each of the following expressions and simplify the answer

i)  $\sin 30^\circ (\cos 0^\circ + \sin 30^\circ)$



ii)  $\tan 45^\circ (4 \cos 30^\circ - \sqrt{3} \tan 45^\circ)$

10. (a) In a class of 26 pupils, there are 14 pupils who study chemistry but not history, 6 who study history but not chemistry and 2 who study neither chemistry nor history. How many pupils in the class study chemistry?

(b) The table below shows marks of form two students in a mathematics test at Kwesma secondary school.

Marks	40	45	50	55	60	65	70
Number of students	6	8	13	5	9	4	5

- i) What is the lowest mark?
- ii) What marks scored by the most students?
- iii) If 60% was pass mark, how many students passed the test?
- iv) What percentage of students scored at least 60 percent?

***Student's Assessment Number.....***