

Student's Assessment Number:.....

**TAHOSSA KINONDONI AND UBUNGO DISTRICTS
NON-GOVERNMENT SECONDARY SCHOOLS
FORM TWO MOCK ASSESSMENT**

041

BASIC MATHEMATICS

Time: 2:30 Hours

Year: 2022

Instructions

1. This paper consists of **ten (10)** compulsory questions
2. Answer **all** questions
3. All writing must be in the spaces provided
4. Use Mathematical Tables published by National Examination Council.
5. Cellular phones, calculators and any unauthorized materials are **not** allowed in assessment room.
6. Write your **Assessment Number** at the top right corner of every page.

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



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Answer **all** questions

1. (a) There are four pieces of electricity wire with length of 70cm, 119cm, 84cm and 105cm are cut into pieces of the same length. Find the greatest possible length if no wood is left over

- (b) (i) Estimate the value of 851×437

- (ii) The population of Tanzania in 2002 census showed that there were 17,358,875 men and 18,258,750 women. Round off the figures to hundred thousand

2. (a) An amount of Tsh. 48,000/= is to be shared among Jackson, Laula and Masanja in the ratio. 4:6:10 respectively. How much will each get?

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- (b) Write the repeating decimal $0.04\dot{1}\dot{6}$ as a ratio of integers a/b where a and b are integers and $b \neq 0$

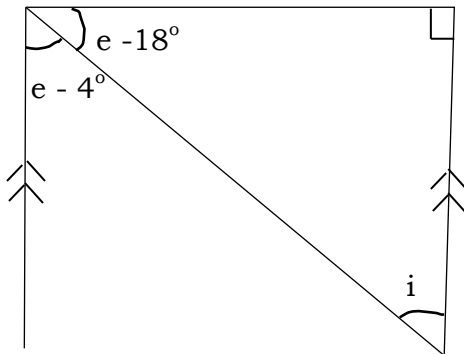
3. (a) How many grams are there in 0.00912 tons?

- (b) (i) Hawa walked two fifth of her journey, John walked three eighth of his journey. If these two people have the same length of their journey, who walked the shortest distance?

- (ii) Mr. Pwagu bought a car for Tshs. 500,000/= in one year it lost 24% of its value. How much was it worth after 1 year?

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4. (a) Use the information given in the figure below to find the value of “e” and “i”



- (b) The area of a rectangular room is 392cm^2 . If its length is eight times its width. Find its perimeter

5. (a) Find the solution set of the following $\begin{cases} 2x + 4y = 12 \\ 3x - 2y = 10 \end{cases}$

- (b) Factorize $3x^2 - 7x + 2$ by splitting the middle term

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6. (a) (i) The gradient of a line through points A (k, 1) and B(2, 6k) is 2. Find the value of k.

(ii) Find the equation of a line with gradient -1 which passes through (1, 2)

- (b) The vertices of a triangle are P(1, 0), Q(3, 0) and R(1, 2). If the triangle PQR is reflected in the y-axis, find the coordinates of the vertices of its image

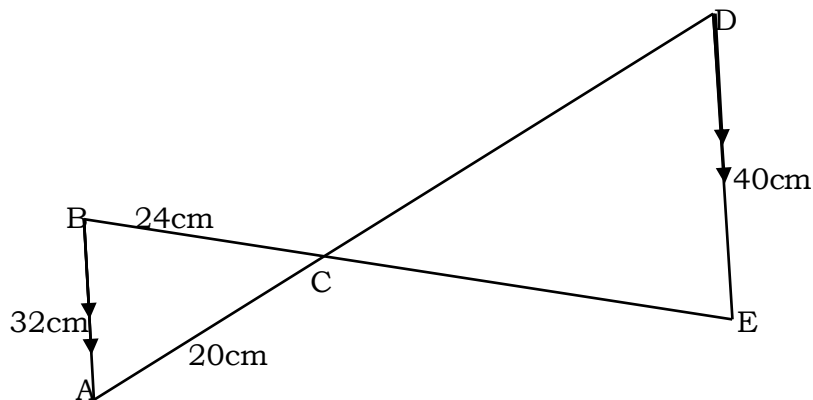
7. (a) (i) Find the value of x , such that $5^{(x+1)} \times 125^{(3x+1)} = 25^{x+2}$

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(ii) Given that $\frac{\sqrt{2} + \sqrt{3}}{\sqrt{3} - \sqrt{2}} = a + b\sqrt{c}$, find the values of a, b and c

(b) If $\log x = 1.5371$ and $\log y = 4.4872$, evaluate $\log x \sqrt{y}$

8. (a) Use the figure below to



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(i) Prove that $\triangle ABC$ is similar to $\triangle EDC$

(ii) Calculate length $\overline{EC}$ and $\overline{CD}$

(b) State any two theorems for two triangle to be congruent

9. (a) In a right angled triangle, $\tan\theta = \frac{5}{12}$ find the value of

(i) $\sin\theta$

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(ii) $2\cos\theta$

(b) The length of the shadow of a building 34m tall is 37m. Find

(i) The angle of elevation of the sun

(ii) The length of the slant edge from the top of the building to the horizontal

10. (a) In a school there are 30 teachers who teach Mathematics or Physics, 18 teach Mathematics and 6 teach both Physics and Mathematics. How many teach Physics only?

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- (b) The table below shows the masses in kilograms of form one students at Mtakuja secondary school

Mass (kg)	41-45	46-50	51-55	56-60	61-65	66-70
Frequency	3	8	13	11	7	3

- (i) Find the total number of students
- (ii) Draw frequency polygon and histogram on the same axes