*Student's Assessment Number*_____

THE UNITED REPUBLIC OF TANZANIA
NATIONAL EXAMINATIONS COUNCIL OF TANZANIA
FORM TWO NATIONAL ASSESSMENT

041 **BASIC MATHEMATICS**

Time: 2:30 Hours **Year: 2025**

Instructions

1. This paper consists of **ten (10)** questions.
2. Answer **all** questions.
3. Each question carries **ten (10)** marks.
4. Show clearly all the working and answers in the space provided.
5. All writing must be in **blue** or **black** ink, **except** drawings which must be in pencil.
6. NECTA mathematical tables, geometric instruments and graph papers may be used where necessary.
7. Communication devices, calculators and any unauthorised materials are **not** allowed in the assessment room.
8. 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		

1. (a) Evaluate $\frac{1}{5}$ of $((50 \div 5 + 5) - (8 \times 4 - 2))$.

(b) The population of three towns are 65600, 13400 and 29700 to the nearest hundreds. Approximate the total population of the three towns to the nearest thousands.

2. (a) In a family of 15 children, $\frac{2}{5}$ of them drink tea and $\frac{1}{3}$ of them drink coffee. How many children drink none of the two drinks?

(b) In a class of 40 students, 25 students passed English Language assessment. Find the percentage of students who failed the assessment.

3. (a) A text book was bought at shs. 8,500 and then sold at shs. 6,000. Calculate the percentage loss.

(b) Four families A, B, C and D have to share 33 kilograms of meat in the ratio 4: 5: 6: 7 respectively.

(i) What is the largest share?

(ii) Which family will get the largest share?

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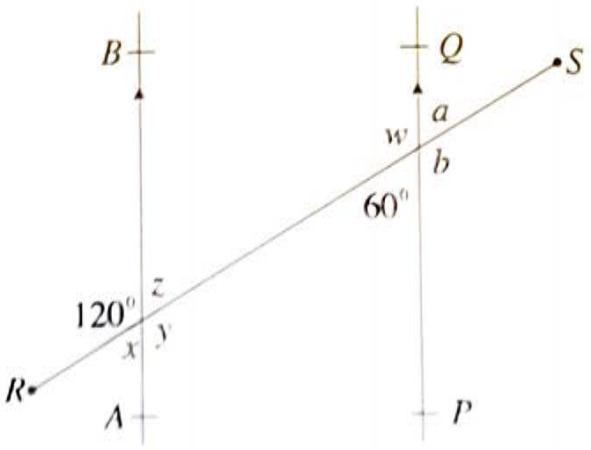
4. (a) In the following figure, $\overline{AB}$ is parallel to $\overline{PQ}$ and $\overline{RS}$ is a transversal. Find the angles marked a, b, w, x, y and z.



(b) The perimeter of triangle ABC is $16cm$. If the lengths $\overline{AB} = (5+x)$ cm, $\overline{AC} = (2+x)$ cm and $\overline{BC} = 5$ cm, find the value of x and hence the actual lengths of $\overline{AB}$ and $\overline{AC}$.

5. (a) Simplify the following expressions:

(i) $7m - 2(5n - 4m) + 11n - 5m.$

(ii) $(5x - 2y) - 2(4x - 3y).$

(b) The sum of two numbers is 19 and their difference is 5. Find the numbers.

6. (a) The gradient of the line $ky = kx + x + 7$ is 2.

(i) Find the value of k.

(ii) Write down its y-intercept.

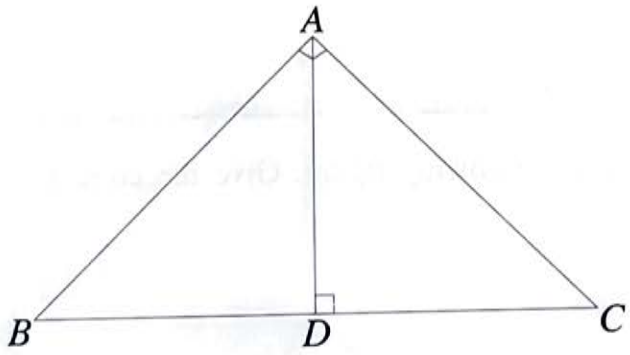
(b) The graph of straight line $Kx - My - 4 = 0$ passes through the points $A(-2,-5)$ and $B(2,-3)$. Find the values of K and M.

8.

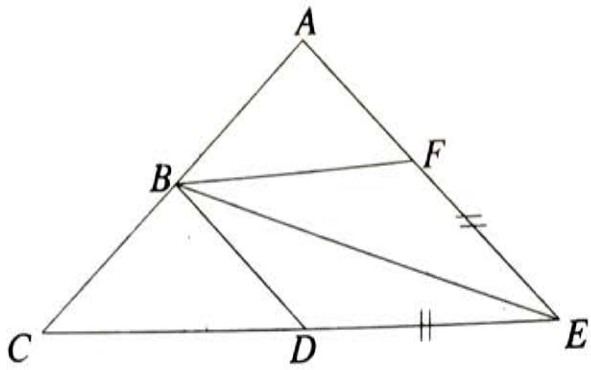
7. (a) Find the value of $8^{\left(-\frac{2}{3}\right)} + \frac{3^{-2}}{2^{-3}}$.

(b) Rationalize the denominator of $\frac{\sqrt{2}}{\sqrt{3}+\sqrt{2}}$.

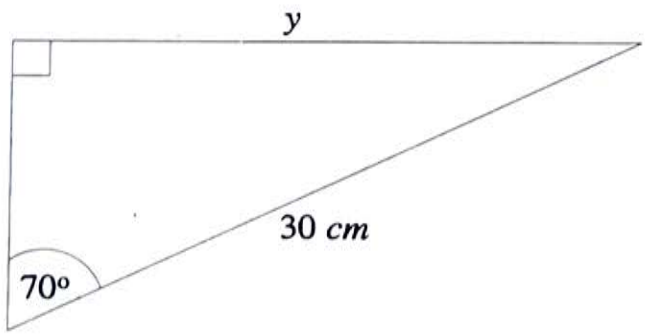
8. (a) By using the following figure, prove that $\Delta ABC \sim \Delta ABD$.



(b) In the following figure, $\overline{BE}$ bisects $D\hat{E}F$ and $\overline{DE} = \overline{FE}$. Prove that $\Delta BEF \equiv \Delta BED$.



9. (a) Calculate the length y in the following figure. Give the correct answer to one decimal place.



(b) A ladder on the ground leans against a vertical wall whose height is 5 metres. The ground distance between the ladder and the wall is 12 metres.

(i) Draw a diagram to represent this information.

(ii) By using the diagram in part (b) (i), find the length of the ladder.

10. (a) In a school of 120 students, 40 learn English, 60 learn Kiswahili and 30 learn both Kiswahili and English. How many students learn neither English nor Kiswahili?

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(b) The following marks were scored by students in a History test:

54	54	40	55	54	43	73	37	75	47
35	47	73	46	31	43	47	35	35	60
69	54	44	48	55	45	50	37	51	36

Construct a frequency distribution table by grouping the marks in the class intervals 30 – 39, 40 – 49, 50 – 59, etc. Hence find the percentage of students who scored marks ranging from 50 to 69 in the test.