

**THE UNITED REPUBLIC OF TANZANIA
THE PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT
SECONDARY SCHOOL**

**FORM TWO EXAMINATION
041 BASIC MATHEMATICS**

Time: 2 ½ Hours

May 2024

INSTRUCTIONS

1. This paper consists of a total of 10 questions.
2. Attempt all questions.
3. Each question carries 10 marks.
4. Mathematical tables and non-programmable calculators are not allowed.
5. Write your examination number on every page of your answer sheets.

QUESTION NUMBER	SCORE	EXAMINER'S INITIALS
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
TOTAL		

1. (a) i. Which number is greater than 623 098 by 1 050 069?

ii. The school fee per child is sh. 2 500 800 per year. Seypalm paid one million three hundred thousand and forty shillings. How much money does he owe the school so far?

(b) i. Find the sum of the LCM and the GCF of the following numbers: $\frac{18}{2}$, $\frac{14}{2}$, $\frac{15}{3}$

ii. Convert $.07\dot{5}$ into simple fraction.

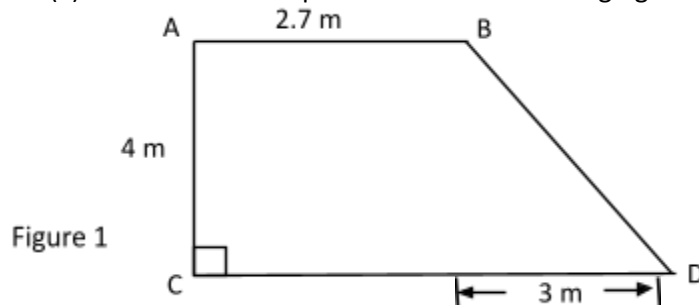
2. (a) Round off each of the following to tenths

i. 3.25

ii. 3.35

(b) A rabbit weigh 4 kg 21 dag 48 dg. How many rabbits will weigh 50 kg 57 dag 78 dg?

3. (a) Find the area and perimeter in the following figure:

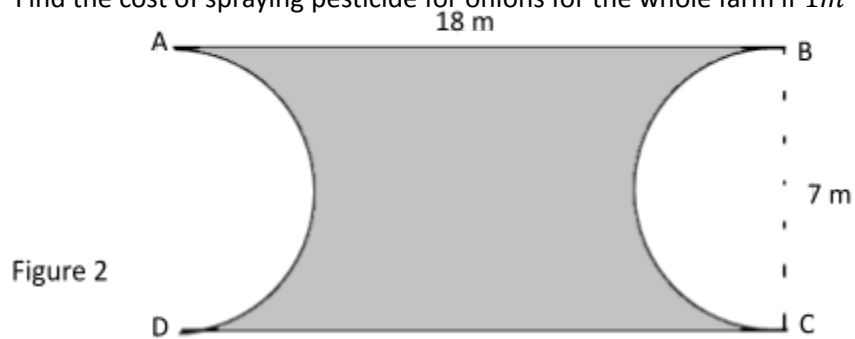


i. The area

ii. The perimeter

(b) In the following figure, the shaded region represents the area of the farm that is grown onions.

Find the cost of spraying pesticide for onions for the whole farm if $1m^2$ costs 25 000 shillings



4. (a) One positive number is $\frac{1}{5}$ of another number. The difference between the two numbers is 76. Find the numbers.

(b) i. Solve for r : $S = \frac{rl-a}{r-1}$

ii. Solve the following: $5x^2 - 55x + 60 + 40x - 4x^2 - 6 = 0$

5. (a) Seypalm deposited 564 000 shillings in a bank which provides rate of $5\frac{1}{2}\%$ per year. What interest did he get after 6 months?

(b) Juma, Peter, and Sarah shared 1 200 000 shillings in the ratio of 2: 3: 5. Find the difference between the amount of money shared by Sarah and Peter.

6. (a) Convert $0.75y + 5x - 8 = 0$ into slope—intercept form and state its gradient and y — intercept.

(b) The point $Q(x, y)$ is reflected on $y = 0$ to get the point Q' , then followed by another reflection on $x = 0$ to get the point Q'' . If the coordinates of Q'' is $(-5, -3)$, find the value of a and b

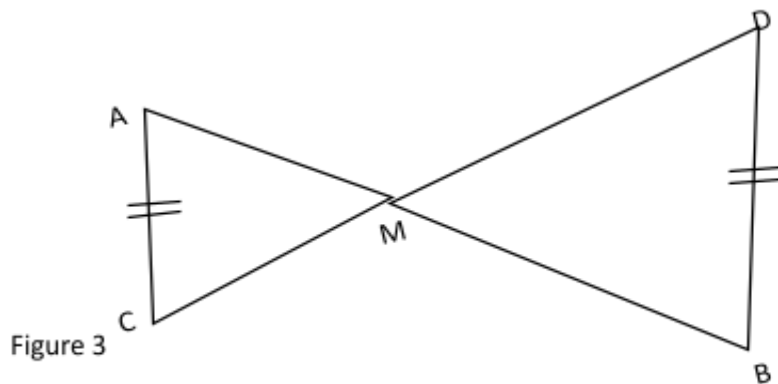
7. (a) i. Write 0.00000672 in scientific notation

ii. Solve: $3[x + (x + 1)] = 3$

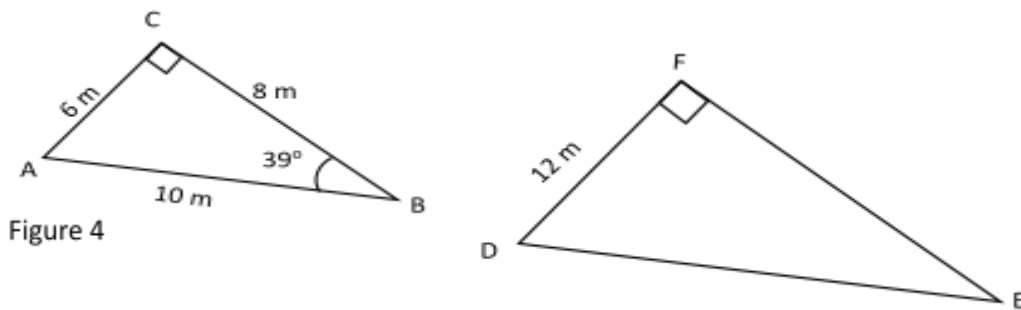
(b) i. Seypalm raised a certain number to the power of four and he got 60561. Which number did he raise to the power of four?

ii. Solve: $7^{x+1} + 7^{x-1} = 50$

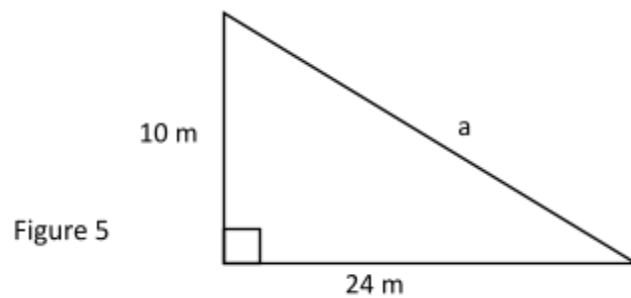
8. (a) Given: $\overline{AB}$ and $\overline{CD}$ bisect each other at M. $\overline{AC} \cong \overline{DB}$. Prove $\triangle AMC \cong \triangle BMD$



(b) If $\triangle ABC \sim \triangle DEF$ in the following figure, use the indicated measures to find the measures of the remaining parts of each triangles.



9. (a) i. Find the length of the missing side 'a' in the following triangle.



ii. If $\cos \theta = 0.8$ and $\sin \theta = 0.6$, find $\tan \theta$

- iii. Seypalm stands 30 m from the base of a tower. He measures the angle of elevation from the ground level to the top of the tower as 50° . Calculate the height of the tower. Give the answer to 3 significant figures

10. (a) (i) Out of a class 30 children, 15 are on the netball teams and 18 are on the basketball teams. Six children are on both teams. How many children are not on either teams?

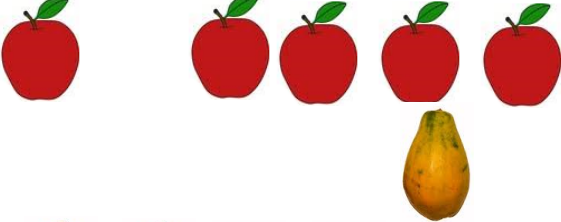
(ii) Given that : $U = \{\text{Counting numbers from 80 to 100}\}$

$A = \{\text{Set of prime numbers}\}$

$B = \{\text{Set of odd numbers}\}.$

Find the $n(A \cap B)$

(b) The following are fruits sold in a certain market, whereby 1 Pictograph represents 100 fruits.

Apples	
Paw paws	
Pineapples	y
Oranges	z
Bananas	

i. If one less orange than paw paws were sold, how many pineapples were sold out in that market? Given that a total of 2800 fruits were sold out.

ii. If you were to sell fruits in that market, which fruit would you like to sell? If other things are constant.