UNAM

FACULTY	Commerce, Management and Law		
DEPARTMENT	School of Accounting		
SUBJECT	Basic Mathematics		
SUBJECT CODE	ABM 2411		
DATE	June 2026		
DURATION	**3 Hours**	**MARKS**	100

FIRST OPPORTUNITY EXAMINATION

Examiners: N.P. Uzera (University of Namibia)

Moderator: Prof. A. Shikongo (University of Namibia)

This question paper consists of 3 pages, including this cover page

Instructions:

1. **Answer all questions**
2. **Start each question on a new page**
3. **Show all steps in your calculations**
4. **Full marks will be awarded only for correct and well explained answers.**
5. **Round answers to two decimal places where needed**
6. **The use of scientific calculator is allowed**

UNIVERSITY OF NAMIBIA EXAMINATIONS

Question 1 **[25 Marks]**

a)
Simplify the following.

(i) $8 - 24 \div 3$ (3)

(ii) $y^6 \times y^3 \div y^9$ (3)

b)
Agra sells a closed cylindrical water tank for N$4 668 (excluding VAT). The tank has diameter of 11 feet and height of 7 feet (where 1 foot = 30 cm)

(i) What is the volume of the tank in m^3 (3 decimal places)? (3)

(ii) What is the capacity in liters? (3)

c)
The scale on a map is 1: 425 000, determine:

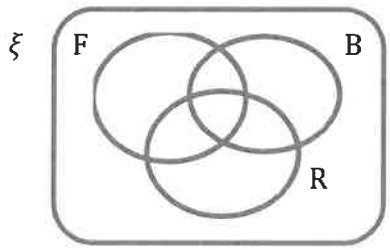
(i) The real distance between two towns if the map distance is 28 cm. (3)

(ii) The area of Mr. Swartz's square farm (side 2,75 cm on the map) in hectares (to nearest whole number). (5)

d)
Mr. Malan bought a new car for N$ 18 500 in 1983. Today a similar car costs N$ 256 000. What is the inflation rate on cars over this period? (5)

Question 2 **[25 Marks]**

Of the different types of sport in Namibia, the dominant ones are football (F), boxing (B) and rugby (R). A researcher considered 150 people and found that 70 liked football, 80 liked boxing, and 60 liked rugby. Thirty liked both football and rugby, and 15 liked all three. Thirty-five liked both boxing and rugby, and 17 liked both boxing and football.



a) Use the given Venn-diagram above to deduce a mathematical equation for the narration above. **(Copy this Venn diagram in your examination book)** (13)

b) From a) find the cardinality of people who liked these different sport types and determine the cardinality of those who:

(i) do not like any of these sports. (2)

(ii) liked football and rugby. (2)

(iii) liked rugby or boxing. (2)

(iv) liked football but not boxing. (2)

(v) liked boxing or rugby but not football. (2)

(vi) liked boxing and football but not rugby. (2)

Question 3 **[25 Marks]**

a)
In 2022 a club has 350 members who each pay N$ 85 annual subscriptions. In 2023 the members increase by 5% and the annual subscription is increased by 7%. What is the total income from subscriptions this year? (5)

b)
A car was sold for N$ 1650, hereby making a loss of 17.5% on the cost price. What was the cost price? (5)

c)
When N$ 1068 is divided in the ratio 3: 5: 4, what is the difference between the largest share and smallest share? (5)

d)
Ms Shikongo, our mathematics teacher bought 40 calculators at N$ 8.20 each and several other calculators costing N$ 2.95 each. On all these items, she spent N$ 387.00. How many of the cheaper calculators did she buy? (5)

e)
A television costs N$ 534.75 including 15% tax. How much of the cost is tax? (5)

Question 4 **[25 Marks]**

a)
Find the simple interest payable on a loan of N$ 8500 at 13.5% p.a. at the end of forty-two months. (5)

b)
Mary saves N$180 the first month and every month later N$10 more. Anil starts with the same amount but increases it by 4% each month later. Who will have more after a year and a half? (8)

c)
Leevi invests N$3 500 at the beginning of each year, Moses N$250 at the beginning of each month and Angela a single amount of N$16 000 (interest compounded continuously). At a nominal interest rate of 15% p.a., how much will each of them have after 9 years? (12)

Total: 100

~THE END~