

MATHEMATICS HOLIDAY EXERCISE
EXERCISE ON BUSINESS MATHEMATICS

INSTRUCTIONS:

Attempt all questions

1. Calculate the simple interest on sh. 96,000 for 10 months at a rate of $8\frac{1}{3}\%$ per annum.
2. Gayaza High school is selling its used pick-up van. It can be bought by cash at sh. 8,750,000 or can be bought on hire purchase by paying a 25% deposit of the cash price and 12 monthly installments of sh. 600,000 per month. Calculate:
 - (i) the cost of the pick-up by hire purchase,
 - (ii) the extra money paid for the pick-up by hire purchase than by cash.
3. A salesman earns a basic salary of sh. 200,000 and a commission of 8% of the month's total sales. If the month's total sales were sh. 1,250,000, find his income for that month.
4. Shs. 6000 is deposited at compound interest rate of 13%. The same amount is deposited at 15% simple interest. Find which amount is more and by how much after 2 years in the bank
5. The value of a machine is shs. 415,000. The machine depreciates at a rate of 15% p.a. Find how many years it will take for the value of the machine to be half of the original value.
6. Otieno bought a shirt and paid Ksh 320 after getting a discount of 10%. The shopkeeper made a profit of 20% on the sale. Find the percentage profit the shopkeeper would have made if no discount was allowed?
7. A salesman gets a commission of 4% on sales of upto shs 200,000 and an additional 2% on sales above this. If in January he got shs 12,200 as commission, what were his total sales?

8. The exchange rate in January 2000 was US \$ 1 = Ksh 75.60. and UK £1 = Ksh 115.80. A tourist came to Kenya with US \$ 5000 and out of it spent ksh.189,000. He changed the balance in UK £. How many pounds did he receive?
9. The value of a plot is now Sh 200,000. It has been appreciating at 10% p.a. Find its value 4 years ago.
10. Kennedy bought a phone at Ushs.6, 500,000. The value depreciated annually at 15%.
- (a) After how long to the nearest 1 decimal place will the value of the phone be Ushs.1,300,000.
- (b) Calculate the rate of depreciation to the nearest one decimal place which would make the value of the phone be half of its original value in 5 years.
11. Mr Otieno bought a car valued at UShs. 10,000,000 and the value of the car depreciated at 7.5% semi annually. How long would it take its value to depreciate to UShs. 5,000, 000
12. A shopkeeper bought an item at sh. 5,500 and sold it at 30% more than the buying price. Find the shopkeeper's profit.

13. The tax structure of a certain country is as below

Taxable income (Ush)	Rate (%)
01 - 100,000	Tax Free
100,001 - 200,000	12.5
200,001 - 300,000	18
300,001 - 400,000	25
400,001 - 500,000	28
500,001 - 600,000	30
Above 600,000	45

The following allowances are offered to employees: Transport shs 50,000 per month, housing / rent shs 192,000 per annum , marriage shs 24,000 per month , insurance shs 720,000 per annum, water shs 1000 per day, electricity shs40,000 per month, family allowance for only three children as follows; every child below 10 years: shs 5000, every child age 10 and above but less than 20 years: shs 4000 and every child 20 years and above: 3500. Kennedy is married with five children aged 3, 7, 11, 18 and 24 years. He earns a gross monthly income of shs800,000. Calculate his

- Total monthly allowances
- Monthly taxable income
- Income tax as a percentage of his gross income
- Net monthly pay.

14. In a certain country, income tax is calculated after deducting the following allowances:

Housing: sh.14, 500/= per month.

Marriage: one tenth of the gross annual income.

Medical: sh. 50,000/=.

Transport: sh. 20,000/= per month

Insurance premium: sh. 68,000/=

Family allowance for only four children as follows:

Sh. 3,000/= each child above 18 years

Sh. 4,000/= for each child above 10 but below 18 years, and

Sh. 5,000/= for each child below 10 years

Given Daudi's gross income as sh. 1,840,000/= per year and has a family of five children, three of them below the age of 8, one 16 and the older child 20 years. He also has to pay an insurance premium of Sh. 68,000/= per annum.

Calculate:

(a) His annual taxable income.

(b) the income tax he pays annually as a percentage of his gross income with the tax structure below:

Income (shs.) per annum (p.a)	Tax rate (%)
1 st 80,000/=	7.5
80,001 - 160,000/=	12.5
160,001 - 240,000/=	20.0
240,001 - 320,000/=	30.0
320,001 - 400,000/=	36.5
400,001 - 480,000/=	45.0
480,001 and above	52.0

15. (a) Martina, the canteen attendant, is given a salary of *sh.75,600* per month plus *10%* commission on the value of goods which she sells that month. In May Martina sold *sh.1,350,000* worth of goods. What was Martina's May salary?

(b) The value of a car when new is *UGX 40 million*. After one year, its market value depreciates by *15%*. In each subsequent year it depreciates by *10%* of its value by beginning of the year. Find the value of car at the end of third year.

16. (a) Mr. Ssekyewa borrowed shs, *2.5 million* from CERUDEB Bank at a compound interest rate of *5%* per annum (p.a). He promised to pay the bank after three years. Calculate the total amount he will pay the bank after three years.
(4 marks)

(b) **GET YOURSELF A FOOD BLENDER CHEAPLY WHILE STOCKS LAST!**

TERMS: CASH AT USHS 960,000 or

HIRE PURCHASE: Deposit 15% of marked price and pay either Ush.75, 000 weekly for 12 weeks or Ushs. 245,000 monthly for four months.

Calculate:

- (i) the saving a customer would make by buying the food blender on cash terms rather than the weekly hire purchase.
 - (ii) the percentage profit made on the monthly hire purchase if the whole sale cost of the food blender is *17.5%* below the cost price.
- (8 marks)

END