



CHAPTER 3

Finance

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April 20, 2021

1 FINANCIAL DOCUMENTS

1.1 Exercise 19: Till Slip

1. This is a till slip for John's shopping list.

Corne's Supermarket	
1 × 1 kg Chicken	R31,99
1× Milk	R 6,50
Biscuits	R 4,99
14 Maize Meal(10 kg)	R41,99*
Carrots	R 5,80
Oil(750ml)	R
Brown bread	R 8,00*
Eggs (18)	R18,80*
Onions	R5,40
Total	R132,56
VAT(15%)	R
Total Amount	R

- 1.1 Name the items that excluded VAT from this till slip?
 - 1.2 Calculate the price of the oil (750ml.)
 - 1.3 Calculate the total amount for items that one needs to pay VAT on.
 - 1.4 Determine the amount that is due for VAT.
 - 1.5 Calculate the total amount payable.
2. Bring a till slip of your last purchase from any grocery store and answer the following questions:
 - 2.1 Round off the price paid for each item and estimate the total amount due.
 - 2.2 Use your calculator and determine the actual total.
 - 2.3 On which item(s) is no VAT charged?
 - 2.4 On which date did you do this shopping?
 - 2.5 At what time did you do the shopping?
 - 2.6 What is the name of the cashier?
 - 2.7 What is the telephone number of the shop?
 - 2.8 What is the percentage of VAT that we pay in South Africa?
 - 2.9 What amount of VAT did you pay on this purchase?
 - 2.10 Calculate this amount and see if it is correct? (Show all your calculations)

1.2 Exercise 20: Banking

1. Study the statement of a bank account for July 2013 below. Study the relevant information to answer the questions.

Best Bank
Bank Statement - Savings Account

Client: George Moosa.

Statement Date: July 2013

Account number: 0987654

Transaction Date	Transaction Detail	Amount	Account Balance
1	Opening Balance		R 9 234,99
1	Debit Card Purchase	R 1 234,78	R 8 000,21
1	Transaction Fee	R 3,50	R 7996,71
4	Stop Order - Rental	R 5 000,00	R 2 996,71
4	Transaction Fee	R 10,90	R 2 985,81
4	Debit Order - Cell Phone Account	R 350,00	R 2 635,81
4	Transaction Fee	R 3,50	R 2 632,31
15	ATM Withdrawal	R 1 000,00	R 1 632,31
15	Transaction Fee	R 10,00	R 1 622,31
16	Cash Deposit at Branch	R 1 000,00	
16	Transaction Fee		
17	Debit Order - Car Insurance		R 2 014,81
	Transaction Fee	R 6,00	
18	ATM Withdrawal	R 1 000,00	
18	Transaction Fee	R 10,00	
27	Electronic Deposit - Salary	R 15 280,81	
28	Monthly Account Fee	R 54,00	
	Closing Balance		

- 1.1 Give the name and surname of the person who is the account holder.
- 1.2 George has deposited R1000,00 at the branch on 16 July. The bank uses the following formula to calculate the transaction fee on money deposited into an account at a branch: Transaction fee = $R4,20 + 0,75\%$ of the transaction amount. Calculate the transaction fee.
- 1.3 What was the balance in the account at the end of the 16th of July?
- 1.4 What amount did the person have in the account on the 17th of July?
- 1.5 Calculate how much the client pays for car insurance (17th of July).
- 1.6 Calculate the total amount that this client paid towards banking costs in July 2013. (Banking costs are all the transaction fees and account fees which were deducted automatically from the account during the month.)

2 TARIFF SYSTEMS

2.1 Exercise 21: Tariff Systems

1. The table below shows the costing structure for water usage.

Water Usage in Kilolitres	Tariff* (per kilolitre)	Fixed Charges Per Month
0 kl to 9 kl	Nil	Nil
From 9 kl to 25 kl	R9,27	R83,43
From 25 kl to 30 kl	R12,36	
From 30 kl to 45 kl	R19,06	
More than 45 kl	R20,96	

*NB Tariffs exclude 15 % VAT

1.1 Use the water tariff table above to calculate the cost of refilling a pool with 46kl of water (including VAT).

1.2 How many litres are for free?

2. Gautrain tariff: Pay-As-You-Go: single trip:

	Hatfield	Pretoria	Centurion	Midrand	Malboro	Sandton	Rosebank	Park	Rhodesfield
Hatfield		20,00	20,00	37,00	43,00	46,00	49,00	52,00	49,00
Pretoria	20,00		23,00	30,00	40,00	43,00	46,00	49,00	46,00
Centurion	25,00	23,00		25,00	31,00	38,00	40,00	43,00	41,00
Midrand	37,00	31,00	25,00		23,00	25,00	28,00	31,00	29,00
Malboro	43,00	40,00	31,00	23,00		20,00	22,00	25,00	23,00
Sandton	46,00	43,00	38,00	25,00	20,00		20,00	22,00	27,00
Rosebank	49,00	46,00	40,00	28,00	22,00	20,00		20,00	29,00
Park	52,00	49,00	43,00	31,00	25,00	22,00	20,00		31,00
Rhodesfield	49,00	46,00	41,00	29,00	23,00	27,00	29,00	31,00	

2.1 Chris lives near the Hatfield Gautrain Station and wants to go to Rhodesfield. He can either drive 62 km in each direction by car, or take the Gautrain to the Mall. According to the AA the running cost is R3,34 per kilometre. With no traffic it will take him 43 minutes in each direction. What would you advise him to do? Show all calculations and motivate your answer.

2.2 Calculate the cost if Chris gets another passenger to share the cost.

3 INCOME, EXPENDITURE, PROFIT/LOSS AND BUDGETS

3.1 Exercise 22: Income and expenditure

Income is the money you earn. Expenditure is the money you spend. Fixed expenses (school fees, rent etc.) are the same each month and variable expenses (gifts, clothes, food. etc.) change each month.

1. Angelique budgeted for the month. Her income after deductions is **R6320**. She is living with her parents and pays **R1000** per month to help with the household expenses. She pays **R120** per week for her transport. Her clothing account is **R220** per month. She saves **R500** per month for unexpected expenses. She decided to put away **R550** for medical care. She takes 3 guitar lessons per month and pays **R70** per lesson. Her budget for spare time activities is **R250** per week. She gives **R100** per month to her church. Complete the table below. Does her budget balance?

Fixed Expenses	Calculations
Variable Expenses	
Savings For Irregular Expenses	
Total Expenses	
Total Income	
Difference Between Income and Expenses	

Mixed Questions

1. Mr Pretorius plans to go on a hike with his two children. He studies the map of the trail and measures the distance with his ruler. He measures exactly 5 cm as the crow flies. The scale of the map is 1 : 300000.
 - 1.1 How many kilometres is the hiking trail if they complete the distance?
 - 1.2 They decide to carry 2,5ℓ water with them. How much water is there for each of them?
 - 1.3 They decide to carry their food along for the day. Mr Pretorius' backpack weighs $\frac{1}{3}$ of his weight. He weighs 93 kg. What is the weight of his backpack?
 - 1.4 The backpacks of the kids weigh half the weight of their dad's. What is the weight that each of them is going to carry?
 - 1.5 It takes them 30 min to walk 2 km. What was their walking speed?
 - 1.6 The budget is as follows. They drive 100 km to their hiking trail and they pay R120 for the petrol. The admission to the trail is R40 per person. The food works out R30 per child and their dad's food is double that of one child. They also budget for sunscreen, plasters and medicine for the first aid kit, which add up to R120. Complete the following table to calculate their budget.

Petrol	
Admission	
Food	
Medical	
Total	

3.2 Exercise 23: Profit/Loss

1. Complete the following table: (Show all your calculations - round off correct to 2 decimals.) A shop buys and sells at the following prices:

Item	Cost Price	Selling Price	Profit/Loss	Profit%/Loss%
Biscuits (250 g)	R10,99	R12,99	A	B
Milk (1 litre)	R9,99	R9,00	C	D
Butter (500 g)	R23,85	E	R2,80 Profit	F
Flowers	G	R250	R55 Profit	H
Oranges (1bag)	I	R15,00	R7,00 Loss	J

Study the following formulas:

1. $SP - CP = \text{Profit}$	2. $CP - SP = \text{Loss}$
3. $\frac{\text{Profit}}{\text{Cost Price}} \times \frac{1}{100} = \text{Percentage Profit}$	4. $\frac{\text{Loss}}{\text{Cost Price}} \times \frac{100}{1} = \text{Percentage Loss}$

3.3 Exercise 24: Budget

1. Jack works in a bicycle shop and earns **R9550** per month. Jack spends more money than he earns and is getting into debt fast! He needs to learn how to manage his money and has come to you to help him with his budget.

He lists his expenses as follows and you draw up a table and divide his expenses into fixed and variable expenses.

2. Research

- **You have a budget of R1000, 00.**
- Base your budget on 2 separate advertisements (e.g. PnP, Spar or Checkers) which you can collect from the till.
- You must calculate the **best buy** of the same product but from different companies, or calculate the cheapest buy if you compare the prices of different sizes. Show your calculations.
- Work carefully and neatly in the columns on the next page.
- You may use pictures of the products to make your research interesting and colourful.
- List your Bibliography (You may use information from websites, but do not copy and paste any of this information)
- Marks will be awarded for thorough work. Refer to the scoring rubric below.

RUBRIC FOR ASSESSMENT

No Effort	Does just what is necessary	More than asked for
Get the topic wrong	Kept him-/herself to the topic	Subject answered excellent
Hand in late	Hand in on time	Hand in earlier
Calculations un neat	Calculations correct	Extra illustrations
No Bibliography	Bibliography	Additional sources used
<i>1/5</i>	<i>4/5</i>	<i>5/5</i>

4 INTEREST

4.1 Exercise 25: Simple Interest

This is where you get interest on the money you invest only and not any interest on the interest you earn. So if you invest R100 at 10% simple interest per year (per annum is per year and written as p.a.) you will get R10 rand interest after 1 year. At the end of the second year you will get R10 again calculated on the original R100 and not on the R110 you now have.

1. Goliath wants to save. He wants to calculate the interest that the bank will pay if he invests R2500 for 3 years at 10% simple interest. Help him to calculate the interest as well as the amount of money in the bank after 3 years.

How much money do you have at the end of one year?	Interest earned is:
How much money do you have at the end of the second year?	Interest earned is:
How much money do you have at the end of the third year?	Interest earned is:

2. Siphon earns R5000 per month. Each year he gets an increase of 6%. He saves 10% of his salary every month. Lerato earns R5000 per month. Each year she gets an increase of 8%. She saves 8% of her salary every month. At the end of three years, who will have saved the most?

Siphon	Lerato
Increase:	Increase:
Savings:	Savings:
Total Savings:	Total Savings:

Give a conclusion:

4.2 Exercise 26: Compound Interest

Compound Interest

Compound Interest is calculated on the principal (original) amount you invest and on the interest you earn.

1. You invest R5000 for a period of 4 years at a compound interest rate of 10% Complete the following table to show how this investment will grow.

How much money do you have at the end of the first year? $A_1 = 5000 + 0,10 \times 5000 =$	Interest earned is R500
How much money do you have at the end of the second year? $A_2 = 5500 + 0,10 \times 5500 =$	Interest earned is R550
How much money do you have at the end of the third year?	Interest earned is:
How much money do you have at the end of the fourth year?	Interest earned is:

2. Complete this savings account: Johan invest R2000 for a period of 5 years at a compound interest rate of 10% p.a.

Johan's Savings Account: PO Box 3445 Cape Town 1372			
Year	Principal (R)	Interest (R)	Balance (R)
1	R2 000		
2			
3			
4			
5			
Total:			

5 BANKING, LOANS AND INVESTMENTS

5.1 Exercise 27: Loans and Investments

TIP

Beware if you have to borrow money! Find out first how much interest you will pay, and whether it is charged annually or monthly. But don't borrow if you can possibly avoid it!

1. Study this advertisement and answer the following questions:

NEED CASH? 4 MONTHS TO PAY

Loan Amount	Installments
R 1 000	R 335 per month
R 1 200	R 402 per month
R 2 000	R 670 per month
R 3 000	R 1 005 per month

- 1.1 If you borrowed R3 000 from this company, how much would you have to pay back in total?
 - 1.2 What total amount would you be paying them as interest in the four-month period?
 - 1.3 What is the interest rate for only four months?
 - 1.4 Approximately what annual interest rate is this company charging?
2. Investment is saving money to make a profit. People who plan their budgets and save money can have better lives. Medium-term savings are generally for those things you want in one or five years, like furniture, while long-term savings will pay for things you may need in years from now, like money for studies or even retirement. Study this compound interest growth of R 5000 invested for several years at 10% p.a. and answer the following questions:

Time	Interest earned	Total amount in the bank
1 year	R500	R5 500
10 years	R7 968, 71	R12 968, 71
15 years	R15 886, 24	R20 886, 24
30 years	R82 247, 00	R87 247, 01

How much money will you have after 30 years?

3. If someone invests R10 000, 00 for 5 years at a bank at 5% simple interest. Calculate the amount of money in the bank after a period of 5 years.
4. If someone invests R2000, 00 for 3 years at 3% compound interest p.a. Calculate the interest that he earns for that period of time.

5.2 Exercise 28: Hire-Purchase Agreements

1. You are borrowing money to buy a car. You decide on a middle of the range car which costs R 155 000 . You have to pay a 10% deposit. The remainder of the money has to be paid off over 36 months at an interest rate of prime +1%. This means that if the general interest rate is 11, 5% p.a. then car finance will cost you $11,5\% + 1\% = 12,5\%$ p.a.
 - 1.1 Calculate the deposit you would need to pay.
 - 1.2 How much money is still owed after you pay the deposit?
 - 1.3 The bank agrees to lend you the amount still owing. They charge **simple interest** of 12, 5% p.a. for 3 years. Calculate the interest that you will have to pay.
 - 1.4 What is the total amount you will have to repay?
 - 1.5 If you pay this amount over 36 months, how much money do you have to repay per month?
 - 1.6 What are the pros and cons of hire-purchase agreements?
2. You are a car salesman and work out the following table to show the different payment options. Calculate the missing figures and fill them in on the table.

Payment over 4 years					
		Price Paid	No Deposit	Deposit of R10 000	Deposit of R40 000
A	Initial Price	R80 000	R80 000	R80 000	R80 000
B	Deposit	R80 000	-	R10 000	R40 000
C	Amount Still Owing				
D	15% of C				
E	Total = C + D				
F	Monthly				
G	Total = B + E	R80 000			

- 1.1 Which is the cheapest way to buy the car?

1.2 Which is the most expensive way to buy the car?

6 TAXATION

6.1 Exercise 29: VAT (Value Added Tax)

The government collects income tax by taxing the earnings of people earning above a certain amount. SARS (South African Revenue Service) produced tax tables that tell you what income tax one has to pay in the different income intervals. You will do that next year. For now we do VAT.

Definition: VAT

Every time you buy an article, 15% of the cost goes to government in the form of VAT. This means that, for every R100 that you spend, you must give R15 to the government. However, basic needs like bread, mealy meal, eggs, milk and fresh vegetables are exempted from VAT. Usually shops advertise the price of goods including the VAT. In that way you don't realise that you are being charged VAT.

Complete the table:

	Food stuff	Price	15% VAT	Total Amount
1	Mealy meal	R34	$0,15 \times 34 =$	$1,15 \times 34 =$
2	Tea	R22		
3	Meat	R180		
4	Sugar	R13		
5	Chicken	R150		
6	Oil	R17		
7	Bread	R6		
8	Milk	R19		
9	Vegetable	R50		
	Other Items			
10	Bicycle	R700		
11	iPod	R8 000		
12	Car	R150 000		
13	TV	R17 000		

7 ANSWERS FOR EXERCISES

7.1 Exercise 19

1.1 Maize meal, brown bread and eggs

1.2 R9, 09

1.3 R63, 77

1.4 R9, 57

1.5 R142, 13

7.2 Exercise 20

1. 1 George Moosa

1. 2 R11, 70

1. 3 R2 610, 61

1. 4 R2 008, 81

1. 5 R595, 80

1. 6 R109, 60

7.3 Exercise 21

1. 1 R690, 47

1. 2 $9Kl = 9000l$

2. 1 Rather use the Gautrain, it is much cheaper.

2. 2 Still cheaper to use the Gautrain.

7.4 Exercise 22

1.

Fixed Expenses	Calculations
Household	R1 000,00
Transport (120×4)	R480,00
Church	R100,00
Guitar lessons (70×3)	R210,00
Variable Expenses	
Clothing	R220,00
Sparetime (250×4)	R1 000,00
Savings for irregular expenses	
Savings	R500,00
Medical care savings	R550,00
TOTAL EXPENSES	R4 060, 00
TOTAL INCOME	R6 320,00
DIFFERENCE BETWEEN INCOME AND EXPENSES	R2 260,00

Mixed Questions

1. $15km$
2. $883\frac{1}{3}ml$
3. $31kg$
4. $15,5kg$
5. $4km/h$
- 6.

Petrol	R120,00
Admission $R40 \times 3$	R120,00
Food $R30 \times 2 + R60$	R120,00
Medical	R120,00
Total	R480,00

7.5 Exercise 23

2. 1

Item	Cost Price	Selling Price	Profit/Loss	Profit%/Loss%
Biscuits (250 g)	R10, 99	R12, 99	A = R2, 00 Profit	B = 18, 2%
Milk (1 litre)	R9, 99	R9, 00	C = 99c Loss	D = 9, 91%
Butter (500 g)	R23, 85	E = R26, 65	R2, 80 Profit	F = 11, 74%
Flowers	G = R195, 00	R250	R55 Profit	H = 28, 21%
Oranges (1 bag)	I = R22, 00	R15, 00	R7, 00Loss	J = 31, 32%

7.6 Exercise 24

1. 1

Fixed Expenses	Calculations
Bond	R1 500
Pension	R550
Policies	R100
Gym fees	R450
Medical Aid	R700
UIF 1% of R9 550	R95,50
Pet food	R500
SUBTOTAL	R3 895,50
Variable Expenses	
Groceries	R1 750
Water & Electricity	R679
Social life	R1 500
DVD's	R280
Fast foods	R350
Petrol	R1 600
Cell phone	R500
Clothes	R600
Sport	R350
DSTV	R500
Speed fines	R1 200
SUBTOTAL	R9 309
Total Expenses	R13 204,50
Total Income	R9 550
Difference between Income and Expenses	- R3 654,50

1. 2 R95,50

1. 3 Discuss this scenario: especially the variable expenses for example scale down on social life, fast foods, DSTV and speed fines. No saving is mentioned - it is always a good idea to save something each month.

7.7 Exercise 25

1.

How much money do you have at the end of one year? $R2500 + \frac{10}{100} \times 2500 = R2750$	Interest earned is R250
How much money do you have at the end of the second year? $R2750 + R250 = R3000$	Interest earned is R250
How much money do you have at the end of the third year? $R3000 + R250 = R3250$	Interest earned is R250

2.

Sipho	Lerato
Increase: Year 1: R5000p/m	Increase: Year 1 : R5000p/m
Year 2 : R5300p/m	Year 2 : R5400p/m
Year 3 : R5618p/m	Year 3 : R5832p/m
Savings: Year 1 : $R500 \times 12 = R6000pa$	Savings: Year 1 : $R400 \times 12 = R4800pa$
Year 1 : $R530 \times 12 = R6360pa$	Year 1 : $R432 \times 12 = R5184pa$
Year 1 : $R561,8 \times 12 = R6741,6pa$	Year 1 : $R466,56 \times 12 = R5598,72pa$
Total Savings: R19101,60	Total Savings: R15582,72

Conclusion: Sipho saved the most!

7.8 Exercise 26

1.

How much money do you have at the end of the first year? $A_1 = 5000 + 0,10 \times 5000 = R5500$	Interest earned is R500
How much money do you have at the end of the second year? $A_2 = 5500 + 0,10 \times 5500 = R6050$	Interest earned is R550
How much money do you have at the end of the third year? $A_2 = 6050 + 0,10 \times 6050 = R6655$	Interest earned is R605
How much money do you have at the end of the fourth year? $A_2 = 6655 + 0,10 \times 6655 = R7320,50$	Interest earned is R665,50

2.

Year	Principal (R)	Interest (R)	Balance (R)
1	R2 000	R200	R2 200
2	R2 200	R220	R2 420
3	R2 420	R242	R2 662
4	R2662	R266,20	R2 928,20
5	R2 928,20	R292,82	R3 221,02
Total		R1 221, 02	

7.9 Exercise 27

1. 1 R4 020

1. 2 R1 020

1. 3 34%

1. 4 102% p.a.

2. R87 247, 01

3. R12 500

7.10 Exercise 28

1.1 R15 500

1.2 R139 500

1.3 R52 312, 50

1.4 R191 812, 50

1.5 R5 328, 13

1.6 Discuss - for example the pro is that you can use the car now and the con is the fact that you pay so much more for the car with the added interest.

2. 1

Payment over 4 years					
		Price paid	No Deposit	Deposit of R 10000	Deposit of R40 000
(A)	Initial Price	R80 000	R80 000	R80 000	R80 000
(B)	Deposit	R80 000	-	R10 000	R40 000
(C)	Amount still owing	R0	R80 000	R70 000	R40 000
(D)	15% of C	R0	R12000	R10 500	R6 000
(E)	Total = C + D	R0	R92 000	R80 500	R46 000
(F)	Monthly	R0	R1916,67	R 1677,08	R958,33
(G)	Total = B + E	R80 000	R92 000	R90 500	R86 000

2. 2 Borrow the total amount 2nd column