

SOLVING FINANCIAL PROBLEMS

27 FEBRUARY 2014



Lesson Description

In this lesson we

- Revise and do calculations with regards to:
 - Various Tariff Structures
 - Income and Expenditure
 - Profit and Loss
 - Cost Price and Selling Price
 - Break-even Analysis



Summary

1. Profit = Income – Expense
Income = Profit + Expense
Expense = Income – Profit

2. $\% \text{ increase / decrease} = \frac{\text{difference in the price}}{\text{original price}} \times 100$

OR

$$\% \text{ profit increase} = \frac{\text{selling price} - \text{cost price}}{\text{cost price}} \times 100$$



Test Yourself

Consider the following information when answering questions 1 to 4.

A particular cell phone company offers 3 different packages:

- **Package 1** – No contract: R2,15 per minute or part thereof
- **Package 2** – Contract of R225 a month plus R1,50 per minute or part thereof
- **Package 3** – Contract of R300 a month. 100 free minutes a month. Thereafter R0,95 per minute or part thereof.

Question 1

Per minute or part thereof means that if a client talks for 1 minute and 3 seconds he will be charged:

- A. for 63 seconds
- B. for 1 minute
- C. for 2 minutes
- D. for 3 seconds

Question 2

A client makes 159 minutes worth of calls in a specific month. What will his bill be if he made use of Package 1?

- A. R342,00
- B. R341,85
- C. R159,00
- D. R2,15

Question 3

A client makes 159 minutes worth of calls in a specific month. What will his bill be if he made use of Package 2?

- A. R238,50
- B. R225,00
- C. R436,50
- D. R24 075,00

Question 4

A client makes 159 minutes worth of calls in a specific month. What will his bill be if he made use of Package 3?

- A. R300,00
- B. R451,05
- C. R356,05
- D. R56,05

Consider the following when answering questions 5 - 10

Jimbo has a Pizza shop. Consider the table below which shows the income and expenses for a particular month:

Rent	R4500
Vehicle Payments	R3100
Petrol	R4234,50
Ingredients	R6542,29
Electricity	R2018,56
Water	R421,78
Salaries	R9600
Sales	R42365,50

Question 5

How much does the water cost this month?

- A. R2 018,56
- B. R9 600,00
- C. R421,78
- D. Not known

Question 6

What cost the company R4 234,50 during this month?

- A. Sales
- B. Petrol
- C. Water
- D. Vehicle payments

Question 7

If three people are employed, determine their individual salary if each earns the same amount.

- A. R9 600,00
- B. R4 800,00
- C. R3 200,00
- D. R2 400,00

Question 8

List all the fixed expenses:

- A. Sales
- B. Rent, vehicle repayments, petrol, salaries
- C. Ingredients, petrol, electricity, water
- D. Rent, vehicle payments, salaries

Question 9

Calculate the total expenses.

- A. R72 782,63
- B. R42 365,50
- C. R30 417,13
- D. R20 817,13

Question 10

Determine the profit margin (to one decimal place) if:

$$\text{Profit Margin} = \frac{\text{Profit}}{\text{Expenses}} \times 100$$

- A. 239,28%
- B. 139,28%
- C. 39,28%
- D. 28,20%



Improve your Skills

Question 1

Consider the following table which shows the costs of water in a specific Municipality.

Water Tariffs

Water Used	*Tariff per Kilolitre
0 – 6kl	Free / kl
More than 6kl up to and including 15kl	R8,95 / kl
More than 15kl up to and including 20kl	R13,80 / kl
More than 20kl up to and including 30kl	R22,95 / kl
More than 30kl	R32,50 / kl

Monthly Fee

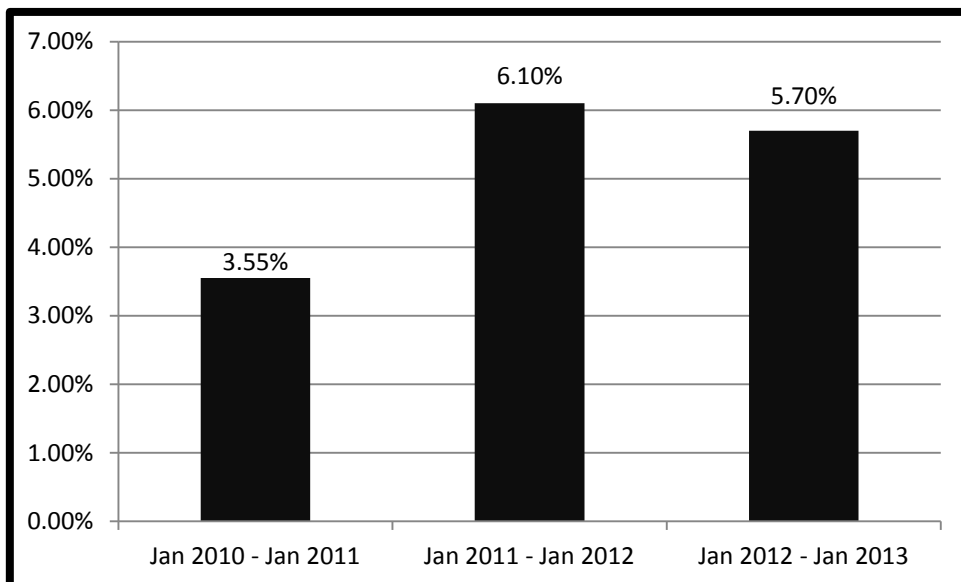
Water Used	*Monthly Tarrif
0 – 6kl	Free
More than 6kl	R89,95

*All prices exclude 14% VAT

- 1.1 Calculate the cost (excluding VAT) for using 27kl of water. (9)
- 1.2 Determine the final bill if the 14% VAT needs to be added to your answer above. (2)
- 1.3 A particular person got a water bill of R0,00 one month. Does this mean the person used no water that month? Explain. (3)

Question 2

The graph below shows the average annual inflation rate in South Africa from January 2010 to January 2013.



- 2.1 Did the price of goods get more expensive or cheaper from January 2012 till January 2013? Explain your answer. (3)
- 2.2 Calculate the expected cost of a fridge in January 2013 if it cost R3 293 in January 2010. (9)

Question 3

Study the simplified *Income and Expenditure Statement* given below:

<i>Income and Expenditure Statement for year-ending 28 February 2013</i>			
<i>Jumping Jiminy Juice Company</i>			
<i>Income</i>		<i>Expenditure</i>	
<i>Capital</i>	<i>1 100 000.00</i>	<i>Wages</i>	<i>1 185 000.00</i>
<i>Sales</i>	<i>2 350 580.00</i>	<i>Packaging</i>	<i>164 800.00</i>
		<i>Transport</i>	<i>232 760.00</i>
		<i>Advertising</i>	<i>13 760.00</i>

- 3.1 What is the name of the company for which this statement was drawn up? (1)
- 3.2 When does this company's financial year end? (1)
- 3.3 How much did this company spend on advertising? (1)
- 3.4 What percentage of the expenses was spent on wages? (4)
- 3.5 What profit did this company make in the last year? (3)
- 3.6 Judy, Jake and Jimmy were the original co-owners of the company. Their profit sharing ratio was decided upon by the amount each person invested in the company. This ratio simplifies to Judy : Jake : Jimmy = 2 : 5 : 1.

Calculate how much money each person will receive if they share R1 325 000 of the profit. (4)

Question 4

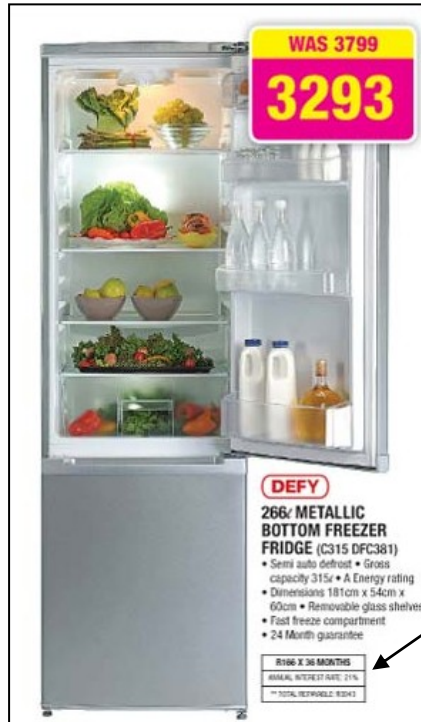
Justin wants to start a consultancy business and he wishes to work out what would be an appropriate hourly rate to charge. He has worked out that his fixed costs are R30 000 a year. The variable costs per hour are R15. He charges R40 per hour (h).

- 4.1 Write a formula for:
 - 4.1.1 The yearly expenses (E) (3)
 - 4.1.2 The yearly income (I) (2)
- 4.2 What does it mean when a business breaks even? (2)
- 4.3 How many hours must be worked in a year in order to break even? (3)
- 4.4 How much money will be made in order to break even? (3)
- 4.5 If Justin works 20 hours per week for 45 weeks in the year, will he make a profit? Show your working. (3)

notes for...

Question 5

Consider the following advert:



15% deposit
R166 a month for 3 years
R7,50 a month admin fees

- 5.1 The cash price for the fridge is R3 293. Before the discount it was R3 799.
- 5.1.1 If one were buying the fridge for cash, what saving (in Rands) would one make? (2)
- 5.1.2 Using the formula below, determine the percentage discount, rounding to 2 decimal places. (4)

$$\text{Percentage Discount} = \frac{\text{Difference in Price}}{\text{Original Price}} \times 100$$

- 5.2 If you did not have the cash to buy the fridge, how much would the fridge cost in total if buying it on Hire Purchase? (8)