Department of Education

GRADE 10

BUSINESS STUDIES

UNIT 6

BUSINESS CALCULATIONS

COURSE BOOK 6

Name: _____
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Writer: Doris Payok
Gana Wilson

Content Editor: Silas Umaropi

Department Editors: Lucy Joseph
Ursula Yallon

Sub-editors: Mohoto Pinoh Malt
Jeff Wama

GRADE 10

BUSINESS STUDIES

UNIT 6

BUSINESS CALCULATIONS

In this unit, you will learn about;

TOPIC 1: CALCULATING SELLING PRICE, PROFIT, INTERESTS AND DISCOUNTS

TOPIC 2: CALCULATING WAGES, DEPRECIATION, INSURANCE AND INFLATION

TOPIC 3: CALCULATING PROFIT DISTRIBUTION IN PARTNERSHIP AND DIVIDENDS IN COMPANIES

TOPIC 4: CALCULATING CURRENCY CONVERSIONS, INCOME TAX AND RETIREMENT BENEFITS

Acknowledgements

We acknowledge the contributions of all Primary Teachers who in one way or another helped to develop this course.

Our profound gratitude goes to the former Principal, Mr Demas Tongogo for leading FODE team towards this great achievement. Special thanks to the staff of MAL and Business Studies Department of FODE who played an active role in coordinating writing workshops, outsourcing lesson writing and editing processes.

We also acknowledge the professional guidance provided by Curriculum and Development Assessment Division throughout the processes of writing and, the services given by member of the Primary Section and Academic Committees.

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DIANA TEIT AKIS

PRINCIPAL

Written by: Doris Payok and Gana Wilson

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SECRETARY'S MESSAGE

Achieving a better future by individual students and their families, communities or the nation as a whole, depends on the kind of curriculum and the way it is delivered.

This course is part and parcel of the new reformed curriculum. Its learning outcomes are student-centred and written in terms that allow them to be demonstrated, assessed or measured.

It maintains the rationale, goals, aims and principles of the national outcome based curriculum and identifies the knowledge, skills, attitudes and values that students should achieve.

This is a provision by Flexible, Open and Distance Education as an alternative pathway of formal education.

The course promotes Papua New Guinea values and beliefs which are found in our Constitution, Government policies and reports. It is developed in line with the National Education Plan (2005 -2014) and addresses an increase in the number of school leavers which has been coupled with a lack of access to secondary and higher educational institutions.

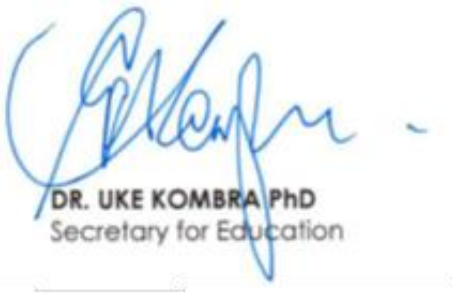
Flexible, Open and Distance Education curriculum is guided by the Department of Education's Mission which is fivefold:

- To facilitate and promote the integral development of every individual
- To develop and encourage an education system which satisfies the requirements of Papua New Guinea and its people
- To establish, preserve and improve standards of education throughout Papua New Guinea
- To make benefits of such education available as widely as possible to all people
- To make education accessible to the poor and physically, mentally and socially handicapped as well as to those who are educationally disadvantaged.

The college is enhanced to provide alternative and comparable pathways for students and adults to complete their education through one system, many pathways and same outcomes.

It is our vision that Papua New Guineans harness all appropriate and affordable technologies to pursue this program.

I commend all those teachers, curriculum writers and instructional designers who have contributed so much in developing this course.



UNIT 6: BUSINESS CALCULATIONS

Dear Student,
Welcome to Grade 10 Business Studies Unit 6, 'Business Calculations'. This unit will teach you how to do business calculations. As a student studying this subject and hoping to one day own and operate a business of your own, you must be able to perform these business calculations. In this unit you will study formulas that are used to work out selling price, income, expenses and profit of the business. In fact there are several other formulas that are used to do business calculations. For instance, calculating wages for your employees if you are an employer or to pay out compensation claims.

Understanding business calculations is a skill you must be equipped with. This skill will help you see the progress of your business.

There are four (4) topics to be studied in this unit.

Topic 1: Calculating selling price, profit, interests and discounts

This topic will teach you how to calculate selling price, profit, interest and discounts. Understanding how to calculate selling price, profit, interest and discounts enables you to sell goods and services at reasonable prices.

Topic 2: Calculating wages, depreciation and insurance

This topic teaches you how to calculate wages, depreciation as well as appreciation and insurance. As an employer you must be able to award the correct pay to your employee. Also if you own assets you can be able to calculate the value of your assets, which is, whether they have increased or decreased in value and sell them at appropriate prices. You will also be able to claim accurate payments for insurance.

Topic 3: Calculating profit distribution in partnerships and dividends in companies

This topic will teach you how to calculate profit and dividends and distribute correct amount to partners.

Topic 4: Calculating currency conversions, income tax and retirement benefits

This topic will teach you how to convert Papua New Guinea currency (kina and toea) into foreign currency. So you know how much the value of kina is worth if ever you travelled overseas or buy things from abroad. It will also teaches you how to calculate income tax and retirement benefits. This is so that you know you are paying the right amount of tax as a working person employed either by the government or a private company. You also will know what to do with the money you receive after you leave work.

STUDY GUIDE

Step 1: Start with Topic 1, study Lesson 1 and do the Lesson Activities as you go along. When you have completed Lesson 1, do Practice Exercise 1.

Step 2: When you have completed Lesson 1 Activities and Practice Exercise 1, turn to the end of Topic 1 in the Unit Book to correct your answers. The answers for your Practice Exercises are at the end of the Topic while the answers for your Lesson Activities are at the end of the Unit Book.

Step 3: If you make any mistake, go back to the lesson and revise well and try to understand why you gave an incorrect answer.

Step 4: When you have completed steps 1-3, tick the box for Lesson 1 on the Contents' page (page 3) like this,

Topic 1: 'Calculating selling price, profit, interests and discounts'

☐√ Lesson 1: Calculating selling price

Step 5: Go to Lesson 2 and repeat the same process until you complete all the Lessons in Topic 1

Step 6: After completing your Lessons and Practice Exercises in Topic 1&2, then complete each Topic 1& 2 Test in the Assessment Book 6.

Step 7: After you have studied the whole Unit, do also the Unit Examination in the Assessment Book 6.

Step 8: Check through your Assessment Book 6 when you are satisfied then forward it to your provincial center for marking. The provincial center will advise you on how to apply for your external examinations.

Icons

			
Introduction	Target of the Lesson	Lesson Activity Practice Exercise	Summary

Assessment

You will do four (4) Topic Tests and a Unit Examination.
Your assessment book will be marked by your distance teacher. The marks you score will count towards your final mark and grade.
If your score is less than 50% in any assignment, you must repeat that assignment. If you continue to score less than 50% in your assignment three consecutive times, then, your enrolment will be cancelled and you will need to re-enroll if you wish to continue this Course.

Study Schedule

Here is a Study Schedule. It will guide you on a weekly basis. The Study Schedule will help you to complete your Course Book and its Assessment.

WEEKS	TOPIC/ LESSON NUMBER	ASSESSMENT	COMMENTS
1-2	Topic 1: Lessons 1- 4	Topic 1 Test/15	
3-4	Topic 2: Lessons 5-7	Topic 2 Test/15	
5-6	Topic 3: Lessons 8-9	Topic 3 Test/15	
7-8	Topic 4: Lessons 10-12	Topic 4 Test/15 Unit Examination/40	
9-10	Submit your Assignment 6 to your Provincial Centre for marking.		

As you complete each lesson, tick the box on the contents' page. This helps you show what you have done and what you still have to do in each Topic.

TOPIC 1

CALCULATING SELLING PRICE, PROFIT INTERESTS AND DISCOUNTS

In this topic you will learn about;

- **Calculating Selling Price**
- **Calculating Profit**
- **Calculating Interest**
- **Calculating Discounts**

TOPIC 1: CALCULATING SELLING PRICE, PROFIT INTERESTS AND DISCOUNTS

Welcome to Topic 1: 'Calculating selling price, profit, interests and discounts'. In this Topic you will learn how to calculate selling price, profit, interests and discounts.

This topic consists of four (4) lessons.

Lesson 1: Calculating Selling Price

In this lesson you will define selling price, Cost into Store (CIS) and mark-up. You will state their purpose and calculate selling price.

Lesson 2: Calculating Profit

In this lesson you will define profit and discuss Cost of Goods Sold (COGS) in trading and manufacturing business. You will also learn how to calculate Cost of Goods Sold (COGS) and profit using the given formula.

Lesson 3: Calculating Interest

In this lesson you will define interest and differentiate between interest as an income and interest as an expense. You will also learn how to calculate interest as an income and interest as an expense.

Lesson 4: Calculating Discounts

In this lesson you will define discount and states its purpose and its benefits. You will differentiate between discounts received and discounts allowed. You will also learn how to calculate discounts received and discounts allowed.

Lesson 1: Calculating Selling Price

Introduction:

Have you wondered why different stores or shops sell the same goods for different prices? In this lesson you will learn about the selling prices and the costs.

Your aim:

- Define selling price
- Define cost of goods into store (CIS)
- Define mark-up and state its purpose and
- Calculate a selling price

What is Selling Price?

Selling price is the price charged by the retailer for the goods sold to the consumers. The selling prices are usually displayed above or below on the shelves where the goods are placed. Some retailers label the prices on the goods. There are other retailers, especially those who sell clothes, tag the prices on the clothes.

Let us now look at how retailers price their goods.
A retailer has to calculate the selling price accurately so that he or she does not make a loss but cover the cost of purchasing the goods from the wholesaler, the cost of running his shop as well as make a profit. That is, the selling price must cover all the expenses and extra for profit.

How does the retailer calculate all these expenses? Let us look at each of the costs involved. Firstly let us start by looking at the cost of goods purchased.

Retailers purchase goods from the wholesalers in bulk and then sell the goods in units to the customers. When retailers buy goods from the wholesalers they incur the cost of buying the goods. They have to use this cost in calculating the selling price.
For example, Dianne is running a stationery shop in Goroka. She orders her toners or ink from Lae and receives her tonners by EMS. The invoices received from the supplier includes the following;

Quantity	Description	Unit Price (K)	Amount (K)
10	Toner Cartridges	50	500
	Freight		100
	Total		**600**

When Dianne sets her selling price for each cartridge, she will use the total costs incurred in purchasing the toners. The costs will include the cost of the toner cartridge which is K500 (K50 per cartridge) plus the freight which is K100.

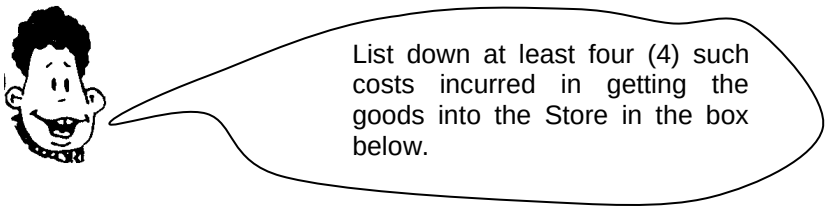
According to the invoice, Dianne paid a total of K600 to get her ten (10) toners. The total cost of purchasing the toners is called Cost-Into-Store. So Dianne's Cost-Into-Store is K600.

Cost-Into -Store

Let us look at Cost-Into-Store (CIS) in detail.

In the case for Dende, her Cost-Into-Store is K600. Other retailers may have other costs added on to their purchases. Retailers usually pay for services such as insurance, loading, casuals hire and other costs that may be added to their purchase costs. Any cost that is incurred in purchasing the goods is called the Cost-Into-Store.

Take a look at a shop which you purchased your goods from. Talk to the shop keeper and find out what kind of cost, incurred in getting the goods into the shop.



Cost-Into-Store for the shop:

1…….. 2. ……

3…… 4. ……

Retailers as mentioned earlier, buy store goods in bulk. When retailers buy goods in bulk, the total price paid for the goods they buy includes all the cost of buying the goods. Cost-Into-Store and the total cost of buying goods must be calculated to work out the selling price. That is, the total cost of goods into store must be spread over the total goods in pricing each single item for sale.

Let us study this example

Example;

Dianne's total cost of K600 must be spread among the ten (10) cartridges when determining the selling price of each cartridge. This means that Dianne has to calculate an average cost into the store for each cartridge. If she divides 600 by 10, she should get K60 as the Cost-Into-Store for each toner.

Turn to page 13 to see another example.

Example;

Nou bought the following goods from Renbo Cash and Carry Wholesale.

ITEMS	PRICE (K)	Total Wholesale Cost (K)
3 Packets of 3 in one coffee	@10 each	30
4 Packets of Lollies	@ 2.50 each	10
3 cartons of Biscuits	@ 20 each	60
		100

Transport Cost to the store was K20.

You can see here that Nou purchased 3 different types of goods. Their wholesale prices and quantities are different.

How can Nou calculate the Cost-Into-Store for each item?

Below, shows how his Cost-Into-Store for the items are calculated.

Example;

Step 1: Calculate the average percentage cost of transport of goods.

So,

Average percentage cost of transport of goods $= \frac{\textbf{Freight}}{\textbf{Total wholesale cost + freight}} \times 100$

$= \frac{K20}{K100+K20} \times 100$

$= \frac{20 \times 100}{120}$

$= \frac{200}{120} = \frac{10}{6}$

Divide numerator and denominator by 2 to get 10/6.

$= 16.67\ \%$

2. Calculate the Cost-Into-Store for each type of goods.

Cost- Into- Store = Cost Price + Average percentage of transport cost × Cost price.

If one packet of 3in one coffee costs K10, the CIS of one (1) packet would be:

= K10 + (16.67% x K10)
= K10 + K1.67
= K11.67 (round up to K11.70 or K12.00)

If there are ten (10) sachets in a packet, the CIS of 1 sachet would be:

= 10 sachets divided by K12.00
$= \frac{10}{12}$

= *0.83t*

Activity 1.1: Complete the activities given below.

From Nou's list of goods purchased, do the following exercise. Show your working out.

1. There are twenty (20) lollies in a packet of lollies. Calculate the Cost-Into-Store for each packet.

2.
(a) Calculate the Cost-Into-Store for a carton of biscuit.

(b) Calculate the Cost-Into-Store for a packet of biscuit, given that there are twenty (20) packets in a carton.

You have already learnt the steps to calculating the Cost-Into-Store. You can now use the formula to help you work out the markup.

What is Mark-up?

Retailers need to make a profit to continue running their business. They need to add on to their Cost-Into-Store, what we call a **mark-up**. Mark-up is an amount of money added onto the Cost-Into-Store to make up the selling price. A mark-up is usually expressed as a percentage. The mark-up differs for different goods and from shop to shop.

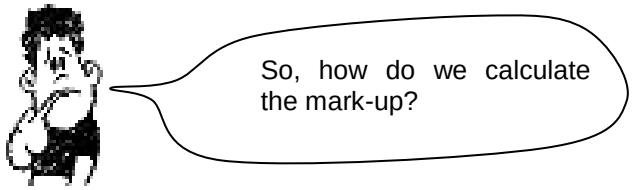
A mark-up is decided from the following;

- *Cost-Into-Store*:
  The cost of purchasing the goods which includes the cost of goods plus the freight and insurance.
- *The running costs of the business are also known as the overhead costs*. These running costs includes costs such as wages, rent, electricity and water bills.

- *Degree of competition.*
  The degree of competition depends on the number of business.
- *Same location as your business is.*
  The more businesses, the more competition, the less number of businesses the less competition.
- *The competitors' prices* for the same goods you sell determine sales.
  If your prices are very high, the customers will not buy from your shop. Customers will compare prices and go for the cheaply priced goods.
- *Demand for the product*.
  Fast selling goods are the goods that are on demand. These goods are needed and bought regularly. The goods on demand are said to have a high turnover. The prices of these goods do not differ much from shop to shop. Retailers place high mark-up for the goods on demand that customers buy because they need them. On the other hand, goods that are slow selling take time to sell and retailers do not put high mark-up on them because customers do not always buy these goods. They stay on the shelves for a long time. The goods that sell slowly do not have high selling price.
- *Profit margin*.
  A certain amount of profit should be included together with the CIS and the running cost of the business in calculating the selling price.
- *Price control*.
  There are prices of goods, especially food stuff that are controlled by the government through ICCC (Independent and Consumer Competition). The goods whose prices are controlled have a fixed mark-up set by ICCC for the retailers to use when pricing their goods. The prices of these goods also should not differ much from shop to shop.

Calculating Mark-up

Here, you will learn the steps to calculating mark-up.



In order to calculate mark-up, the following steps should be followed.

Turn to page 16 and go through these steps.

Let us go through the steps in calculating mark-up.

Step 1 Work out the total cost of goods and the running cost of the business. Running cost is also called Operating or Overhead Cost. **Step 2** Calculate the percentage of operating costs of the total costs of goods. Use the following formula: $\frac{\text{Operating costs of the business}}{\text{Total costs of goods}} \times 100$	**Step 3** Then add the profit percentage of the total cost of goods. The profit is determined by the owner. *Owner's desired profit should be reasonable as excessive profit will drive the selling price up high.* **Step 4** Calculate the percentage mark-up using the formula below: $\frac{\text{Operating costs + owners profit}}{\text{Total costs of goods}} \times \frac{100}{1}$

Remember that the mark-up percentage is added onto the costs of goods to calculate the selling price.

Now let us look at an example.

We will follow the steps given earlier to calculate the mark-up.

Example;

Ryan runs a store. In the year, 2008; he bought goods worth K20 000 and spent K5000 running the business. In that year, he made a profit of K2000. What was his percentage mark-up?

Step 1

Total cost of goods is K20 000 and Running Cost is K5000.

Step 2

$\frac{5000}{20\,000} \times 100 = 25\%$

Step 3 and Step 4

$\frac{5000 + 2000}{20\,000} \times 100 = 35\%$

The general percentage mark-up for the goods sold in 2008 was *35%.*

So this means, Ryan will charge 35% on top of the Cost-Into-Store to set his selling price.

.

Mark-up is an amount of money added onto the cost-into-store to make up the selling price. A mark-up is usually expressed as a percentage (%)

Let us look at another example.

Example;

Sasa recorded his cost of goods and running costs as follows.

Cost price of goods	**K**
Cost of goods	200 000
Freight	5 000
Insurance of goods	1 000
Total cost of goods	*206 000*

Running cost of the business	**K**
Electricity	6 000
Interest on loan	10 000
Depreciation	5 000
Shrinkage	3 000
Maintenance	10 000
Administrative cost	6 000
Total running cost	40 000
The profit Sasa planned for was	*10 000*

Let us calculate Sasa's mark-up using the figures given above.

Step 1

Calculate the total cost of the goods and the running cost of the business.

Total cost = K206 000
Running Cost = K40 000

Step 2

Calculate the percentage running cost of the total costs of goods.

$$\frac{\text{Running costs of the business}}{\text{Total costs of goods}} \times 100$$

$$= \frac{40\,000}{206\,000} \times 100 = \textit{19.42 \%}$$

Step 3

Owner's desired profit.

K10 000

Step 4

Calculate the percentage mark-up.

$$\frac{\text{Running costs + owners profit}}{\text{Total costs of goods}} \times 100$$

$$= \frac{40\,000 + 10\,000}{206\,000} \times 100$$

$$= \frac{50\,000}{206\,000} \times 100$$

= 24.27% or

= 24% if round off to the nearest whole number.

Activity 1.2: Complete the activities given below.

Use the examples and the steps from the lesson to answer the questions given. Show your working out.

1. A phone house in a remote area has a running cost of K15 000 and the total cost of goods worth K100 000. What is the percentage of running cost to the total cost of goods?

2. A retailer's total cost of goods is K200 000, his running cost is K20 000 and his desired profit is K15 000. What is his (%) mark-up?

3. Calculate the percentage mark-up for this retailer.

Cost of goods	K78 000
Freight and Insurance cost	K 2 000
Running cost of the business	K10 000
Profit required by owner	K10 000

Calculating Selling Price

You have already learnt how to calculate Cost-Into Store and the mark-up. You will now use these two formulas to calculate selling prices of goods.

Let us go through these examples to clearly understand how selling price is calculated.

Example;

From Ryan's business you found out that he will have to add 35% as mark-up onto his cost of goods to determine his selling price.

Ryan bought one (1) carton of pop-pops for K12.00 he will add 35% as mark-up to the K12.00 to calculate the selling price of a carton of pop pop.

Selling Price = Cost-Into-Store + Mark-up (Cost into store multiply percentage)

= 12 + (12 ×35%)

= 12 + 4.20

= *K 16.20*

Therefore, K16.20 is the selling price for a carton of pop pop. This means Ryan will sell a carton of pop pop for K16.20 at his store.

Let us now work out the selling price of one loose item from the carton.

If there were 10 packets of pop-pops in a carton then he would divide the total cost of the carton by 10 to get the selling price of one packet of pop-pop.

$$\text{Selling price} = \frac{\text{Total cost price of carton}}{\text{Number of packets in the carton}}$$

$$= \frac{\text{K16.20}}{10}$$

= *K1.62*

Therefore, K1.62 is the selling price for 1 packet of pop-pop.

You can now calculate the selling price for goods you wish to sell.

Turn to page 20 and study another example.

Example;

Kila's mark-up is 20%.

Quantity	Description	Unit Cost (K)	Total Cost (K)
20 kg	Sausages	15 (per kilogram)	300
20 carton	Tinned Fish	25 (per carton)	500
60 loaves	Bread	5 (per loaf)	300
	Transport		20
	Total		**1 120**

i. Calculate the selling price of one (1) loaf of bread.

Selling Price = Cost-Into-Store + Mark-up (Cost into store multiply percentage)

$$= 5 + (5 \times \frac{20}{100})$$

$$= 5 + (\frac{100}{100})$$

$$= 5 + 1$$

$$= K6$$

Therefore, the selling price of one (1) loaf of bread is K6.00

ii. If there were 10 tins of fish in a carton, how much would each tin sell for?

Selling Price = Cost-Into-Store + Mark-up (Cost into store multiply percentage)

$$= 25 + (25 \times \frac{20}{100})$$

$$= 25 + (\frac{500}{100})$$

$$= 25 + 5$$

$$= K30.00$$

Therefore, K30 is the selling price for 1 carton of tinned fish.

To find selling price of one (1) tin of fish.

$$\text{Selling price} = \frac{\text{Total cost price of carton}}{\text{Number of packets in the carton}}$$

$$= \frac{K30}{10}$$

$$= K3.00$$

Therefore, K3 is the selling price for 1 tinned fish.

Activity 1.3: Complete the activities given below.

Calculate the selling prices for the business activities below.

1. a. Paula sells boiled eggs. The cost of a dozen egg K12. Her mark-up is 20%. What is Paula's mark-up?

b. How much would she sell one egg for if there are twelve (12) eggs in a dozen?

2. a. Francisca received an invoice for the cost of ten (10) packets of Flex cards worth K720.00. Her mark-up was K155. What is the selling price for one packet of Flex cards?

b. If there are twenty- five (25) flex cards in a packet, how much will a flex card sell for?

Selling price is the value of goods being sold to the customer. It consists of cost into store plus the mark-up calculated for the goods.

Summary

You have come to the end of Lesson 1. In this lesson you learnt that;

- Selling price is the price charged by the retailer for the goods sold to the consumers. It consists of the Cost-into-Store and the mark-up.
- Cost of goods into Store is the cost of goods (CIS) purchased plus other costs of purchasing goods which include freight and insurance.
- Mark-up is an amount of money added onto the cost-into-store to make up the selling price. A mark-up is usually expressed as a percentage.
- Percentage Mark-up is determined by the factors such as Cost-into-Store, the running cost of the business also known as the overhead cost or operating cost, degree of competition, competitors' prices for the same goods on sale, demand for the product, profit margin, and price control.
- Running costs include; Electricity, kerosene, power, Water, rent, loan, Lease payments, administration costs, repair and maintenance, Shrinkage or pilferage and Depreciation.
- Mark-up is added on the total cost of goods to calculate the selling price.
- Mark-up is calculated as:
  $\frac{\text{Running costs + owners profit}}{\text{Total costs of goods)}} \times \frac{100}{1}$
- The formula for calculating the selling price is:
  Cost-Into-Store + (Cost-Into-Store x percentage (%) mark-up)

NOW DO PRACTICE EXERCISE 1 ON THE NEXT PAGE

Practice Exercise 1

1. In your own words, explain what Cost-Into-Store is.

_____
_____

2. What is percentage (%) mark-up?

_____
_____

3. Define selling price.

_____
_____

4. What is another term used for running cost?

_____

5. Calculate the Cost-Into-Store for the following invoice.

Quantity	Description	Unit price (K)	Amount (K)
10 pieces	Sewing machine	550	5500
	Freight		1000
	Insurance		**1000**
	Total		

6. What is the mark-up in percentage (%) for the following?

Cost of goods	K73 000
Freight and insurance costs	K 2 000
Running cost of business	K10 000
Profit required	K 5 000

7. A retailer received the following invoice.

10 cartons of tinned meat	K2400
4 bags of Rice	K 200
4 bags of sugar	K 240
The retailer's mark-up is	20%

a. Calculate Cost- Into-Store.

b. Calculate the selling price for one (1) carton of tinned meat.

c. Calculate the selling price for one (1) bag of Rice.

8. List down five (5) running costs of a business.

a. _____
b. _____
c. _____
d. _____
e. _____

CHECK YOUR ANSWERS AT THE END OF TOPIC 1

Lesson 2: Calculating Profit

Introduction:

In lesson 1, when calculating the mark-up and the selling prices, we also included the retailers' desired profit. In this lesson we will explain to you what profit is and how retailers calculate their profits.

Your aim:

- Define profit
- Discuss Costs of Goods Sold (COGS) in trading and manufacturing business
- Calculate Cost of Goods Sold using the formula
- Calculate profit

What is Profit?

Profit is the extra amount of money gained from the goods sold after paying all the expenses. In other words the remaining amount of money after you pay for the goods and the cost of operation from your sales is the profit. Sales refer to money coming into the business or earned by the business. So if sales is the only income earned by the business, it can also be called revenue.

The formula used to calculate profit is;

Profit = Sales - Expenses (Payments) or
Profit = Revenue - Expenses

Let us look at an example.

Example;

Kerry bought 10 packets of lollies for K20 and sold each packet for K3. After she sold the lollies, she made a profit of K10.

How did she make K10 profit?

Sales: K3 × 10 = K30, Expense: K20

Profit = Sales – Expense

= K30 – K20

= K10

Therefore, her profit is K10.

Turn to page 34 and study another example of how to calculate profit.

Let us look at another example to calculate the profit.

Example;

Benny bought a four (4) litres drum of fuel for K22.00 and sold each litre for K7.60. How much profit did he earn?

Profit = Revenue – Expense
= (4 x 7.60) – K22
= K30.40 – K22
= *K10.40*

Therefore, Benny made a profit of K10.40.

What is Cost of Goods Sold?

Cost of goods sold (COGS) refers to the amount spent to buy or purchase the goods for sale. It is an expense of the business. To get cost of goods sold you add new purchases on the stock that was there at the start and subtract what is left on the shelf at the time of your calculation.

Businesses must carefully work out the cost of goods sold since it is important in the calculation of profit. You will study this in detail as we proceed.

The formula to calculate the Cost of Goods Sold (COGS) is;

COGS = Opening stock + Purchases (CIS) – Closing stock

Let us look at the example given below to clearly understand how to calculate Cost of Goods Sold.

Example;

At the beginning of January, 2013, Mary had K3000 worth of goods. On the 5th of January she purchased K400 worth of food, so she had stock worth K3 400 in total. She made the following sales; 5th January, K200; 6thJanuary, K100; 8th January, K200; 10th January, K300. At the end of 10th January, Mary had K2 600 worth of goods left. She made a total sale K800.

Let us calculate the cost of goods sold using the figures given.

Opening Stock		K3000
(Plus) purchases	+	K 400
		K3400
(Minus) closing	-	K2600
(Equals) Cost of goods Sold (COGS)	=	*K 800*

Activity 2.1: Complete the activities given below.

1. Miriam had a supply of toners worth K550 left in stock in December. Before the schools started she bought two (2 box) of toners worth K1320. When the schools started, she sold some rolls of toners and was left with K200 worth of stock. Show your working out.

a. What was Miriam's closing stock after the schools purchased the toners?

b. What was the Cost of Goods Sold?

Calculating Profit with Cost of Goods Sold

Here, you will learn how to calculate profit with Cost of Goods Sold.

Profit of business can be calculated as;

i. Gross Profit
ii. Net Profit

You have learnt about calculating profit in Unit 2. Refer to unit 2 to help you understand better how to calculate profit. In this lesson, on page 34 you are given the formula to calculate Cost of Goods Sold. You will now use this formula to help you calculate profit.

Formula to calculate profit with Cost of Goods Sold.

i. Gross Profit =Sales – Cost of Goods Sold

ii. Net Profit = Sales – Cost of Goods Sold – Expenses

These formulas when worked out together will make up the business financial report called Revenue Statement or Profit and Loss Statement.

Turn to page 36 and study the Revenue Statement to understand how gross profit and net profit are calculated with Cost of Goods Sold in this financial report.

Below, shows a Revenue Statement.

Revenue Statement Of A Manua

For the week ending 28 December, 2015

		K	K
1.	Sales		450
2.	(minus) Stock at the beginning	Nil	
3.	(add) Purchases	400	
	(equals) Total stock	400	
4.	(minus) Stock at the end	100	
5.	(equals) **Cost of Goods Sold**		**300**
6.	**(i) Gross Profit**		**150**
7.	(minus) Other Expenses:		
	Rent	25	
	Electricity	15	
	(equals) Total Expenses		40
8.	**(ii) Net Profit**		**110**

Minus

Minus

Let us now look at each part of the above Revenue statement.

1. Sales is the income or the total revenue calculated at the end of the week.

2. Stock at the beginning – This refers to any stock that business started the week with. This business started with no stock or goods. This stock is also called the opening stock.

3. Purchases are total stock purchased for the week, in this case it is K400.

4. Stock at the end is the value of goods or stock sitting on the shelves at the end of the week. This is also called closing stock which in this case is K300.

5. Cost of goods sold is the cost of buying the goods that were sold. Do not forget that the cost of goods sold is the value of opening stock + value of purchases – value of closing stock. In this case;

Cost of sales is:	**K**
Opening stock	Nil
Plus purchase	400
	400
Less closing stock	100
Equals **Cost of Good s Sold**	**K300**

6. Gross profit is the value of sales less cost of sales. Gross profit in this case is calculated as;

	K
Sales	450
Less cost of sales	300
Equal **Gross Profit**	**K150**

7. Total expenses or overhead cost include all the running or operating costs of a business, not including the costs of goods purchased. Total expenses in this case is;

Rent	25
Electricity	15
	K40

8. Net profit is calculated by subtracting overhead expenses from the gross profit. It is calculated as;

Gross profit	150
Less overhead expenses	40
Equal **Net Profit**	K110

Activity 2.2: Complete the activities given below.

1. Complete this Revenue Statement for Ben Gatana. Show all your working out.

Revenue Statement for Ben Gatana
For the week ending 10 January, 2014

	K	K	
Sales			2000
Stock (Opening)	500		
Add purchases	500		
Less stock (Closing)	300		
Cost of sales			_____
Gross profit			_____

Summary

You have come to the end of Lesson 2. In this lesson you learnt that;

- Profit is the amount of money gained from the goods sold after paying the expenses. In other words, after you pay for the goods from your sales, you earn a profit.
- Costs of goods sold are the value of goods that are in stock and the operating expenses at the beginning plus cost of goods purchased (CIS) minus the value of goods left on the shelf (closing stock).The formula to calculate the Cost of Goods Sold (COGS) is:
  COGS = Opening stock + purchases (CIS) – Closing stock
- Cost of sales is the cost of buying the goods that were sold. The cost of goods sold is equal to opening stock + purchases – closing stock.
- Gross profit is the value of sales less cost of sales.
- Total expenses or overheads include all the running cost of a business
- Net profit is calculated by subtracting other expenses or overhead expenses from the gross profit.
- The formula for calculating the selling price is;
  Cost of goods + (Cost of goods × % mark-up)

NOW DO PRACTICE EXERCISE 2 ON THE NEXT PAGE

Practice Exercise 2

1. What is profit?

_____

2. What is the formula for calculating Cost Of Goods Sold?

_____

3. What are the (2) two common direct costs of a business?

a. _____

b. _____

4. Use the following Revenue Statement to answer the questions below.

Revenue statement of Ryan
For the week ending 28 January, 2014

			K
1.	Sales		700
2.	Stock (at the beginning)	200	
3.	Add purchases	300	
4.	Less stock (at the end)	50	
5.	Cost of sales		450
6.	**Gross profit**		**?**
	Less overhead expenses		
	a. Rent	35	
	b. Electricity	25	
7.	Total overhead expenses		60
8.	**Net profit**		**?**

a. Calculate the gross profit?

b. Calculate the net profit?

CHECK YOUR ANSWERS AT THE END OF TOPIC 1

Lesson 3: Calculating Interest

Introduction:

Have you heard about interest? Some of you may have borrowed money from individuals who earn an interest from the money you borrowed. Businesses also borrow money. In this lesson, you will learn about interest earned from loans and interest paid on loans.

Your aim:

- Define Interest
- Differentiate between interest income and interest expense
- Calculate interest income and interest expense

What is interest?

When individuals and businesses need more funds, they seek loans from the banks, finance institutions and individual lenders. These lenders charge a fee for the money they provide. This fee is called the interest. We can define interest as a fee charged.

Interest income

Interest Income is the fee received by the lender for lending the money. For instance, Tom borrowed K100 from Martin at an interest rate of 30%. When Tom repaid the loan, he paid and extra 30% to Martin. The extra 30% is the interest received by Martin. It is an income received for lending K100.Thus, the 30% is Martin's Interest income.

People who save their money at the commercial banks and financial institutions also receive 3% interest income at the end of each year. This is because their money in the bank is used by the banks or the financial institutions. The investors also receive an interest income for investing their money in the financial institutions.

Interest expenses

Interest expenses are repayments by people and businesses who take out loans. The interest charged on the loan people take out becomes their expenses. In the example above, the 30% of K100 becomes Tom's interest expense because he has to repay the 30% for the money he borrowed from Martin.

The amount of interest payable depends on four (4) factors.

1. The amount of money borrowed, called the principal.
2. Interest rate which is usually expressed as percentage (%).
3. Loan period, the length of time the borrower has the money.
4. The type of interest charged by the lender, whether it is a;
    a. Simple interest
    b. Compound Interest

In this lesson we will study simple interest.

Simple Interest

An interest calculated on the money borrowed or the principal amount of loan is called a Simple Loan.

The formula used for calculating the simple interest is;

$$\text{Simple Interest} = \text{Principal} \times \frac{\text{Interest rate}}{100} \times \text{Time or}$$

$$\text{Interest} = P \times \frac{R}{100} \times T$$

Where I = Simple interest
P = Principal
R = Interest Rate In % for a period
T = Time period

Let us go through an example.

Example;

Paul borrows K500 to be repaid in two (2) years. He is to pay interest rate at 5%.

$$\text{Interest} = P \times \frac{R}{100} \times T$$

$$= 5\cancel{00} \times \frac{5}{1\cancel{00}} \times 2$$

$$= 5 \times \frac{5}{1} \times 2$$

$$= 25 \times 2$$

$$= K50$$

Therefore, the interest payable is K50.

Let us look at another example.

Example;

Calculate simple interest on K 500 at 6% for two years six months.

In this case the 2 years six months will be expressed as the 30months on12months. You know that 12months make up one year. We are using months since it will be easier to calculate.

$$\text{Interest} = P \times \frac{R}{100} \times T$$

$$= 5\cancel{00} \times \frac{6}{1\cancel{00}} \times \frac{30}{12}$$

$$= 6 \times \frac{30}{12}$$

$$= \frac{180}{12}$$

$$= K15$$

Therefore, interest payable is K15.

 **Activity 3.1: Complete the activities given below.**

1. A book shop borrowed K6000 from a bank at a rate of 30% per annum (p.a) for three (3) years. What is the simple interest on the loan?

2. A person took a loan of K10 000 for three (3) months at the rate of 10% per annum (p.a). Calculate the simple interest.

3. A retailer got a loan of K20 000 from the bank for five (5) years at the rate of 25% per year. What was the simple interest?

4. Tau borrowed K6000 for school fees from a loans society. He was charged interest 12% per annum (p.a) for the loan over twelve (12) months. Calculate the simple interest.

Summary

You have come to the end of Lesson 3. In this lesson you learnt that;

- Interest is a fee charged by lenders for lending out their money.
- Interest Income is the fee received by the lender for lending out the money.
- The investors also receive an interest income for investing their money in financial institutions.
- Interest expense is the fee paid by the people who take up loans.
- The amount of interest depends on the principal, Interest rate, time and the type of interest.
- Simple interest is calculated on the money borrowed or the principal amount of the loan.
- The formula used for calculating the simple interest is: I = P x R x T.
- Financial institutions pay interest to their clients at different time periods depending on their products.

NOW DO PRACTICE EXERCISE 3 ON THE NEXT PAGE

Practice Exercise 3

1. What is interest?

_____

2. What is the difference between interest income and interest expense?

_____
_____
_____

3. Ronald made a loan of K5000 at the rate of 15% per annum (p.a) over six (6) months. What was the simple interest?

CHECK YOUR ANSWERS AT THE END OF TOPIC 1

Lesson 4: Calculating Discounts

Introduction:

Have you seen goods sold on discount? Where do you normally see such goods?
In this lesson we will take you through businesses that sell at discounts and discuss why they sell on discount and whom they sell to at discount prices.

Your aim:

- Define discount and state its purpose and the benefits
- Differentiate between discount received and discount allowed
- Calculate discounts received and discounts allowed.

What is discount?

Discount is a reduction in the price of a good. Businesses usually sell their goods at the selling prices they set but there are times when they give a discount. This means that they reduce their prices by a certain percentage and sell their goods at a lower price.

There are two common discounts given by businesses.

1. Trade discounts.
2. Cash discounts.

Let us go through these two discount types.

1. Trade Discount

Trade discounts are given by businesses to other businesses referred to corporate customers. Businesses give discounts to their corporate customers to encourage them to frequent their business because these customers buy goods in large quantities and regularly.

Trade discounts are expressed as percentage of the price list and are deducted from the price on the invoice.

Let us study this example.

Example;

If a manufacturer offers a product to wholesalers for K10 with 5% trade discount, the wholesalers will pay K9.50 for it. This means the customer who is the wholesaler pays 50 toea less. That is;

Trade Discount = 5/100 × K10

= 0.05 × 10

= 50t

Therefore 50t is the discount

The following are advantages of trade discount.

- It attracts more corporate customers as well as retains or keeps regular customers of the trading business.
- It may also be offered to customers who are not regular but buy goods in bulk to encourage more sales.

Activity 4.1: Complete the activities given below.

1. What does discount mean?

_____
_____

2. What does trade discount mean?

_____

3. Name two (2) customers, manufacturers give discount to.
   a. _____ b. _____

Let us study another example of trade discounts offered to businesses.

Example;

If a trade discount of 10% is offered by a supplier to a stationery shop owner who buys 200 boxes of reams of A4 paper, an invoice is prepared as follows.

INVOICE

Qty	Description	Unit price (K)	Amount (K)
200	A4 reams	18	3600
	10% discount		360
	Net amount		**3240**

The stationery shop will have to pay K3240 instead of K3600 for the reams of paper because of the trade discount. That is;

Trade Discount = 10/100 × K3600

= 0.01 × K3600

= K360

Therefore, the stationery shop will pay K360 as trade discount.

In total the stationery shop will only pay;

Total payable = K3600- K360

= K3240

From there the stationery shop can work out its selling price for each ream of papers.

Retailer businesses usually offer discounts under such names as clearance sale, Christmas sales, Valentine's sales, Mothers' day sales. These discounts for customers are shown as mark-downs on shelves. Retailers do not offer trade discounts since they sell items in smaller quantities or loose items.

Why are discounts given?

Businesses give discounts to their business clients and the public to promote sales of their goods or encourage prompt payment. Prompt payment will be covered in the next section.

Retailers offer mark-downs to promote sales or clear old stock or out-dated model.

Activity 4.2: Complete the activities given below.

1. What are mark downs?

_____

2. Write two (2) examples of mark downs.

   a. _____ b._____

3. Write two (2) reasons why businesses give discounts to their corporate partners.

   a. _____

   b. _____

4. Why do retailers offer mark downs?

   _____

---

2. Cash Discounts

Cash discounts are incentives given by suppliers to their corporate customers for early payment or settlement of their outstanding debts. Cash discount is also referred to as sales discount.

Cash discount or Sales discount is offered if the customer pays for the invoiced goods within the time period given on the invoice. The time period is called the credit term.

Following are types of credit terms used in line with cash or sale discounts.

Types of Credit Terms	Descriptions
2/10 net 30	The buyer must pay his debt within 30 days but will receive a 2% discount if payment is done within 10 days.
3/7 EOM	The buyer must pay his debt by the end of the month but will receive a 3% discount if the payment is done within 7 days.
2/15 net 40 ROG	The buyer must pay his invoiced debt within 40 days of receipt of goods but will receive a 2% discount if payment is made within 15 days.

A creditor in this case the customer is usually given 30 days to pay the amount owing on the statement. Cash discount is offered in order to encourage the creditor to pay the debt earlier. Discounts are expressed as percentages.

Following are other types of credit terms offered by businesses to their customers apart from the 3 mentioned on page 49.

Types of Credit Terms	**Definition**
5/10	• 5% discount is offered if the payment is made within 10 days of the goods being received.
2.5/30	• 2.5% is allowed if the payment is made within 30 days.
n/60	• No discount will is offered for payment after but the debt must be paid before 60 days. • After 60 days, the bill is overdue for payment and interest may be charged on the full amount owing.
4/7	• 4% discount if the payment is done within 7 days
2/21	• 2% discount is allowed if payment is done within 21 days.
n/30	• Normal 30 days credit term applies. • After 30 days the bill is due for payment and interest may be charged on the full amount owing if no payment is received

Let us now calculate cash discounts received and allowed.

Example;

1. Dianne received toners and accessories worth K6000 from her supplier in Lae. Cash discount terms were as follows:

   10/7, 3/20, n/30

   a. 10% discount if payment is done within 7 days.

   $$\text{Cash Discount} = \frac{10}{100} \times 6000$$

   $$= K600$$

   Therefore, K6000 – K600 = K5400 will be the payment if paid within 7 days.

   b. 3% discount will be allowed if payment is made within 20 days.

   $$\text{Cash Discount} = \frac{3}{100} \times 6000$$

   $$= K180$$

Therefore, K6000 - K180 = K5820 will be paid if the payment is done within 20 days.

Activity 4.3: Complete the activities given below.

1. What is another term for Cash Discount?

_____

2. What is a credit term?

_____

3. What do 7/7, 3/14, n/30 mean?

_____

4. Ryan received his goods worth K5, 000 from a wholesaler and the cash discount 7/7, 3/14, n/30.

   a. How much would the discount be if he paid his invoice within ten (10) days?

   b. How much would he pay for the goods he received if he paid them within five (5) days?

Summary

You have come to the end of Lesson 4. In this lesson you learnt that;

- Discount is a reduction in the price of a good.
- Trade discounts are expresses as percentage of the price list and are deducted from the prices on the invoice.
- Cash discounts are incentives given by suppliers to their corporate customers for early payment or settlement of their outstanding debts.
- Sales discount or Cash discount is deducted if the credit customer pays for the listed goods within the time period given on the invoice.
- The time period given for is part of the credit term.

NOW DO PRACTICE EXERCISE 4 ON THE NEXT PAGE

Practice Exercise 4

1. What is the difference between trade discount and cash discount?

_____
_____
_____

2. What is a Credit Term?

_____
_____

3. Freddy receives K1500 worth of egg cartons together with a credit term written as 2/20, n/30. He pays his bill in ten (10) days. How much cash discount does he receive?

4. Kidlon receives a credit term: 8/14, 4/21, net/40 on the invoice worth K45 000. How much discount is he allowed to pay?

5. Timothy buys K2000 worth of food. The credit term written on the invoice was 6/14, 2/21, net/40. How much did he pay for the goods after ten (10) days of the date of the invoice?

6. Dulcie paid for her goods worth K50, 000 within the twelve (12) days of the given credit term of 15/10, 10/30, net40 ROG. How much did she pay?

CHECK YOUR WORK. ANSWERS ARE AT THE END OF THE TOPIC

ANSWERS TO

TOPIC 1

PRACTICE EXERCISES

Answers to Practice Exercises 1- 4

Practice Exercise 1

1. In your own words, explain what Cost-into-Store is.
   Cost-into-store is the total costs of purchasing goods for sale.

2. What is percentage (%) mark-up?
   Mark-up is the percentage (%) of running cost of the goods over the total cost of purchasing goods plus the desired profit.

3. Define selling price.
   Selling price is the value of goods being sold to the customers. The selling price consists of cost into store and the mark-up. This mark -up is the sum of percentage running costs and the owner's profit over the cost of goods.

4. What is another term used for running costs?
   Overhead costs

5. Calculate the Cost-Into-Store for the following invoice.

Quantity	***Description***	***Unit price (K)***	***Amount (K)***
10 pieces	*Sewing machine*	*550*	*5500*
	Freight		*1000*
	Insurance		*1000*
	Total		***K7500***

Cost –Into-Store = Cost price + Freight and insurance
= K5000 + K1000+ 1000
= K75 000

6. What is the mark-up in percentage (%) for the following?
   Mark – up= $\frac{\text{Running Cost + Owner's Profit}}{\text{Total cost of goods}} \times 100$

   $= \frac{10\,000 + 5000}{75\,000} \times 100$

   $= \frac{15\,\cancel{000}}{75\,\cancel{000}} \times 100$

   = 1500 ÷ 75

   = 33.3%

7. A retailer received the following invoice.

a. Calculate Cost- Into-Store.
   Cost- Into-Store =2400 + 200 + 240 + 150
   =K2990

b. Calculate the selling price for one (1) carton of tinned meat.
   Selling Price= CIS + (CIS ×Mark-up)
   = 2400 + (240$\cancel{0}$ × 20÷10$\cancel{0}$)
   = 2400 +480
   = K2880
   = K2880/10
   = K288

Selling price for 1 carton of tinned meat is K288.00

c. Calculate the selling price for one (1) bag of rice.
Selling Price = CIS + (CIS ×Mark-up)
= 200 + (~~200~~ × 20÷~~100~~)
= 200 + 40
= K240
= K240÷4
=K60
K60 for 1 bag of rice

d. List down 5 running costs of a business
Any of the five costs below

Electricity	*Depreciation*
Water	*Administration costs*
Loan	*Lease payments*
Rent	*Shrinkage or pilferage*
Repair	*and maintenance kerosene*

Practice Exercise 2

1. What is profit?
Profit is the amount of money gained from the goods sold after paying the expenses. In other words the remaining amount of money after you pay for the goods from your sales is the profit. The numerical definition of profit is, Profit = Sales – Expenses (Payments).

2. What is the formula for calculating Cost of Goods Sold?
COGS = Opening stock + Purchases (CIS) – Closing stock

3. What are the (2) two common direct costs of a business?
a. Materials
b. Labour

4. Revenue Statement of Ryan
a. Gross Profit = Sales- Cos of goods sold
= K700 – K450
= K250
b. Net Profit = Gross Profit – Other Expenses
= K250-K60
= K190

Practice Exercise 3

1. What is interest?
   Interest is a fee charged by lenders for lending out their money.

2. What is the difference between interest income and interest expense?
   Interest Income is the fee received by the lender for lending out the money and an Interest expense is the fee paid by the people who take up loans.

3. Ronald made a loan of K5000 at the rate of 15% per annum (p.a) over six (6) months. What was the simple interest?
   K5000 x 0.15 x 6/12 = K375

Practice Exercise 4

1. What is the difference between the trade discount and the cash discount?
   Trade discounts are given by businesses to attract them to frequent their businesses. Cash discounts are incentives given by suppliers to their corporate customers for early payment or settlement of their dues or outstanding debts.

2. What is a credit term?
   Credit term is the period in which credit customers are given to pay the listed goods at a discount price.

3. Freddy receives K1500 worth of egg cartons together with the credit term written as 2/20, n/30. He pays his bill in ten (10) days. How much cash discount does she receive?
   Cash discount = 2% x 1500
   = .02 x 1500
   = K30

4. Kidlon receives a credit term: 8/14, 4/21, net/40 on the invoice worth K45 000. How much discount is he allowed to pay?

   Discount allowed = 4% x 45 000
   = 0.04 x 45 000
   = K1800

5. Timothy buys K2000 worth of food. The credit term written on the statement is 6/14, 2/21, net/40. How did he pay for the goods after ten (10) days of the date of the invoice?

   Discount = 6% x 2000 =K120
   Cost of goods = 2000 + 120
   = K2120

6. Dulcie paid for her goods worth K50 000 within the twelve (12) days of the given credit term of 15/10, 10/30, net40 ROG. How much did she pay?

   Discount = 15% x 50 000
   = K7500

   Cost of goods = 50 000 + K7500
   = K57 500

REVISE TOPIC 1 AND DO TOPIC 1 TEST IN YOUR ASSESSMENT BOOK 6

TOPIC 2

CALCULATING WAGES, DEPRECIATION AND INSURANCE

In this topic you will learn about;

- **Calculating Wages**
- **Calculating Depreciation and Appreciation**
- **Calculating Insurance Premium and Compensation**

TOPIC 2: CALCULATING WAGES, DEPRECIATION AND INSURANCE

Welcome to Topic 2: 'Calculating wages, depreciation and insurance'. In this Topic you will learn how to keeping records of any small business activity and apply bookkeeping skills.

This topic consists of three (3) lessons.

Lesson 5: Calculating Wages

In this lesson you will define and state its purpose and the benefits. You will also differentiate between normal and overtime pays and calculate normal and overtime pays.

Lesson 6: Calculating Depreciation

In this lesson you will define depreciation and state its effects. You will then differentiate between depreciation and appreciation of values an. You will also calculate depreciation using two methods and defines as well as appreciation.

Lesson 7: Calculating insurance premiums and compensations

In this lesson you will define insure, premium and compensation claims and state their purposes. You will also calculate premiums and compensation claims.

Lesson 5: Calculating Wages

Introduction:

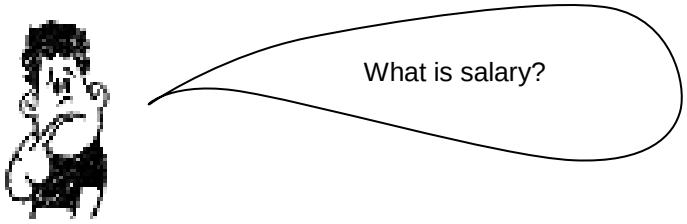
Are you working or do you earn an income for what you do? Wage is an income earned by people who work for other people. We will look at what wage is, what it is for and the benefits of wages.

Your aim:

- Define wages and state its purpose and the benefits
- Differentiate between normal and overtime pays
- Calculate normal and overtime pays

What is a Wage?

A **wage** is an income earned for work done. Wage is calculated using hourly rates. A wage is often paid fortnightly. Wages depend very much on the number of hours worked. It is paid on hourly rates of pay. If people work extra hours, they get paid extra for the overtime at a higher rate. The amount received by the wage earner per fortnight varies depending on the number of hours he worked during the week.



A Salary is a fixed income earned by people who provide services. Salary is paid fortnightly or monthly from the agreed yearly amount divided into 26. (There are 26 fortnights in a year). A salary earner does not receive overtime, even if he or she works extra hours in a particular fortnight. He or she agrees to receive a fixed amount for one year. A salary earner's pay is fixed every fortnight per year.

Therefore, there are two types of incomes earned by people; a wage and a salary as discussed above.

Minimum Wage Legislation

In 1992 the minimum wage was set as K24.68 per week. This means that the least amount an employer must pay the worker is K24.68 per week. This amount was increased by the Minimum Wage Board to K60.42 in the year 2000. The National Executive Council, overruled that certain businesses be exempted from paying the increase depending on their capacity to pay the increment. The current minimum wage of K3.20 per hour effected on the 3rd July, 2014 by the Minimum Wage Board. This will be received on the 3rd July 2015.

Activity 5.1: Answer the questions.

1. What is a wage?

_____

2. What is the difference between wages and salary?

_____

_____

3. What is the current minimum wage rate per hour?

_____

Overtime Wage

A wage earner works for the set number of hours that is required of the job, in a fortnight. If the worker works for more than the required hours then he or she gets paid extra. The extra pay is called overtime pay. Overtime pay is paid at different rates.

This includes work done on.

- Saturdays, Sundays and public holidays: are paid at double the normal hourly rate.
- Any day other than Saturday and Sunday or a public holiday will be paid at one and one halftimes (1 ½ times) the normal hourly rate.

Hourly rate is determined in one of two ways.

- By dividing the annual wage by the number of working hours in a year.
- By dividing the weekly wage by the number of working hours in a week.

Activity 5.2: Complete the activities given below.

1. What is overtime wage?

_____

2. State (2) two reasons why people work overtime.

a. _____

b._____

How do we calculate wages?

Let us look at the ways in which we can calculate the normal wages and the overtime wages.

The hourly rate is calculated for wage earners is 52 weeks in a year, 40 hours in a week and 8 hours in a day. Hourly rate is determined in one of the two ways;

- By dividing the annual wage by the number of working hours in a year or
- By dividing the weekly wages by the number of working hours in a week.

Overtime rates include:

- Sundays and public holidays: twice the hourly rate.
- Extra hours done on any day other than a Sunday or a public holiday: one and one halftimes the hourly rate.

Let us go through an example;

Example;

i. If Ben worked for 52 hours at the rate of K3.20 current minimum hourly rate, his fortnightly wage would be.

Fortnightly wage = Hours × rate

= 52hours × K3.20

= *K166.40*

ii. John earned K200 in a fortnight at the hourly rate of K2, he also worked 8 hours overtime on a Sunday. Overtime rate on Sundays is twice the hourly rate. How much did John earn that fortnight?

Fortnightly wage = Hours × rate × overtime for Sunday

= K200 + [2 × 2× 8hours]
= K200 + K32
= *K232.00*

iii. Jayjay is paid an annual wage of K22 500. The overtime hours he worked during a fortnight are Sundays, 16 hours and week days after hours is 20 hours.

What is the hourly rate?

$$\text{Weekly Wages} = \frac{\text{Wages}}{\text{Number of weeks per annum (p.a)}}$$

$$= \frac{\text{K22 500}}{52}$$

= *K432.69*

$$\text{Hourly rate} = \frac{\text{Weekly wages}}{\text{Hours in a week}}$$

$$= \frac{\text{K432.69}}{40}$$

= *K10.82*

Overtime rate = Hourly rate × Overtime rate for Sundays
= K10.82 × 2
= *K21.64 for Sundays*

Overtime rate = Hourly rate × Overtime rate for Weekdays
= K10.82 × 1.5
= *K16.23 for week days*

Total overtime pay = (Hours for Week Day × overtime rate) + (Hours for Sunday × overtime rate)

= (16 hours × 21.64) + (16.23 × 20hours)
= K346.24 + K324.60

= *K670.84*

Let us go through another example.

Example;

Mary earns K9000 in a year for housekeeping in a motel. On Sundays she gives the motel 6 hours overtime and on Wednesdays, she spends 4 hours after work to check the facilities. Calculate Mary's overtime pay in a fortnight.

Weekly wage = $\frac{\text{Wages}}{\text{Number of weeks per annum (p.a)}}$

$= \frac{\text{K9 000}}{52}$

= *K173.08*

Hourly wage = $\frac{\text{Weekly wages}}{\text{Hours in a week}}$

$= \frac{173.08}{40}$

= *K4.33*

Sundays over time = Hourly rate × Overtime rate for Sundays
= 6 × (K4.33 x 2)
= *K51.96*

Wednesdays overtime = Hourly rate × Overtime rate for Weekdays
= 4 × (K4.33 x 1.5)
= *K25.98*

Total overtime pay = (Hours for Week Day × overtime rate) + (Hours for Sunday × overtime rate)

= K25.98+ K51.96
= *K77.94*

Activity 5.3: Answer the questions.

1. If Joyce was earning K5.25 hourly and worked eight (8) hours daily and six (6) hours on Saturdays and three (3) hours on Sundays.

a. How much did Joyce earn for overtime weekly?

_____

b. What would be her weekly pay?

_____

Summary

You have come to the end of Lesson 5. In this lesson you learnt that;

- Wage is an income earned for work done. A wage is calculated based on hourly rate.
- Salary is a fixed income earned fortnightly based on yearly sum/pay. Fortnightly pay is calculated by dividing the yearly pay into 26 weeks.
- Wage earners get paid overtime for extra hours over and above their normal time required/scheduled. Overtime is paid at a higher rate.
- Wage earners also have benefits such as leaves and superannuation benefits.
- Overtime rates for Sundays are twice the hourly rates and week days are one and one half of the hourly rate.
- Wages are calculated on hourly basis plus any overtime done by the worker.

NOW DO PRACTICE EXERCISE 5 ON THE NEXT PAGE

Practice Exercise 5

1. What are the (2) two types of incomes discussed in this lesson?
   a. _____ b. _____

2. Explain in your own words what overtime wage is.

_____

_____

3. Philip employs her cleaner clerk on a daily rate of K12.50.

   a. Calculate the cleaner's hourly rate.

   b. What would be her hourly rate if she worked on Sundays?

   c. What would be the hourly rate if she worked after hours on the weekdays?

   d. How much did she earn in 28 days in normal wages, and overtimes if 5 hours were done on 4 Sundays and 16 hours on weekdays.

4. Grace works for 10 hours in a day and 21 days in a month. She earns K63 000 in a year. What is the hourly rate paid to grace?

CHECK YOUR WORK. ANSWERS ARE AT THE END OF THE TOPIC.

Lesson 6: Calculating Depreciation

Introduction

If you look at the prices of properties and land in the newspapers, the prices seem to rise every year but when we see prices of used cars, computers and other machines the prices go down. These goods either appreciate or depreciate. In this lesson we will look at the value of goods that decline and calculate the values of these goods.

Your Aim

- Define depreciation and state its effects
- Differentiate Between Depreciation
- Calculate depreciation using two methods

What is Depreciation?

Depreciation means a loss in value of an asset. The values of fixed assets such as furniture, equipment and machinery decline over time due to wear and tear of those assets. Sometimes, assets get obsolete or out dated and lose their value. There are two types of assets; current asset and non-current asset. Depreciation applies to the non-current assets such as equipment, furniture and machinery. These assets are expected to last for more than one year. After they are purchased and used, they loss their values or they depreciate. A current asset is an asset that can be converted into cash within one year.

Depreciation can be seen as an allocation of the cost of the asset over the period of its use. The loss in value (depreciation) is due to the asset's wear and tear during its use. This view of depreciation is considered as an expense. Therefore, it is calculated as a running cost of the business and is also used as an expense in calculating the profit.

Activity 6.1: Answer the questions.

1. Define depreciation.

_____
_____

2. Name two (2) examples of assets that depreciate.

a. _____
b. _____

3. Differentiate between current asset and non-current asset.

_____
_____
_____

Methods of calculating depreciation

There are two methods of calculating depreciation.

1. Straight line method

Straight line is the simplest methods of calculating depreciation. It is done by following this four (4) steps:

Step 1: Estimate the number of years the asset is expected to be used up by the business.

Step 2: Estimate how much you might get from selling the asset when it is no longer of use. This is called the residual value.

Step 3: Subtract the residual value from the original cost.

Step 4: Divide the accumulated depreciation value (Total Cost - Residual Value) by the number of estimated years of use.

The formula is as follows;

$$\textbf{Annual Depreciation} = \frac{\textbf{Total cost price – residual value}}{\textbf{Number of estimated years of use}}$$

Example 1;

Ronny bought a truck for K42 000 and expects to keep the truck for five (5) years. He expected to sell the truck after the five years for K8000. The amount of depreciation for the truck is the same each year. What is the annual depreciation?

Depreciable Value (Total Depreciation) = Cost Price – Residual Value
= K42 000 – K8000
= *K34 000*

$$\text{Annual Depreciation} = \frac{\text{Total cost price – residual value}}{\text{Number of estimated years of use}}$$

$$= \frac{\text{K42 000 – K8 000}}{\text{5 years}}$$

$$= \frac{\text{K 34 000}}{\text{5 years}}$$ (K34 000 is called the depreciable value.)

= *K6 800*

Therefore, value of annual depreciation is K6 800.

In business, depreciation is expressed as a percentage of the depreciable value. The percentage of depreciation value is calculated as;

$$\text{Rate of depreciation} = \frac{\text{Annual depreciation}}{\text{Depreciable value}} \times 100$$

$$= \frac{\text{K6 800}}{\text{K34 000}} \times 100$$

= 0.2 ×100

= *20 %*

Therefore, annual depreciation rate is 20 %.

If the depreciation rate is given, it is easier to calculate the annual depreciation.

Example 2;

If a business purchase a photo copier costing K25 000. The residual value is estimated to be K5 000 and depreciate by 20% per annum (p.a). The annual depreciation will be 20% of the price of the copier less the residual value.
Let us calculate the annual depreciation.

Annual depreciation = (Cost price – residual value) × Depreciation rate
= (K25 000 – K5000) × 20/100
= K20 000 – 1/5
= *K4000*
Therefore, annual depreciation is K4000.

We can use this information to draw up a table called the depreciation schedule to better understand how depreciation is calculated.

Straight Line Method

A	**B**	**C**	**D**	**E**
Year	Cost (K)	Annual depreciation (K)	Accumulated depreciation (C + Previous D) (K)	Residual value at the end of the year *(Carrying cost – accumulated depreciation)* (B – D) (K)
1	25 000	4000	4000	21 000
2	25 000	4000	8000	17 000
3	25 000	4000	12 000	13 000
4	25 000	4000	16 000	9000
5	25 000	4000	20 000	5000

Accumulated depreciation is the total depreciation charged over a period up to a certain date. It is cumulative as shown in the schedule above.

The accumulated depreciation in year 5 is K20 000 as shown in the table above.
Total depreciation in year 3 is K12 000. (To get the accumulated depreciation for year 3 we add K8 000 from column D in year 2 to K4 000 in column C in year 3.)

Turn to page 62 to do activity 6.2.

Activity 6.2: Complete the activities given below.

1. What is the term used for the value of an asset that is fully depreciated and is no longer in use?

_____

2. Gima bought a lounge set costing K5000. The residual value is K500 and annual depreciation is 30%. Draw up a depreciation schedule for three (3) years using the straight line method.

2. Reducing Balance Method

The second method of calculating depreciation is called the reducing balance method. This is where a set percentage of the cost of the asset is deducted each year. In each successive year the balance is reduced by the same percentage and the depreciate amount gets smaller each year.

Formula for Reducing Balance Method.

$$D = \frac{R\,(C - P)}{100}$$

Where: D = The amount of depreciation to be written off.
R = rate of depreciation.
C = Cost of the asset.
P = the amount of depreciation written off so far.

You can also name it a carrying cost to be consistent with method 1.

Let us look at an example of how we can calculate depreciation using the reducing balance method.

Example;

An asset costs K10 000 depreciate at the rate of 15% each year. What is the value of depreciation at the end of 3 years?

At the end of year 1:

$$\text{Depreciation} = \frac{R}{100} \times (C - P)$$

$$= \frac{15}{100} \times (10\,000 - 0)$$

$$= \frac{15}{100} \times 10\,000$$

$$= K1500$$

At the end of year 2:

$$\text{Depreciation} = \frac{15}{100} \times (10\,000 - 1500)$$

$$= \frac{15}{100} \times 8500$$

$$= K1275$$

At the end of year 3:

$$\text{Depreciation} = \frac{15}{100} \times (10\,000 - (1500 + 1275)$$

$$= \frac{15}{100} \times (10\,000 - 2775)$$

$$= \frac{15}{100} \times 7225$$

$$= K1083.75$$

At the end of year 3, the depreciation will be K1083.75 and the value of the asset will be:

Cost of asset - Accumulated depreciation value for the last three years

= K10 000 – (1500 + 1275 + 1083.75)

= K10 000 – K3858.75

= *K6141.25*

The information we gather for 3 years can be presented in a depreciation table.

Reducing Balance Method

A	B	C	D	E
Year	**Cost carrying amount at beginning year (K)**	**Annual Depreciation (15% x B) (K)**	**Accumulated depreciation (prev D + C) (K)**	**Residual value at the end of the year (Carrying amount at end of year) (B – C) (K)**
1	10 000	15% × 10 000 = K1500	0 + 1500 = 1500	10 000 – 1500 = 8500
2	8500	15% x 8500 = 1275	1500 + 1275 = 2775	8500 – 1275 = 7225
3	7225	1083.75	3858.75	6141.25
4	6141.25			

The value of depreciation is calculated each year at the reducing balance given the depreciation rate.

Explanation;

In year 2 the balance remaining after the depreciation is K8500 therefore, the depreciation amount in year 2 is calculated as 15 percent (%) of K8500 is K1275. At the end of each year carrying amount is subtracted from the carrying cost (column A). Therefore, at the end of year 2, our carrying amount will be K7225 which will become the new balance in year 3. And the process continues depending on the number of estimated years of use.

=15% × K8500

=15/100 × K8500 = K1275

Note: 1. We can earn residual value under Reducing Balance Method.
2. There will be some small amount left not depreciated under Method 2. In method 1 everything will be depreciated.

Activity 6.3: Complete the activities given below.

Refer to the example on Reducing Balance Method on page 64 and complete year 4 and 5. Show this calculation in the box provided.

Summary

You have come to the end of Lesson 6. In this lesson you learnt that;

- Depreciation means loss in value of assets dues to wear and tear overtime.
- Depreciation applies to non-current assets such as equipment, furniture and machinery.
- Depreciation can also be seen as a lose of value overtime, it can be seen as *a deduction of the cost of the asset* over its useful life.
- There are two main ways of calculating the depreciation value: the *straight line* method and the *reducing balance* method.
- *Residual value* is an estimate of how much you might get from selling the asset after its useful life.
- Depreciation is expressed as a percentage of the depreciable value of an asset.
- In using the Reducing Balance Method, a set percentage of the cost of the asset is deducted each year. In each successive year the balance is reduced by the same percentage. The balance and the depreciation get smaller each year.

NOW DO PRACTICE EXERCISE 6 ON THE NEXT PAGE

Practice Exercise 6

1. Explain what a residual value is.

_____

_____

2. Rose purchased a standby generator for K100 000 and expected it to last for six (6) years. Her estimated price of the photocopier after 6 years is K20 000.

Use the Straight Line Method of calculating depreciation.

a. What is the annual depreciation value of the standby generator?

b. What is the annual depreciation rate of the standby generator?

3. Paula bought a truck for K120 000. She expects to use the truck for ten (10) years and after ten (10) years, she expects to sell the truck for K20 000. Use the Straight Line Method.

What was the annual depreciation value of the truck?

4. Peter bought a computer and a printer at a total cost of K5440. Expected life of both the computer and the printer is three (3) years and the depreciation rate is 25%. What will be the value of the computer and the printer at the end of the second year? Use the reducing balance method of depreciation.

5. Tom bought a phone set worth K5, 000 in March. The machine loses its value by 5% a year and its residual value is K200. Calculate the depreciation for the year ending 31st December.

CHECK YOUR ANSWERS AT THE END OF THE TOPIC 2

Lesson 7: Calculating Insurance Premiums and compensations

Introduction:

There are risks that businesses take in running their businesses, risks including fire, theft, loss of goods, worker compensation and other risks that affect businesses. Businesses have to insure their goods, workers and the business. In this lesson, we will discuss what business do to insure their business risks and work out how much they pay to insure and get compensated.

Your aim:

- Define insure, premium and compensation claims and state their purposes
- Calculate premiums and compensation claims

What is Premium?

Before we define premium, let us go back and recap what insurance is. Insurance is a fair transfer of risk of a loss from one person or organisation to an insurance company in exchange for a payment. It is a contract or an agreement between an individual or an organisation and the insurance company. This contract is referred to as the insurance policy. The insurance company becomes the insurer or an assurer while the other party becomes the insured or the assured. There are two conditions agreed to in the insurance policy;

- The insured (policy holder) agrees to pay an insurance premium.
- The insurer (the insurance company) agrees to pay or compensate for insured losses suffered by the insured.

Premium is the amount of payment made by the insured or the assured to the insurance company. The premium paid to the insurance company depends on the amount of risk and the amount insured for. The higher the risk, the higher the premium, the insured will pay. The risk is measured based on the information given by the insured on the completed insurance proposal form. The insurance company will provide financial protection against any loss suffered from unexpected fire, theft or flood. Thus for a business, a premium is the cost of insurance.

The formula used to calculate the premium is:

Premium = Rate x Number of units of coverage

Premium is usually stated as rates.

Turn to page 70 to see the calculation on how to calculate premiums.

Example;

The premium you will pay for an insurance you take out with an insurance company is K1000 unit coverage. Insurance companies may offer K100 or K1000 I this case the unit coverage is K1000. You are insuring one of your properties for K20 000. The rate the insurance company is offering is K2.65 per K1000 unit. This is how you calculate the premium you will be paying;

Premium = rate x number of units of coverage.

= K2.65 × (K20 000 ÷ 1000)

= K2.65 × 20

= K53

Activity 7.1: Complete the activities given below.

1. What is insurance?

_____

_____

2. Who is the insurer?

_____

_____

3. What is premium?

_____

_____

There are different types of insurance. Let us look at some of them to see how premiums are calculated.

Life Insurance

Life insurance protects a family financially if a breadwinner dies. Insurance company offer different types of insurance policies. Term Life Insurance can be bought for a specific period of time or up to certain age. Whole Life Insurance offers financial protection throughout a person's life.

Example;

A man aged 30 years old purchased a ten-year policy worth K30 000. He paid the premium for five years but dies after five years. His beneficiaries received K3000.

Payout = Premium ÷ 10 years

= 30 000 ÷ 10

= K3000

Irrespective of the type of policy, a common approach is used to calculate annual insurance premiums. For life insurance policies, insurance companies have standard tables that give the annual premium per K100 or K1000 depending on the insured's age at the time of purchasing the policy.

Five – year Term Life insurance table	
Age at the time of purchase	Annual premium per K1000 for non-smoking male
20	K1.85
25	1.67
30	1.98
35	2.11
40	2.28
45	3.18

Whole Life insurance table	
Age at the time of purchase	Annual premium per K1000 for non-smoking male
20	K11.85
25	11.65
30	11.98
35	21.11
40	21.28
45	31.18

When calculating the premium, insurance companies draw their conclusions from the tables above.

- The whole life premium is greater than the five year term premium because whole life insurance is riskier than the short term insurance.
- The premium for older people are greater than those for younger people because there is a greater possibility of older people dying compared to the young people.

Following steps are taken to work out the annual premium.

Step 1: Find the number of units purchased
Step 2: Find the premium per K1000 using the insurance table.
Step 3: Calculate the annual premium using the formula;
Annual premium = number of units x premium per K1000.

Let us work out a premium for this example.

Example;

Manuel is 35 years old. He wants to purchase a K50 000 five-year term life insurance policy. Calculate his annual premium.

Number of units purchased = 50 000/1000 = 50
Premium per K1000 from the table = K2.11
Annual premium = Rate × Number of units of coverage
= 2.11 × 50
= K105.50

Turn to page 72 to do activity 7.2.

Activity 7.2: Answer the questions.

1. What is the difference between the Term Life policy and the Whole Life policy?

_____
_____
_____

2. Why do people with the whole life policy pay more?

_____
_____

3. Why do older people pay more premiums?

_____

4. Linda is 45 years old. She pays 30 units of K1000 of whole life premium. How much does she pay for the premium in a year? Use the table on page 71 to calculate the premium.

Health or medical insurance

Health insurance protects the insured against the cost of medical expenses. The workers become members of their company's health scheme. Both the workers and the company contribute towards the insurance scheme by paying part of the premium. A company can pay a premium for the employees a group medical insurance.

Below is an example of how to calculate health insurance.

Example;

Raymond is a member of his company's group health insurance scheme. The annual premium is K840 (K100 × K84 000) of which the employer pays 75%.

a. Calculate premiums paid by both parties.
   Annual premium
   Employers annual premium = Rate x Number of units of coverage
   = 75% × 840
   = *K630*

   Raymond's annual premium = Rate x Number of units of coverage
   = 25% × 840
   = *K210*

b. Calculate premiums paid fortnightly by Raymond.
   Raymond's fortnightly premium = Rate x Number of units of coverage
   = 210 ÷ 26
   = *K8.08*

Note: Medical claim is subject to excess. Excess is covered later in this lesson.

Household Insurance

Household insurance protects the insured against losses from fire, theft, flood and similar damages. Payment by the insurance company's is based on the extent of the damage, the actual value of the house, the face value of the policy and clauses in the policy and other factors. There is a slight difference between insuring the building under 'House owner's' cover and the content of the house under 'Household' cover

Example;

1. The value of a house is K600 000 and is insured for K60 000. If the house is completely destroyed by the fire, the insurance company will pay K60 000. If the damage is worth K20 000, the owner will receive K20 000. In this case, the property is under insured, insured below its real value.

2. If a house valued K600 000 is insured for K300 000, the insurance company will pay K300 000 if the house is completely destroyed. If damage caused by the fire is K20 000, the owner will only receive K10 000 because he will have insured only half the damage, that is; 30000/600, 000 is half so half of the damage is K20 000/2 = K10 000.

We can draw a table of housing insurance from the two examples above.

Value (K)	**Insured amount(K)**	**Damage (K)**	**Compensation (K)**
600 000	600 000	600 000	600 000
100%		**100%**	
600 000	600 000	20 000	20 000
100%		**100%**	
60 000	300 000	20 000	10 000
50%		**50%**	

The table shows that the insured gets compensated for the percentage (%) of damaged insured.

Explanation;

If you look at the second row of the table, you will see that the house is insured 100% of its value but the insured gets 100% worth of damages. In other words, even though, the house and the insured value are same, the insured only get K20 000 because the value of damages is worth K20 000.

The last row also shows that because half the value of house is insured; that is 50% of K60 000 is K30 000, the claimant receives only half of the damages (50% of K20 000) is K10 000.

We can conclude that the compensation will be based on the % of damage proportional to the value of the house insured. So if 45 % of the house is insured, the insured can only claim 45% of the value of the damage. The opposite is also true. You cannot make a profit out of insurance claim by insuring for a higher value. If the same house was insured for K70 000 and is totally destroyed, the insured will only receive K60 000.

Motor Vehicle Insurance

Motor vehicle insurance is liability insurance. When your vehicle encounters accident, you are liable to pay damages for death, bodily injury to other persons or property. Motor vehicle insurance protects you from paying damages out of your pocket. Instead, the insurance company pays for the damages to the persons involved. According to the law, motor vehicles cannot be put on the road without having full insurance cover.

There are different types of motor vehicle insurance policies available.
Let us look at two of these policies.

- Third Party Cover
  This policy provides insurance against claims for bodily injuries or deaths caused to other people as well as claims for loss or damage to other people's property caused by your vehicle.
- Comprehensive Cover
  This policy provides the widest coverage: third party bodily injury and death, third party property loss or damage, loss or damage to your own vehicle due to accidental fire, theft or accident. The premium for comprehensive insurance is much higher than the third party insurance.

The liability insurance is often described by three numbers such as 50/100/26. These numbers refer to the amount of liability an insurance covers.

Example;

50/100/25 includes K50 000 cover for bodily injury to a single individual, K100 000 for bodily injury to everyone in an accident, and K26 000 to property damage.

The premium payable for motor vehicle insurance differs according to the value, the type of motor vehicle, the nature of the policy and additional damages covered in the policy. The insurance company assesses insurance applications individually and decides on the premium in each case.

No claim bonus

One important aspects of comprehensive motor vehicle insurance is the 'no claim bonus'. The premium payable may be reduced if the insured has a no claim bonus entitlement. A no claim bonus is a reward scheme for owners if they have made no claim against their policy during the preceding twelve months. Different rates apply to different classes of vehicle.

Let us study the example given.

Example:

If no claim bonus is 25%, then the next premium is reduced by 25%. A vehicle owner pays an insurance premium of K750. If he enjoys 25% no claim bonus, he will pay only K562.50 as a premium, that is;

Premium = Premium Amount × No claims Bonus

= 750 - (25÷100 ×750)
= 750 – (0.25 × 750)
= 750 – 187.50
= *K562.50*

Excess

An excess is a clause in the insurance policy that requires the insured to pay a specific amount of any claim before the insurance company pays. If the excess is high then the premium will be low. The amount paid by the insurance company is damage minus the excess.

Example;

Christine has a property damage policy with an excess of K500. Heavy rain caused damage worth K3500 to her property.

Her amount receivable = Damage – Excess
= 3500 – 500
= *K3000*

Coinsurance

Coinsurance is a clause included in an insurance policy to avoid under insuring properties. Coinsurance is expressed as percentage and the insurance benefit is calculated using a percentage. If a property is not insured for at least 80% of its replacement value and the claim needs to be made, the owner would only receive 80% of the claim amount.

This can be seen in the example given below.

Philip has K750 000 worth of property for his electrical business which is only insured for K48 000 and the policy has an 80% coinsurance clause. Philip lost K5000 worth of property in the fire.

Let us look at how much claim Philip will receive from the insurance company.

$$\text{Insurance benefits} = \frac{\text{face value of the policy}}{\text{80\% of property replacement value}} \times \text{loss}$$

$$= \frac{48\,000}{80\% \times 75\,000} \times 5000$$

$$= \frac{48\,000}{(80 \div 100) \times 75\,000} \times 5000$$

$$= \frac{48\,000}{0.8 \times 75\,000} \times 5000$$

$$= \frac{48\,000 \times 5000}{60\,000}$$

$$= \frac{24\,0000}{6}$$

$$= K4000$$

.

Philip has under insured his property and will be compensated in proportion to value insured as shown.

 **Activity 7.3: Complete the activities given below.**

1. Which of the insurance covers medical expenses?

_____

2. What is the Third Party Policy?

_____

_____

3. What is ‘no claim bonus’?

_____

_____

4. Julie’s house worth K10 000 was insured for K7500. A nearby bush fire burnt the house and when assessed, K5000 worth of household goods were damaged. How much did Julie receive from the insurance company?

Summary

You have come to the end of Lesson 7. In this lesson you learnt that;

- Insurance is equitable transfer of risk of a loss from one person or organisation to an insurance company in exchange for a payment. It is a contract between an individual or an organisation and the insurance company. This contract is referred to as the insurance policy.
- Premium is the amount of payment made by the insured or the assured to the insurance company. The premium paid to the insurance company depends on the risk and the amount insured for. The higher the risk, the higher the premium the insured will pay and vice versa.
- Premium is usually stated as rates but is quoted in amounts to customers
- For life assurance policies, insurance companies have standard tables that give the annual premium per K100 or K1000 depending on the insured's age at the time of purchasing the policy.
- Both the workers and the company contribute towards the insurance health scheme by paying part of the premium.
- Payment by the insurance company's for household loss is based on the extent of the damage, the actual value of the house, the face value of the policy and clauses in the policy and other factors.
- Motor vehicle insurance is liability insurance.
- The premium payable for motor vehicle insurance differs according to the value, its use, the type of motor vehicle, the nature of the policy and additional damages covered in the policy. The insurance company assesses insurance applications individually and decides the premium in each case.
- One important aspects of comprehensive motor vehicle insurance is the 'no claim bonus'. The premium payable may be reduced if the insured has a no claim bonus entitlement.
- An excess is the clause in the insurance policy that states the insured will pay a specific amount of any claim before the insurance company pays. The higher the excess, the lower the premium. The amount paid by the insurance company is total damage claim minus the excess.
- Coinsurance is a clause included in an insurance policy to avoid under insuring properties. Coinsurance is expressed as percentage. The insurance benefit is calculated using the percentage. The opposite is over insurance

NOW DO PRACTICE EXERCISE 7 ON THE NEXT PAGE

Practice Exercise 7

1. What is insurance?

_____
_____

2. What is a premium?

_____
_____

3. What is the difference between excess and no claim bonus clauses?

_____
_____
_____

4. Joyce is 45 years old. She wants to purchase a K90 000 whole life insurance policy. What will be her annual premium?
   Use the tables in page 71 to determine the rate for whole life insurance policy.

5. Paula is a member of a health insurance scheme. Her annual premium is K1200 of which she pays 10%.

a. Calculate the employer's annual premium.

b. How much does Paula pay towards the premium fortnightly?

6. Peter's house worth K100 000 was insured for K80 000. In the rainy season last year, Peter lost K20 000 in damages. How much compensation did he receive?

7. Mary has K50 000 worth of property which is only insured for K40 000 and the policy has 75% coinsurance clause. Mary lost K30 000 worth of property in the cyclone.

Calculate Mary's benefits using the formula:

$$\text{Insurance benefits} = \frac{\text{Face value of the policy}}{\text{80\% of property replacement value}} \times \text{loss}$$

8. Paul has a property damage policy with an excess of K5000. Heavy rain caused the damage of K10 500 to his property. How much compensation did Paul receive?

CHECK YOUR ANSWERS AT THE END OF TOPIC 2

ANSWERS TO

TOPIC 2

PRACTICE EXERCISES

ANSWERS TO PRACTICE EXERCISES 5 - 7

Lesson 5

1. What are the two (2) types of income discussed in this lesson?
   a. Wage *b. Salary*
2. Explain in your own words what overtime wage is.
   Overtime is extra time one works for over the time set for normal working hours.
3. Philip employs her cleaner clerk on a daily rate of K12.50.

a Calculate the cleaner's hourly rate.
K1.56

b What would be her hourly rate if she worked on Sundays?
K3.12

c. What would be the hourly rate if she worked after hours on the weekdays?
K2.34

d. How much did she earn in 28 days in normal wage and overtimes; 5 hours on 4 Sundays and 16 hours on weekdays.

K12.50 × 28 days = K350.00
Overtime on Sundays: 4x5 = 20hrs × K3.12 = K62.40
Overtime on weekdays = 16 hrs × K2.34 = K37.44

4. Grace works for ten (10) hours in a day and 21 days in a month. She earns K63 000 in a year. What is the hourly rate paid to Grace?

$$\text{Monthly rate} = \frac{K63\,000}{12} = K5250$$

$$\text{Daily rate} = \frac{5250}{21} = K250$$

$$\text{Hourly rate} = \frac{K250}{10} = K25$$

Lesson 6

1. What is the meaning of depreciation?
   Depreciation means a loss in value of fixed assets.

2. Rose purchased a standby-generator for K100 000 and expected it to last for six (6) years. Her estimated price of the standby-generator after six (6) years is K20 000.
Use the straight line method of calculating depreciation.

a. What is the annual depreciation value of the standby-generator?

$$\text{Annual Depreciation} = \frac{110\,000 - 14\,000}{6}$$

$$= \frac{96000}{6}$$

$$= K1000$$

b. What is the percentage (%) depreciation rate of the standby-generator?

$$\frac{16\,000}{96\,000} \times 100 = 17\%$$

3. Paula bought truck for K120 000. She expected to use the truck for ten (10) years and after ten (10) years, she expects to sell the truck for K20 000. Use the straight line method.
   What was the annual depreciation value of the truck?

$$\frac{120\,000 - 20\,000}{10}$$

$$= K10\,000$$

4. Peter bought a computer and a printer for the total cost of K5440. Expected life of both the computer and printer is three (3) years and the depreciation rate of 25%. What will be the value of the computer and the printer at the end of the second year? Use the reducing balance method of depreciation.

   D = r × (cost of assets – The amount of depreciation written so far)

   Yr 1: 25 % (5440 - 0) = K1360

   Yr 2: 25 % (5440 - 1360)
   = 25% (4080)
   = 1020

   Value of computer and printer after two years
   = Cost – (Accumulated depreciation)
   = 5440 – (1360 + 1020)
   = 5440 – 2380
   = K 060

5. Tom bought a phone set worth K5000 in March. The machine loses its value by 5% a year and its residual value is K200. Calculate the depreciation for the year ending 31st December.

$$\text{Depreciation} = \text{Cost} - \text{Residual} \times r \times \text{period of depreciation}$$

$$= (5000 - 200) \times \frac{5}{100} \times \frac{10}{12}$$

$$= 4800 \times 0.05 \times 10/12$$

$$= K200$$

Lesson 7

1. What is insurance?
   Insurance is equitable transfer of risk of a loss from one person or organisation to an insurance company in exchange for a payment.
2. What is a premium?
   Premium is the amount of payment made by the insured or the assured to the insurance company.
3. Write down the formula used to calculate the premium.
   Premium = rate x number of units of coverage
4. What is the difference between access and no claim bonus clauses?
   A no claim bonus is a reward scheme for owners if they have made no claim against their policy during the preceding twelve months.
   An excess is the clause in the insurance policy that states the insured will pay a specific amount of any claim before the insurance company pays. The amount paid by the insurance company is damage minus the excess.
5. Joyce is 45 years old. She wants to purchase a K90 000 Whole Life Insurance policy. What will be her annual premium?
   Use the tables in page 71 to determine the rate for Whole Life Insurance policy.

   Number of 1000 units: 90,000/1000 = 90
   Rate for 45 years old: = 31.18
   Annual premium = 90 x 31.18 = K2806.20
6. Paula is a member of a health insurance scheme. Her annual premium is K1200 of which she pays 10%.

a. Calculate the employer's annual premium.
   90% of K12 000
   = K10 800

b. How much does Paula pay towards the premium fortnightly?

   K1200 – K1080
   = K120
   $= \frac{K120}{26}$
   = K4.62

7. Peter's house worth K100 000 was insured for K80 000. In the rainy season last year, Peter lost K20 000 in damages. How much compensation did he receive?

   $\frac{80\,000}{100\,000} = 80\%$

   80% of 20 000 = K16 000 compensation

8. Mary has K50 000 worth of property which is only insured for K40 000 and the policy has 75% coinsurance clause. Mary lost K30 000 worth of property in the cyclone.

   Calculate Mary's benefits using the formula:

   $$\text{Insurance benefits} = \frac{\text{Face value of the policy}}{\text{80\% of property replacement value}} \times \text{loss}$$

   $$= \frac{40\,000}{80\% \times 50\,000} \times 30\,000$$

   $$= \frac{40\,000}{80 \div 100 \times 50\,000} \times 30\,000$$

   $$\frac{40\,000}{0.8 \times 50\,000} \times 30\,000$$

   $$\frac{40\,000}{40\,000} \times 30\,000$$

   $$= K30\,000$$

9. Paul has a property damage policy with an excess of K5000. Heavy rain caused the damage of K10 500 to his property. How much compensation did Paul receive?

   Amount receivable = Damage – excess
   = 10 500 – 5000
   = K5500

REVISE TOPIC 2 AND DO TOPIC 2 TEST IN YOUR ASSESSMENT BOOK 2

TOPIC 3

CALCULATING PROFIT DISTRIBUTION IN PARTNERSHIPS AND CALCULATING DIVIDENDS AND STOCK VALUES

In this topic you will learn about;

- **Calculating Profit Distribution in a Partnership**
- **Calculating Dividends and Stock Value**

TOPIC 3: CALCULATING PROFIT DISTRIBUTION IN PARTNERSHIPS AND CALCULATING DIVIDENDS AND STOCK VALUES

Welcome to Topic 3: 'Calculating profit distribution in partnerships and calculating dividends and stock values'. In this Topic, you will learn how to calculate and distribute profit in partnership businesses. You will also learn how to calculate dividends and stock value as a stock broker.

This topic consists of two (2) lessons.

Lesson 8: Calculating Profit Distribution in a Partnership

In this lesson you will define partnership deed and partnership ordinance. You will also learn about the operation of partnership businesses. Furthermore, you will learn how to calculate profit in partnership business and define the terms debtors, creditors and proprietor.

Lesson 9: Calculating Dividends and Stock Value

In this lesson you will define shares, stocks, debentures and bonds. You will also describe the procedures involves in buying and selling of shares, stocks, debentures and bonds. Furthermore you will learn how to calculate dividends and shares.

Lesson 8: Calculating Profit Distribution in a Partnership

Introduction

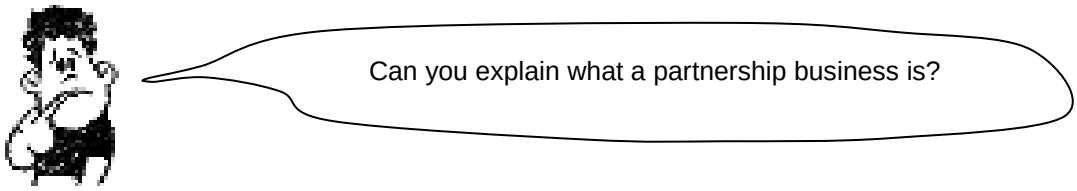
Welcome to Lesson 8. Lesson 8 is the first lesson for Topic 3. In the previous topic you learnt about calculating wages, depreciation, insurance and inflation. In this lesson you will learn about calculating profit distribution in a partnership business.

Your Aims:

- Define partnership Deed and Partnership Ordinance (Act) with their purpose
- Describe the operation of a partnership business in relation to profit distribution
- Calculate shares of profit for each partner as specified in the agreement
- Define a debtor, a creditor and a proprietor

What is a Partnership Deed and a Partnership Ordinance?

A partnership business develops from a sole trader. A sole trader refers to a one person or one man running a small business like a canteen or a trade store.



The word partnership is derived or comes from the root word partner. Partner refers to somebody who is involved in an activity with someone else. So a partnership business refers to a business which consists of at least two and not more than twenty members. They are people who may know each other or share the same profession or work who wish to get into business. A partnership business therefore should have more money if there are more partners to invest then a sole trader.

A partnership is easy to set up and it is advisable to have a written partnership agreement also known a Partnership Deed. So what is a Partnership Deed?

A Partnership Deed is a document that outlines the rights and responsibilities of all parties to a business operation.

The purpose of the partnership deed is to guide the partners in the conduct of the business. For example, if a business wants to start new business it needs to have a general meeting for all to agree before money is allocated or given out for that new business. It is also helpful to solve disputes and share benefits like profit which are due to them.

The partnership deed will give details of;

- *The type of trade or business* .For example, a building construction, retailing or catering.

- *The duties and responsibilities of each partner.* This will state, for instance, which partners have the right to sign contracts or cheques for the business. All partners will have unlimited powers to act on behalf of the other partners but must be responsible. Unlimited means without control.
- *How profits are to be shared.* There are various ways in which profits may be paid to the partners. Partners who play an active part in running the business will also receive a salary each. The amount will be stated in the partnership deed.
- *How losses are to be shared among the partners.* Whatever is agreed among the partners, all debts must be repaid. This is because partnerships have no limited liability. Limited liability refers to losses suffered by owners or investors are limited to what has been invested in the business. So if there is no limited liability this means that the partners will suffer greater loss if business faces debt problem. Debt refers to money owed to others by the partnership.

If no partnership deed has been drawn up and there is disagreement among the partners, the dispute or argument will be settled in court according to the law dealing with partnership called the Partnership Ordinance. Ordinance refers to law.

Partnership Ordinance refers to a law that protects partners in partnership businesses.

The purpose of the Partnership Ordinance is to protect partners in partnership business where there is no Partnership Deed in any partnership business.
Partnership businesses in Papua New Guinea are protected by the Partnership Act of 1951, chapter 148.

Activity 8.1: Complete the activities given below.

1. Define
a. Partnership Deed _____
b. Partnership Ordinance _____

2. What is a partnership business?

_____

Profit Distribution and Calculating/ Sharing of Profits

There are many different ways by which partnership profit may be distributed or shared among the partners. We will only consider two of these methods:

1. *Profits distributed based on capital contributions.*

Here, the profits paid to the partners depend on how much the partners have contributed to start the business. On the next page is the formula that is used to work out the profit for each partner.

SHARE OF PROFIT FOR EACH PARTNER	**$\frac{\text{CAPITAL CONTRIBUTION}}{\text{TOTAL CONTRIBUTION}} \times \text{PROFIT}$**

Let us go through one example using the formula given on the previous page (page 94).

Example;

Kumi, Paul and Edward formed a partnership. They run a trucking business. They contributed the following capital or money as follows:

Kumi	K50 000	K 150 000
Paul	K30 000	
Edward	K70 000	

Their profit for the first year of operation was K180 000. This profit would be shared among the partners in the following way:

Step 1. Add all the partners' contribution.

K50 000 + K30 000 + K70 000 = K150 000

Step 2. Find each partners profit by using the formula of Capital contribution given above.

Kumi K50 000 × K180 000 = K60 000
K150 000

Paul K30 000 × K180 000 = K36 000
K150 000

Edward K70 000 × K180 000 = K84 000
K150 000

Note that losses of partnership in the business are calculated in the same way. However, when you calculate, all partners shares must always add up to the total. For example, K60 000 + K36 000 + K84 000 must always equal to K180 000.

2. Equal distribution of profit for partners

Under this method the profits are distributed equally regardless of the amount they contribute to start the business. Let's go through an example to understand better this method.

Example;

A partnership consists of four remembers - Felix and his wife, Mary, Joseph and his brother Peter.
The partners contributed capital as follows:

Felix	K 10 000
Mary	K1 000
Joseph	K7 500
Peter	K2 500

In the partnership deed, it is stated that;

- Felix and Peter should each receive a salary of K10 000
- All partners should receive interest of ten percent (10%) on their capital contributions.

- Profit (after interest and salary payments to partners) should be divided equally among the partners.

If the net profit is K100 000, than it will be distributed as follows:

Step 1. Distribute salaries to those who are to receive them.

Salaries	
Felix	K10 000
Peter	K10 000
Total	K20 000

Step 2. Distribute the interest according to the set percentage of their contribution.

Interest payments		
Felix	K10 000 × 10/100 =	K1 000
Mary	K1 000 × 10/100 =	K 100
Joseph	K7 500 × 10/100 =	K 750
Peter	K 2 500 × 10/100 =	K 250
Total		K 2 100

Step 3. Work out the balance profit by subtracting total salaries and interest from the profit earned.

Profit for each partner (after salary and interest payments):

Profit		K100 000
Less:		
Salaries	K20 000	
Interest	K 2100	K 22 100
Balance		K 77 900

Step 4. Work out the profit for each partner by distributing the profit equally among the partners.

Profit for each partner (after salary and interest payments) –
K77 900/4 = K19 475

Distribution of profit to each partner:

	Felix	Mary	Joseph	Peter	Total
Salary	K10 000			K10 000	K20 000
Interest	K 1 000	K 100	K 750	K 250	K 2100
Profit	K19 475	K19 475	K19 475	K19 475	K77 900
Total	K30 475	K19 575	K20 225	K29 725	K100 000

As mentioned earlier partnerships are suitable for people with professional skills as well as those in the same trade. For instance, a group of accountants, architects, doctors or dentists may come together and form a partnership. In this way, a number of doctors, for example, can benefit sharing the same office and facilities. In fact the majority of partnerships are formed by professionals.

Activity 8.2: Complete the activities given below.

1. A partnership of three people- Kasi, Kalum and Lalu contribute the following amounts to set up their business:

Kasi K10 000
Kalum K25 000
Lalu K15 000
They agreed to share any profit in proportion to their capital contributions.

2. In 2010 the partnership made a profit of K60 000. Calculate the profit earned by each partner. Show your calculations in the space provided.

Summary:

You have come to the end of Lesson 8. In this lesson you learnt that;

- A Partnership Deed is a document that outlines the rights and responsibilities of all parties to a partnership business operation.
- Partnership Ordinance refers to a law that protects partners in partnership businesses.
- Partnership businesses normally develop from sole traders.
- Sole trader refers to business activity that involves one person running a business.
- The purpose of the Partnership deed is to guide the partners in the conduct of their business.
- The purpose of the Partnership Ordinance is to protect the partners in the business.
- There are various ways that partnership uses to calculate and distribute their profits. It can be based on their contributions or share it equally among partners.

NOW DO PRACTICE EXERCISE 8 0N THE NEXT PAGE

Practice Exercise 8

1. Fill in the table below the purpose of the partnership Deed and Partnership Ordinance.

Source	Purpose
Partnership Deed	
Partnership Ordinance	

2. If there is disagreement among partners, explain how it will be solved.

_____
_____
_____

3. Ian and John are two architects. They formed a partnership business. According to the partnership deed:

Ian contributes K10 000 and John contributes K18 000.
They agree to pay themselves interest of 12 percent on their capital.
Ian receives a salary of K15 000 and on a salary of K10 000.

Profit after deductions for salary and interest is to be shared equally.
Calculate how profit of K120 000 would be distributed between the two partners.

CHECK YOUR WORK. ANSWERS AT THE END OF UNIT 3

Lesson 9: Calculating Dividends and Stock Values

Introduction

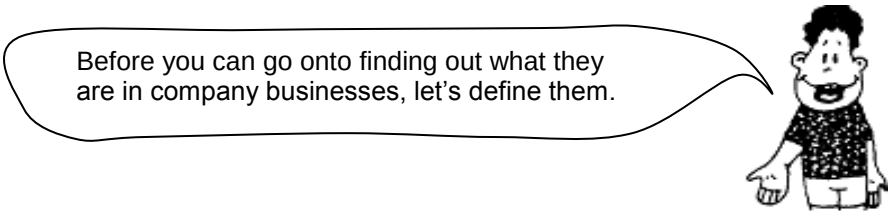
Welcome to Lesson 9. Lesson 9 is the last lesson for Topic 3. In fact there are only two lessons in Topic 3 and they are lessons 9 and 10. In the last lesson you learnt about calculating profit in partnership business. In this lesson you will learn about calculating dividends and stock values.

Your Aims:

- Define shares, stocks, debentures and bonds
- Describe the processes involved in buying and selling shares, stocks, debentures and bonds
- Calculates dividends
- Calculate buying and selling of shares

What are Shares, Stocks, Debentures and Bonds?

The above mentioned names: shares, stocks, debentures and bonds deal with investing money into companies especially public companies to make more money. Invest means to put money into some place or business activity to get more in return for your investment.



(i) Share: Share refers to one of a number of titles of ownership in a company. When you buy shares in a company, you become a part owner of that company.

(ii) Stock: Stock refers to the shares of the business that are sold to the public.

(iii) Debenture: Debenture refers to a certificate that acknowledges the existence of a debt of a particular amount owed to somebody by a company for a fixed period of time at a fixed rate of interest. You get debenture certificate when you lend money to a company.

(iv) Bond: Bond refers to a certificate issued by a government or company to pay back borrowed money at a fixed rate of interest on a specific date.

Process involved in the Buying and Selling of Shares, Stocks, Debentures and Bonds

Here, we will go through the processes involve in buying and selling of shares, stocks, debentures and bonds. As you proceed on you will note that shares and stocks go hand in hand whilst debentures and bonds go together.

1. Shares

You can only become part owner of a company that you invest money in by buying shares from that company. When you buy shares from the stock market you become a shareholder who is part owner of the company. To buy shares you will go through the Port Moresby Stock Exchange or PomSox. Stock exchange or stock market is a market place for shares. You choose from a wide range of companies to buy shares offered for sale.

Buying shares

Below are the steps on how to go about buying shares.

Steps	Explanations
1	Place your order with the share broker. Any order should be stated clearly so that there is no room for misinterpretation. It is good idea to ask the broker to repeat your order back to you. If you are a new client or customer, the Share broker may ask you to lodge in advance sufficient funds to cover your initial or first transaction. Transaction in this case refers to buying the shares.
2	Your order may either be placed “at market” which means that the transactions will be completed at the market price prevailing or existing at that time, or “at limit” which means that the order will only be completed within the price limit which you require.
3	Your order is then placed on the market in search of a seller via or through a computer system known as the Stock Exchange Automated Trading Systems (SEATS) which is controlled by the Port Moresby Stock Exchange. This is done through use of technology like computers.
4	Once the order is completed, your broker will send you a contract note setting out the relevant particulars or required information of the transaction. Transaction refers to buying and selling of the shares. This contract note will request that you pay your Share Broker, if this has not already been done. The contract note will show the cost of the shares purchased and separate charges for brokerage. Brokerage refers to payment to the broker. Most contract notes will require settlement on the third business day following the transaction. Otherwise a penalty will apply.
5	When the broker has received payment for the shares purchased, the shares will be registered in your name by the company’s share registry.

Turn to page 95 to see the sample of a shareholders share certificate.

Below, is a sample of a shareholder's certificate called Share Certificate.

SHARE CERTIFICATE

Share Certificate Number
Kina Finance Limited

This certificate records that the shareholder is registered in the Company share register of the following shares.

Name of shareholders: DORIS KILA
Nominal Value of each share: K1.20
Number of shares to which this certificate entities the shareholders: 600
Total Nominal Value of Shares to which this certificate entitles the shareholder: 600

Executed by the Company Acting by: KINA FINANCE

Signature of Director: *Sdiba*

Signature of Director or Company Secretary: *WMasive*

Date: 4/12/2005

You can also buy shares in a new company and become a shareholder. New companies do not have their shares at the stock exchange until they register with the stock exchange. Therefore, you buy directly from the companies themselves.

In order to buy shares in a new company, one has to apply by completing an application form issued in a prospectus and issued to the public. Your application will be screened by the company and you will be informed in due course. If your application is accepted, you buy shares and you become a shareholder. Share certificate will be issued to you showing the number of shares own.

The reason for producing a prospectus is to protect investors. The prospectus is to protect investors. The prospectus provides all the necessary information such as;

- What type of business it will be in full.
- Who the promoters (starters) are and their contribution.
- Who will be the directors to run the business.
- Who the accountants and auditors are and so forth.

These information will enable an investor (s) to make well informed decisions.

Selling shares

Here are steps to selling your shares.

Step	Explanations
1	Place your instructions with your Share Broker. Once again you can elect to sell "at market' which is the standard price or "at limit" which is the specific price. For new clients, your share broker may require some form of notice that you own the shares prior to or before the order is being placed on the market.
2	Once the sale has been executed or done a contract note will be sent out to you advising the proceeds of sale from which brokerage have been deducted. Proceed refers to money made from sale of something. The contract note requests you to send the statement of holdings or original share certificates for the shares to be sold to the Share Brokerage before sale. A cheque in settlement of the sale should be available for collection, postage or deposit to a nominated bank account shortly after the sale.

2. Stock

Stock can mean either shares in a company or money raised from shares. Stock in the later sense is the investment of the company sold to the public to raise more money. The more the shares are sold the more the company is able to make and increase its investment. It is able to operate successfully and make profit called dividend which will then be paid to its shareholders.

Buying stock

There are various ways to buying stock.

(i) One way of buying stock from the stock is broker through the Stock Exchange. This means the steps will be similar to buying shares since a stockbroker will be paid to buy and sell the stocks.

(ii) Buying directly from the company itself. This will be arranged through their investment relations department.

Selling stock

The steps to selling stocks are similar to buying stock. Generally the investor wants to buy stock at lower price so its costs will be low and sell stocks at a higher price to make more money.

3. Debenture

Debentures are loans by short term investors to companies who promise to repay at a set time. The investors/lenders are issued certificates with the terms and conditions. These loans will have collateral/ security. The security which lenders can grab and sell to get their money back if the borrower fails to repay. There are two types;

1. Fixed Charges

   This type of security is one where the lender secures a borrower's asset(s), which he or she can sell to recover his or her money.

2. Floating Charges

   There is no fixed one asset. Any asset can be sold to recover the loan.
   Arrangements can also be made where interest is paid during the loan period with a final one to come with the principal at the end of the loan.

Buying debentures

Here are the steps to buying debentures.

Step	Explanations
1	Check the Sell Offer under debenture sales. This is through the use of technology like computer and the service called internet.
2	If you see a Sell Offer you like, the next step is to connect with the seller by making them an initial or first offer.
3	Using the form enter the amount of the Debenture you want to buy and a price for that amount. This will email details of your initial offer to the seller and enable them to correspond or make contact with you directly in order to negotiate and conclude a binding agreement.
4	Once you have agreed a binding contract of sale, you can pay using money in cash from your account or cheque or any other means satisfactory to both parties. If you agree to pay cash from your account a letter of authorisation from you as the buyer should be given to notify the seller of the transfer of money to them.

Selling debentures

Here are steps to selling debentures.

Step	Explanations
1	To sell a completed debenture you will need to create a sell offer under sell debentures administration section in your account. This is also through the use of technology like computers through use of service like internet access.
2	Select the debenture you wish to sell and enter the amount you are selling, your asking price, a preferred method of payment and a close date for the offer. Potential buyers will be able to make Initial or first Offers to buy your Debentures until the offer closes. You can also indicate a minimum or lowest amount of Debentures you have prepared to sell, which might be useful to buyers interested in less than the full amount on offer.
3	Sell offers for debentures will be reviewed by an administrator or someone in charge of debentures before being listed to potential buyer. You can withdraw a Sell Offer at any time. Each time someone makes you an Initial Offer to buy you will receive an email with details of the offer, plus a summary of the offers you have received to date. You can view all of the offers you have received from the administration section of your account from the computer.
4	Check the administrator of the sales of the debentures.

4. Bond

As mentioned earlier debentures and bonds go together in the sense that they are debts or money owed to be paid later. Bond is a loan but there is physical asset to back this loan.

Only large reputable organisations deal in bonds. Even government borrows using bonds. Our government tried to borrow using bonds but was not successful. This shows the size of loans and securities required for bonds. There is only one way to trade bonds and that is through a stock broker. To buy and sell listed bonds you will need to provide the broker with Faster Identification Number (FIN) which acts like a Personal Identification (PIN) number and identifies you as the registered holder.

Buying bonds

Here gives the step to buying bonds.

Step	Explanations
1	You will go through the brokers' client registration process and open a securities trading account. If you are a first time buyer, your broker will organise a Common Share Number (CSN) which the registrars will use to record all your bond holdings or shares. Registrar refers to the person who is registering you. You will need a CSN to trade bonds listed on the Stock Exchange.

Turn to page 98 and study the steps on selling bonds.

Selling bonds

Below gives the step to selling bonds.

Step	Explanations
1	Get from the broker a security transfer form. A form to sell bonds.
2	Arrange with the security transfer form to be signed by the registered holders on the bonds.
3	Check broker of the sale of the bonds.

Activity 9.1: Complete the activities given below.

1. Define
a. Share _____
b. Stock _____
c. Debenture _____
d. Bond _____
e. Invest _____

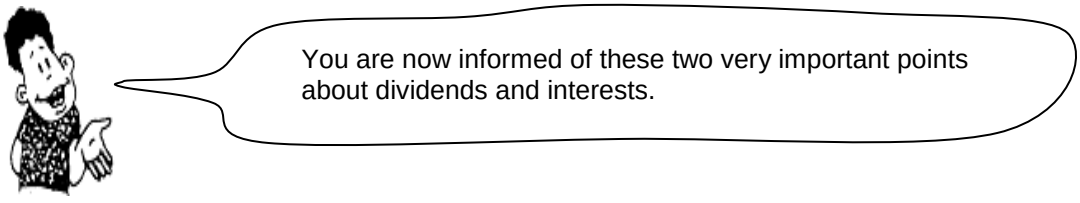
2. What is the purpose of companies buying and selling shares and stock?
_____

How to Calculate Dividends and Interests from Shares, Stocks, Debentures and Bonds

Before we can calculate the dividends and the interests, let's find out what dividend and interest are.

Dividend refers to the profits distributed to shareholders.
Interest refers to the charge by lenders on money borrowed.

The main purpose of people getting involved in the buying and selling of shares, stocks, debentures and bonds is to make money. This money is an income for them. So, dividends and interests are in fact incomes that are received from shares, stocks, debentures and dividends.



1. Dividends are incomes that are earned from buying and selling of shares and stocks.
2. Interests are incomes that are earned from buying and selling debentures and bonds.

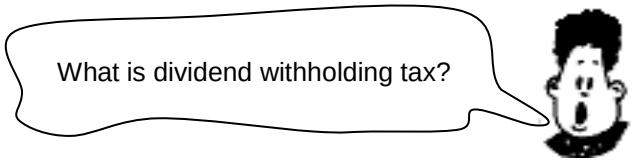
Let us continue on with the calculation of dividends and interests.

Calculating Dividends

When the company makes a profit it is divided among all the shareholders and stockholders. The amount of profit a shareholder receives will depend on three things;

- The amount of profit earned by the company
- The amount of profit distributed to the shareholders
- The number of shares owned by the shareholders.

A dividend withholding tax of 17% is deducted from dividends before shareholders receive them.



In practice how much divided per share to pay out is decided by the board of directors. Investors have no say in it. They only read of it in the newspapers not prospectus.

Dividend withholding tax refers to tax imposed or charged on profits of shareholders. This means the shareholder pays 17% of his dividend as tax to the government.

Let us go through the following steps to calculating dividends.

Step	Explanations
1	Learn your annual or yearly dividends by multiplying the dividend by the number of shares you have. For example; if you have 2000 shares of a stock paying 16 toea per share, you would earn, 2000 × 16 toea = K320 in annual or yearly dividends.
2	Find out the current market price for your shares by contacting BSP or any other companies you have bought and sold shares from. You can get this from the daily newspaper.
3	Calculate the dividend yield or current yield which is given in percentage. Dividend yield refers to the annual dividend divided by the share price and shows the return on your investment. Annual Dividend is 16 toea and the current share price is K8.01 (0.16t ÷ K8.01 × 100% = K1.9975 = 2%) So the dividend yield is 2%.

Calculating Interests

Interests are paid on debentures and bonds offered to companies or government institutions. The interest rate charged on debentures and bonds are on a fixed rate over a given period of time. When you sell debentures and bonds to investors, by law a standard fixed rate will be charged as interest annually or yearly. Note that the interest will be taxed if there are groups of people who have invested. Just like shareholders they will be charged tax on their interest earned.

Since debentures and bonds are like loan this is how the interest will be worked out.

Step	Explanations
1.	Check that you have set the right interest rate that the companies or the government institution will be paying.
2.	Calculate the interest using the given rate.

Example;

A company comprising 20 member invested a principle amount of K10 000 to government and the rate charged was 7.4% for 5 years. Use the formula to work out interest which is *Principle* × *rate* × *time.*

Interest = K10 000 × 7.4/100 × 5
= K10 000 × 0.74 × 5
= *K3700*

Tax on members using the dividend withholding tax of 17%
17/100× K3700 = *K629 is the tax paid.*

The current practice is that the company deducted 17% from each investor's dividend before they pay them. Therefore, the group of 20 investors will receive K3071 (K3700-K629)
K2329 ÷ 20 = *K116.45. So each member receives K116.45 as interest.*

Activity 9.2: Complete the activity given below.

State the difference between incomes earned from trading with shares, stocks, debentures and bonds.

_____

Calculate Buying and Selling of Shares

Now, let us calculate the cost of buying and selling shares as well as the income received from selling shares. Shares values are calculated using the Stock Exchange rate.

PORT MORESBY STOCK EXCHANGE RATE

STOCK	BID	OFFER (SELLING)	LAST SALE (BUYING)
BSP	2.40	1.50	8.01
CCP	0.00	0.35	0.36
CGA	0.00	00.00	0.10

Buying shares

- To purchase 5000 shares in BSP would cost you: *5000 × 8.01= K4865*
- To purchase 1000 shares from CGA would cost you: *1000 × 0.36 = K 3600.*
  If the commission for the stock broker was K85 and stamp duty was K28, total amount payable would be: *K3600 + K113 (85 + 28) =K3713*

Selling shares

- To sell 700 shares in BSP (Banking) would earn you: *700 × 1.50 = K1500*
- To sell 500 shares to CGA would earn you: *500 × 00.00 = K500*
  If commission was K 24 and stamp duty was K8, the amount received would be: K500 + K32 = K532

As you have covered above, this trade will take place at the stock exchange. They will calculate and quote you the final figure.

Summary:

You have come to the end of Lesson 9. In this lesson you learnt that;

- The more shares companies sell the more money they can make which enables them to increase their investment.
- The profit made from business operations are paid as dividends to the shareholders and stockholders.
- Debentures and bonds are similar in that they are debts .or loans.
- Shares and stocks, earn dividends whilst debentures and bonds earn interest.

NOW DO PRACTICE EXERCISE 9 0N THE NEXT PAGE

Practice Exercise 9

1. Define
a. Dividend _____
b. Interest _____

2. Work out the dividend for a share for the following companies on the stock market.

a. Inter Oil Ltd with percentage for dividend at 4%.	c. LA Brothers Ltd with percentage for dividend at 3.5%.
b. Wespac Ltd with percentage for dividend at 2%.	d. SBS Ltd with percentage for dividend at 3%.

3. Work out the interest for the following company if debentures and bonds were sold to the government.

a.Curtain Brothers Ltd offered bond at 30% on K100 000 for 10 years. Curtain Brothers has about 50 members. Show calculation in the box.

4. Workout how much will be paid and how much will be earned from the purchase and sale of shares for IPI Group of Companies Ltd if its buying price of a share is K5.00 and the selling price of a share is K2.00

a. Meli Kivung purchases 1000 shares.	c. Thackla Kumai sells 500 shares.
b. Rhonda Michael purchases 2500 shares.	d. Bonzo sells 1000 shares.

CHECK YOUR WORK. ANSWERS AT THE END OF UNIT 6

ANSWERS TO

TOPIC 3

PRACTICE EXERCISES

Answers to Practice Exercises 8-9

Practice Exercise 8

1. Fill it the table with the purpose of the partnership Deed and Partnership Ordinance.

Source	Purpose
Partnership Deed	*It outlines the rights and responsibilities of all parties to a business operation.*
Partnership Ordinance	*It protects partners in partnership business when there is no Partnership Deed.*

2. If there is disagreement among partners, explain how it will be solved.
If there is disagreement among partners this can be solved by the Partnership Ordinance in court.

3. Ian and John are two architects. They form a partnership business. According to the partnership deed:
Ian contributes K10 000 and John contributes K18 000.
They agree to pay themselves interest of 12 percent on their capital.
Ian receives a salary of K15 000 and John a salary of K10 000.
Profit after deductions for salary and interest is to be shared equally.

Calculate how profit of K120 000 would be distributed between the two partners.

1. Salaries: Ian K15 000
John K10 000
K35 000
2. Interest payment: Ian K 10 000 × 12/100 = K1200
John K 18 000 × 12/100 = K2160
3. Profit: K120 000
Less:
Salaries K35 000
+Interest K 3 360 K 38 360
Total K 81 640
4. Profit for each partner
K81 640 ÷ 2 = K40 820

Practice Exercise 9

1. Define
(i) Dividend. *Dividend refers the profits distributed to shareholders.*
(ii) Interest. *Interest refers to the charge on borrowed money.*

2. Work out the dividend for a share costing K1.50 for the following companies on the stock market

(i) Inter Oil Ltd with percentage for dividend at 4%. *K1.50 × 4/100* *= 0.06 or 6 toea*	(iii) LA Brothers Ltd with percentage for dividend at 3.5%. *K1.50 × 3.5/100* *= 0.0525 or 53 toea (round off to the nearest toea*
(ii) Wespac Ltd with percentage for dividend at 2%. *K1.50 × 2/100* *= 0.03 or 3 toea*	(iv) SBS Ltd with percentage for dividend at 3%. *K1.50 × 3/100* *= 0.045 or 4 toea (round off to the nearest toea)*

3. Work out the interest for the following company if debentures and bonds were sold to the government.
(i) Curtain Brothers Ltd offered bond at 30% on K100 000 for 10 years. It has about 50 members in its board. Show calculation in the box.

Interest: K100 000 × 30/100 × 10 =	*K 30 000*
K100 000 + K30 000 =	*K130 000*
Other information:	
Dividend withholding tax of 17%	
K130 000 × 17/100 =	*K22 100 (Is the tax to be paid)*
K22 100 ÷ 50 =	*K 442 (This is the interest paid for each members.*

4. Workout how much will be paid and how much will be earned from the purchase and sale of shares for IPI Group of Companies Ltd if its buying price of a share is K5.00 and the selling price of a share is K2.00

(i) Meli Kivung purchases 1000 shares. *Share price:* *5000 × K2.00* *K10 000*	(ii) Thackla Kumai sells 500 shares. Share price: *500 × K5.00* *K2 500*
(iii) Rhonda Michael purchases 2500 shares. *Share price:* *K2 500 × K2.00* *K5 000*	(iv) Bonzo sells 1 000 shares. *Share Price:* *K1000 × K5.00* *K5000*

REVISE TOPIC 3 AND DO TOPIC 3 TEST IN YOUR ASSESSMENT BOOK 6

TOPIC 4

CALCULATING CURRENCY CONVERSION, INCOME TAX AND RETIREMENT BENEFITS

In this topic you will learn about;

- **Calculating the Buying And Selling of International Currencies**
- **Calculating Income Tax**
- **Calculating Retirement Benefits Funds**

TOPIC 4: Calculating Currency Conversion, Income Tax and Retirement Benefits

Welcome to Topic 4: 'Calculating currency conversions, income tax and retirement benefit'. In this Topic you will learn how to keeping records of any small business activity and apply bookkeeping skills.

This topic consists of three (3) lessons.

Lesson 10: Calculating the buying and selling of international currencies

In this lesson you will discuss Papua New Guinea's foreign exchange rates and the processes involved in converting currencies. You will also learn how to calculate different currencies using current foreign exchange table.

Lesson 11: Calculating income tax

In this lesson you will define income tax and identify the types of income in Papua New Guinea and their purpose. You will also calculate the different types of income tax.

Lesson 12: Calculating retirement benefits funds

In this lesson you will discuss the functions of the retirement benefit institutions in operation and identify the benefits of retirement benefit funds. You will also calculate retirement benefit fund contributions and payouts.

Lesson 10: Calculating Buying and Selling of International Currencies

Introduction

Welcome to Lesson 10. Lesson 10 is the first lesson for this topic (4). In the last topic you learnt about profit distribution of a partnership business. You also learnt about calculating dividends and stock values. In this lesson, you will learn how to calculate the cost of buying and selling of international currencies.

Your Aims:

- Define exchange rate
- Discuss the processes involved in converting currencies
- Calculate different currency values using current foreign exchange rate table

What is Exchange Rate?

Price or value of one currency measured in terms of another currency. For instance, the value of K1 in Papua New Guinea when measured against another country's currency value may be higher or lower. We will find out more as we proceed on in this lesson.

All countries have their own currencies which they use for goods and services. The currencies they use have different values and names. In Papua New Guinea our currency is called Kina and Toea.

Goods that we consume that come from other countries are first bought using their own currencies. For example, a Toyota bus is made in Japan. Therefore, it must be bought with Japan's own currency called Japanese yen. In order for Papua New Guinea to buy these buses they have to first of all convert or change our currency kina and toea into Japans currency, yen. This will make buying and selling of these Japanese buses possible

Through trades with other countries, foreign currencies come into Papua New Guinea. In our country the foreign currencies are kept in the Central Bank as well as the commercial banks like Bank South Pacific, Westpac and Anz Bank.

Activity 10.1: Complete the activities given below.

1. What is a currency? _____

2. Explain what exchange rate is.

_____

_____

Process involved in Converting Currencies

Since we have to convert or change our currency into another in order to trade, we will need to study how to convert or change one country's currency into another country's currency. We will start by changing our currency (kina and toea) into foreign currencies and foreign currencies into PNG's Kina and toea. We need an exchange rate table to work out how much PNG's currency is worth compared to the other foreign currencies and vice versa.

In the newspapers like the National and Post Courier every day an exchange rate table is given. One is given below showing the exchange rates.
This table shows how much a K1 is worth or equal to other currencies. For example, K1 is worth or equal to US$ 0.4130 in US currency.

EXCHANGE RATE

Kina rates: 6th November				
Country	**Currency**	**Country Code**	**Symbol**	**Rate**
USA	Dollar	USD	$	0.4130
Australia	Dollar	AUD	$	0.4359
Canada	Dollar	CAD	$	0.4312
China	Yuan	CHY	¥	0.3762
Great Britain	Pound	GBP	£	0.2587
Hongkong	Dollar	HKD	$	3.2014
European Union	Euro	EUR	€	0.3060
Philippines	Peso	PHP	$(MXN)	17.88
Japan	Yen	JPY	¥	40.69
Singapore	Dollar	SGD	$	0.5132
South Korea	Won	KRW	₩	438.26
Fiji	Dollar	FJD	$	0.7636

Source : The National Newspaper

The two processes or steps involved in converting or changing currencies:

1. *Converting domestic currency to foreign currency.*

If you want to work out how much an amount in kina is worth or equal to in another currency, then follow the method suggested in the box below.

The amount in kina and toea must be MULTIPLIED with the exchange rate of the country that the domestic currency (PNG'S) will be converted or changed into.

Let us go through an example to illustrate this.
Example:

Convert K2 500 into Australian dollars. How much would K2500 be worth in Australia?
K2500 × 0.4359 = AU$1 089.75
So Papua New Guinea's K2 500 is worth AU$1 089.75 in Australia. This is because K1 is worth AUS$ 0.4359 in Australian currency.

2. Converting foreign currency into domestic currency

If you want to work out how much an amount of foreign currency is worth in Kina then follow the method suggested in the box.

The amount of foreign currency must be DIVIDED by the given exchange rate given.

Let us go through an example to understand better.

Example:

Convert US$300 (United States of American Dollars) into kina.
US$300 ÷ 0.4130 = K729.39 (round off the rest of the figures)
So the American's US$ 300 is worth K729.39 in Papua New Guinea currency.

.

Thus we summarise:

1. Converting domestic currency (Kina) to foreign currency, you *MULTIPLY* and
2. In converting foreign currency into domestic currency (Kina), you *DIVIDE*.

Activity 10.2: Complete the activities given below.

1. How much would the following amounts in PNG kina be worth in the following countries' currencies? Use the exchange rate table given on page 92 to convert them.

(i) K500 in United States of America. _____
(ii) K1000 in Japan. _____
(iii) K200 in Philippines. _____
(vi) K100 in Canada. _____
(v) K1500 in Singapore. _____

2. How much would the following amounts of foreign currencies be worth in PNG's currency?

(i) South Korean 100 won (KR ₩100) in PNG. _____
(ii) Japanese 1000 yen (JP¥1000) in PNG. _____
(iii) Fijian 10 dollars (FJ $10) in PNG. _____
(iv) British 200 pound (GB£200) in PNG. _____
(v) Australian 150 dollars (AU$150) in PNG. _____

Summary:

You have come to the end of Lesson 10. In this lesson you learnt that;

- Currency refers to the money used by countries around the world
- All countries have different names for their currencies they use.
- The currencies that are used by the people of different countries have different values.
- There are two processes or steps to use when converting or changing currencies.
  1. When changing PNG currency to foreign currency *multiply* the given amount in PNG kina and toea by to the exchange rate given of the country that PNG is exchanging with.
  2. When changing foreign currencies to PNG currency *divide* the foreign amount figure by the exchange rate given for that particular currency in the exchange rate table.

NOW DO PRACTICE EXERCISE 10 0N THE NEXT PAGE

Practice Exercise 10

1. Refer to the exchange rate table on page 118 to answer the questions. Calculate how much;

(i) Japanese yen equals to K150. _____

(ii) Philippine peso equals to K100. _____
(iii) K2 000 be in Australian dollar. _____
(iv) K500 be in Hongkong dollars. _____
(v) K400 be equal to Singapore dollars. _____

2. Refer to the exchange rate table on page 118 to answer the questions. Calculate how much;

(i) Kina equals to US$200. _____
(ii) Kina equals to FJ$50. _____
(iii) Kina equals to SG$100. _____
(iv) AU$10 000 be in kina. _____
(v) GB£5 000 be in kina. _____

3. A tourist from Australia to PNG brings with him AU$3 000. How much would this amount equate to PNG currency. Show working out. Use the exchange rate on page 118.

CHECK YOUR WORK. ANSWERS AT THE END OF UNIT 6

Lesson 11: Calculating Income Tax

Introduction

Welcome to Lesson 11. In the previous lesson you learnt about buying and selling international currencies. In this lesson you will learn about Income tax.

Your Aims:

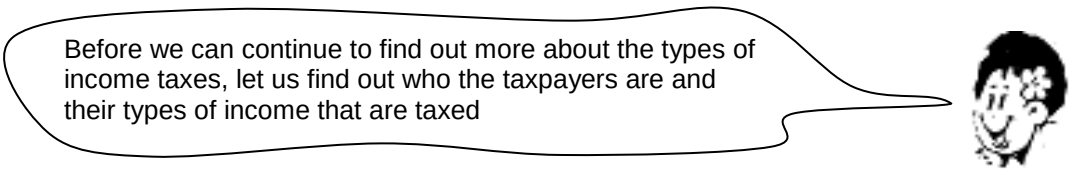
- Define income tax
- Identify the types of income tax in Papua New Guinea and their purposes
- Calculate the different types of income taxes

What is an Income Tax?

Income tax refers to proportion of income paid as tax to the government. What is tax? Tax refers to the money paid by the citizens of a country to their government to run the country. It can be seen as a transfer of wealth from the private sector to the public sector. It is one of the sources of revenue for the government for its budget. Tax is very important to countries around the world as it contributes to the government's budget or money plan to help run the country. Tax is paid by individuals and businesses.

There are various ways that the government collects taxes. The collection of tax in Papua New Guinea is determined by the laws set by the parliament. The taxation law is found in the Papua New Guinea Income Tax Act of 1959.

An income tax refers to a government tax imposed or charged on the taxpayers. The amount taxpayers pay varies with their taxable income.



The term taxpayers refer to individuals and businesses that pay tax to the government. What is meant by taxable income? Taxable income refers to taxpayers' income or money that the government will deduct tax from.

Purpose of Income tax

The purpose of imposing or charging tax is for the government to raise its revenue or income to fund programmes that sustain an economy. Sustains refers to make something to continue to exist. This means that the government will provide public services with this money which will benefit the people of that particular country yearly. For instance, the tax money will provide more school, hospitals and other infrastructures such as roads, bridges, wharves or airports. The government will use tax money to provide electricity, water and sanitation. The money from the tax will also be used for security like having the PNG Royal Constabulary and PNG Defence Force to safeguard the people at the national and international level against terrorism and war.

The incomes that the government taxes people and businesses fall into four categories:

1. Land

When you lease or allow people to use your land or put up properties on the land like a house; the payment made is called rent which is an income. You will have to pay some amount of money in tax from this rent to the government.

2. Labour

When you work for others and receive payment in returns; this payment is an income and it is called wages or salaries. You will have to pay some of that amount of wages and salaries to the government as tax.

3. Capital

When you lend or give your money to others to use and receive in return payments; this payment is an income and it is called interest. You will have to pay some amount of that money as tax.

4. Entrepreneurial skills

When you contribute your skills to entrepreneurship or group business for payment this payment; is an income called profit. You will have to pay some amount of your profit as tax.

Thus, these are the sources of income which the government imposes tax on.

 **Activity 11.1: Complete the activities given below.**

1. Define the following words.

a. Tax

_____

b. Income tax

_____

c. Taxpayers

_____

d. Taxable income

_____

2. Fill in the table by stating the four categories of income and their sources.

Source of Income	Types of Income Taxed

Types of Income Tax and their purpose in Papua New Guinea

Here, we will study two types of income taxes.

1. Business income tax

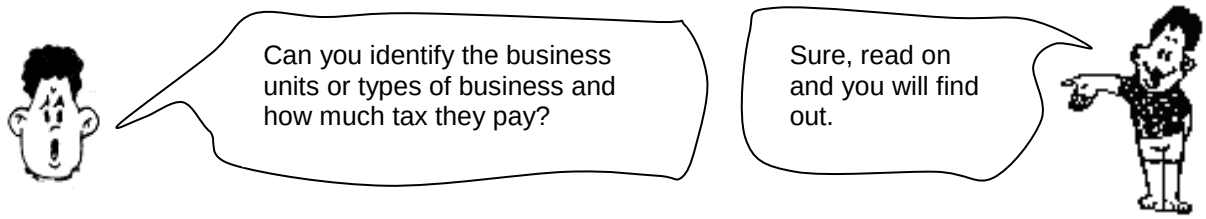
All firms or owners of firms are required to pay tax on the business income earned to the Tax Office called the Internal Revenue Commission (IRC). The rate at which tax is paid will depend on the type of business unit involved. Firms are also required to deduct personal income tax from their employees' income and pass it on to the government.

Firms must also charge Goods and Services Tax (GST) on goods and services supplied to customers. This is also passed on to the government. GST was previously called VAT (Value Added Tax).

The question then is, how do businesses pay their tax? The taxable income or tax to be paid by a business is based on its net profit. This means that after all the expenses are deducted from the total income; then tax is charged on the net income. Businesses pay their taxes by applying this formula to establish the taxable income.

Taxable income equals gross income less total allowable deductions.

Allowable deductions refer to expenses that are to be deducted from gross income in order to arrive at taxable income. Most business expenses will be treated as allowable deductions.



The amount of tax that a business pays is known as the tax liability. This means that all businesses are subjected to paying tax. That is, it is a must and by law they are to pay tax yearly to the government. Business income is not all taxed in the same manner. The amount of tax or tax payable will depend on the particular type of business unit.

Before we can look at business units and how much tax they pay, let us look at the purpose of imposing tax.

We will now continue on with the business units and establish how much tax they pay.

(i) Tax on sole traders and partnerships

Sole traders and partnerships are not taxed as a business. Instead, the owners who receive the profits from these firms are taxed personally on their shares and their other income.

PERSONAL INCOME TAX RATE

Taxable income (K)	Tax thereon or payable (K)	Rates of Tax on excess (%)
10 000	Nil	22
18 000	1760	30
33 000	6260	35
70 000	19 210	40
250 000	91 210	42

Note: It is important that you are able to correctly apply the information in the above table in order to calculate a person's tax liability. The personal income tax rates given in the table above also apply to those who earn wages and salaries. You will learn how to calculate income rate for this business as we proceed on in the lesson.

(ii) Tax on companies and business groups

The profits of companies and business groups are taxable income. These profits are taxed directly at the given rate before they are distributed to the shareholders. Shareholders pay withholding tax which is covered below. Business groups refer to a businesses that are usually formed by people from the same clan, tribe or village. Companies and business groups are taxed differently from the income of sole traders and partnerships.

Companies are of two types. One is proprietary or private companies and the other is public companies. These two types of company and business groups all pay tax at company tax rate. The rate of PNG company tax is 30%. Companies are liable to pay company tax on net profit at a flat rate of 30%.

Some companies are exempted for a number of years after setting up. Exempt means a company is free from paying tax. So tax exemption means someone is free from paying tax. Such a company may be located in remote rural areas and/ or are involved in primary production like agriculture or manufacturing like a bakery.

Dividend withholding tax

For companies that have shareholders they are also subjected to paying tax. Dividend refers to a company's profit that is paid to the shareholder. What is dividend withholding tax? Dividend withholding tax is a tax charged on the dividends before the dividends are paid to shareholders. The tax deducted from the dividends and held back (withholding) the company and paid direct to IRC. This dividend withholding tax is levied at a rate of 17% on all profits distributed. The profits from business group however are not subject to dividend withholding tax.

When shareholders receive dividends from a company, dividend withholding tax has already been deducted from their dividends.

A company will normally not distribute all its profits to shareholders. It is important to remember that only the part of profits distributed to shareholders is subject to dividend withholding tax.

2. Personal income tax

Personal income tax is often collected on a pay- as- you- earn basis or PAYE.

What does PAYE or pay- as –you earn mean?

Pay- as you- earn refers to tax deducted from workers' pays every two weeks from their fortnight pay. In the future when you earn salaries or wages you will be given a pay advice slip which shows various deductions and tax will be one of them.

Employers must deduct income tax from the wages of all their employees except those earning less than K1000 per year. Every fortnight the employees must.

- calculate gross wages of each employee
- calculate income tax payable of each employee
- deduct income tax (and other deductions) from the gross wage of each employee in order to arrive at the net wages.

In the first week of each month, employers' must hand over the tax deducted from employees' to the Tax Office. This tax must be paid in the first week of the following month after taxes are collected from employees. For example, all income tax collected in January must be given to the Tax Office in the first week of February.

As mentioned earlier on tax salaries and wages is paid using personal income tax rates. Page 127 shows the personal income tax table used to determine how much tax salary and wage should pay.

Activity 11.2: Complete the activities given below.

1. What does the following stand for?

a. IRC _____ c. VAT _____

b. GST_____ d. PAYE _____

2. Explain the difference between the business income tax and personal income tax.

_____

_____

_____

Calculating Income Tax

Next, we will look at how the different types of income taxes are calculated and passed on to the government.

1. Business income taxes:

(i) Sole traders and partnerships

The income they receive from their businesses is taxed at to the personal income tax rate just like the salaries and wage earners. Their share of profit is added to their other income and taxed as an income. The next page shows how this is calculated.

Let us look at some examples to understand how sole traders and partnerships are taxed. **The tax rate is taken from the personal income tax rate table** given on page 118.

Take a look at the two examples given below.

Example 1;

Person A earns a taxable income of K18 000 from his business. Tax payable on this amount is K1760. If the same person earned a total K20 000 that year then the tax payable would be calculated as follows:

	K
Tax on K18 000	1760 (see page 118)
Tax on K2000 (K20 000 – K18 000) (K2000 × 30 %) +	600
Tax on K20 000	2360

Example 2;
A partnership made a profit of K600 000. This income is split equally among two partners. Tax payable by each partner would be calculated as follows.

Share of profit of each partner would be: K600 000 ÷ 2 = K300 000. A rate of 42% will be used because the K300 000 is more than K250 000.

	K
Tax on K250 000	91 210
Tax on K50 000 (50 000 × 42%)	+ 21 000
Tax on K250 000	112 210

From the amount of K2360 and K112 210 tax rebate will be given for declared dependents at a rate of K17.31 per dependent.

(ii) Company and business group income tax

Example 1;

Moresby Pty Ltd has a trading income of K 500 000.
Expenses amount to K270 000, leaving a net profit of K230 000
(500 000 - 270 000 = 230 000)

Company tax on this figure would amount to:

K230 000 × 30% = K69 000

Example 2;
A company has a taxable income of K100 000. It distributes K80 000 to shareholders.

Tax payable would be:	K
Company Tax (K100 000 × 30 %)	30 000
Dividend withholding tax (K80 000 × 17%)	13 600

When the company pays the withholding tax, shareholders will not pay on their share of the dividends.

Example 3;
Highlands Wreckers declare a net profit of K185 000. The directors decide to keep 25% of the profits (after company tax) in the company. The remaining 75% is to be distributed as dividends to shareholders.

Every tax payer must fill a declaration form to tell or declare to IRC many dependents he or she has to get dependent rebate.

Tax payable would be:	K	
Company tax (K185 000 × 30%)	55 500	
Net profit after tax (K185 000 – K55 500)	124 500	
	129 500	
Sum to be distributed as dividends (before withholding tax):	K	
(K129 500 × 75%) (100% - 25%= 75%)	97 125	
Dividend withholding tax payable	32 375	
(K97 125 × 17%)	- 16 511	
Net Amount distributed as dividends	*80 614*	(Net divided paid out)

The amount kept by the management of 25%:
K129 500 – K97 125 = K32 375 is profit left with the company.
That is K185 000 - K55 500 = *K129 500*

Summary:

You have come to the end of Lesson 11. In this lesson you learnt that;

- Tax refers to the money paid by the citizens of a country to its government to help run the economy.
- Income tax refers to a government tax imposed or charged on the tax payers. This varies with the taxable income of each tax payer.
- There is a tax law for Papua New Guineans to abide by. That is PNG Income tax Act of 1959.
- There are four categories of income that are taxed.
  - rent income from use of land,
  - salaries and wages are income from labour
  - interest income from lending money or investing capital and
  - profit income from business.
- The two types of incomes taxes; Business income tax and personal income tax.
- Business units of sole trader, partnership, company and business groups pay business income tax.
- Personal income tax is imposed on salary and wage earners.
- However the tax rate set for sole trader and partnership is the same one used to work out personal income tax.
- The initial PAYE means pay- as- you- earn is a tax charged on Worker's.

NOW DO PRACTICE EXERCISE 11 ON THE NEXT PAGE

Practice Exercise 11

1. Explain the following.

(i) Taxable income

_____

_____

(ii) Tax liability of a business

_____

_____

2. Refer to the information given below and the personal income tax rate table on page 118 to answer these questions.

A partnership consisting of three members made a net profit of K75 000. The members agreed to share the profit equally.

(i) Calculate how much profit each partner will get after paying tax.

_____

(ii) How much tax will each partner pay?

_____

(iii) If the partnership was a sole trader business instead, how much tax would be paid by the sole trader?

_____

3. Refer to tax rate for company and shareholders to calculate the tax payable.

Lae Bakeries Ltd has a taxable income of K240 000. It distributes K200 000 of its profit (after payment of company tax) to its shareholders.

(i) Calculate the amount of company tax and the dividend withholding tax.

_____

(ii) How much money was distributed as dividends after withholding tax?

_____

4. Morobe Construction Pty Ltd earned taxable income of K570 000. It retained 15% of its income (after company tax) in the business and distributed the rest to its shareholders. Calculate the amount of money distributed to shareholders after tax.

CHECK YOUR WORK. ANSWERS AT THE END OF UNIT 6

Lesson 12: Calculating Retirement Benefits Fund Contributions and Payouts

Introduction

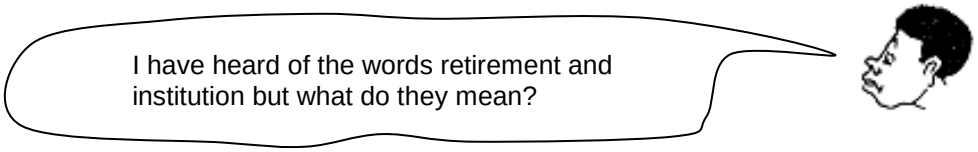
Welcome to Lesson 12. Lesson 12 is the last lesson for this topic as well as for this unit. In the previous lesson you learnt about calculating income tax. In this lesson you will learn about calculating retirement benefit fund contributions and payouts.

Your Aims:

- Discuss the functions of the retirement benefit institutions in operation
- Identify the benefits of retirement benefit funds
- Calculate retirement benefit fund contributions and payouts

Functions of Retirement Benefit Institutions

Employees of both private and government organisations have certain amount of their wages and salaries saved every fortnight with retirement Benefit Institutions.



Retirement refers to the act of leaving a job or career at or the end of your working life.

Institution refers to a large organisation that is very influential or has greater effect on people in the community.

There are two main institutions that deal with retirement benefits and they are *(1) Nambawan Super Ltd or Nambawan Superannuation Fund Limited and (2) NASFUND Ltd or National Superannuation Fund Limited*. We will look at each super fund in turn.

What then is superannuation? Superannuation is a pension for retiring people. Pension refers to the fixed amount of money paid regularly to somebody during retirement by the government, a former employer, an insurance company and a superfund.

So the function of the retirement benefit institution is that the superannuation plan in place provides money for retirement of people. It will give other benefits as well. If you join a superannuation plan, a certain sum of money will be taken from your wages and salaries every fortnight. This money is put into the superannuation fund. The money from this fund is invested to earn interest. You have learnt about stocks and bonds in Lesson 10. You can refer to page 101 to recap on these two words.

Most of the money paid out of superfunds will be retirement payments. If you pay money into a superannuation fund you will be able to receive a regular income or a lump sum when you retire. You will also receive a retirement income if you retire early because of sickness or accident. Lump sum refers to a large amount of money

given in a single payment rather than divided into periodic and smaller payments. For example, your savings with one of the superannuation institution is K70 000 including interest. On retiring this institution can pay K70 000 into your bank account as a lump sum.

Alternatively they pay into your savings account fortnightly. For example, instead of paying lump sum of K70 000 you will receive a fortnight although you are no longer working. For instance, the superannuation fund will pay you K200 every fortnight until all you have saved is paid out.

Activity 12.1: Complete the activities given below

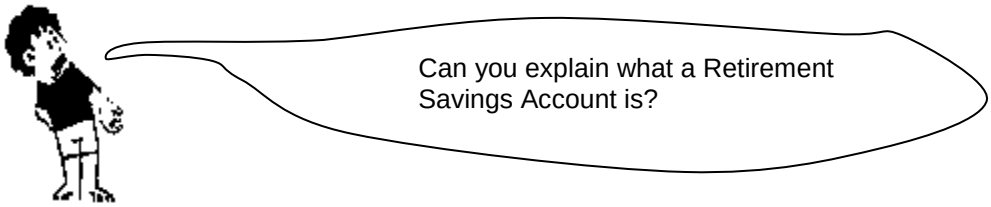
1. Define
(i) Retirement _____
(ii) Institution _____
(iii) Superannuation_____
(iv) Pension _____

2. Name the two superfund/superannuation.
(i) _____
(ii) _____

Benefits of Retirement Funds

Both Nambawan Super Ltd and NASFUND Ltd offer services that benefit those who retired from active service. The retirement age of people working in formal employment in private and government organisation is 60 years old.

One common benefit from these two funds is that it allows retirees to save their money in the Retirement Savings Account or RSA. Retiree refers to person retiring or leaving formal employment.



The Retirement Savings Account refers to an account created by both superfunds specifically for retirement benefits. It is managed by professional and earns the same rate interest in the fund. It allows your retirement savings to be invested and you having access to funds for a secure and comfortable lifestyle after you retire. It removes the temptation to spend your retirement savings in one lump sum which could leave you with nothing to support you for the rest of your retired life.

The following benefits for Retirement Savings Account are for those who are members of Nambawan Super Ltd. Similar benefits are also given for those whose membership is with NASFUND Ltd.

(i) Significant tax savings

If you withdraw your superfunds savings as a lump sum you will be taxed. However, there is no tax payable when you transfer them in the RSA (Retirement Savings Account). This means your retirement funds can continue to grow in a tax

advantaged or tax free environment. Furthermore, you will earn interest on your money in the RSA which is tax free.

(ii) You choose how you want your funds paid to you.

The RSA puts you in control of payments received whether as regular income, lump sum or both. If you stay within the prescribed limits there will be no tax on withdrawals or money taken out of your account.

(iii) Prudent professional funds management

Your retirement benefits will be prudently managed and invested carefully by Nambawan Super. Prudent refers to careful managing of resources so as to provide for the future. In this case money and other assets of the institution are carefully managed by superfund management.

(iv) Financial guidance and advice

RSA members have easy access to information, guidance, advice and counselling to help them make the most of their retirement savings.

(v) Access to the member benefit program

RSA members who invest K10 000 or more are eligible to claim the Gold Card Member Benefit program, which provides access to a wide range of valuable discounts for goods and services.

(vi) You choose who receives your benefits in the event of your death

When you open a RSA you nominate or choose who you would like to receive the remaining balance should you die. If you have put in place a regular withdrawal arrangement, it can be continued so your nominated beneficiaries receive these payments until the money in your account is used up. Beneficiaries refers to people you nominate who will benefit from your savings.

Activity 12.2: Complete the activities given below.

1. What is a Retirement Savings Account?

_____

2. How important is the Retirement Savings account?

_____

3. List the six retirement benefits offered by the Nambawan super fund Ltd.

a. _____ d. _____
b._____ e. _____
c. _____ f. _____

Calculate Retirement Benefit Fund Contributions and Payouts

We will go through the two retirement funds to see how the workers make their retirement contributions to the fund and how payments are made from these refunds.

(1) National Superannuation Fund Ltd (NASFUND)

The National Superannuation Fund Ltd is a retirement savings scheme for private sector workers and employees of the statutory or government bodies. There are rules which make it compulsory for all employers and employees to contribute to this fund.

For example, all businesses that employ 15 or more employees are required to contribute to a superannuation scheme. By law employers contribute 8.4 % while the employees contribute 6 % of the employees normal wages. We will see the calculation of the contributions as we proceed on in the lesson.

(2) Nambawan Superannuation Fund Ltd (NSL)

The Nambawan Superannuation Limited is a retirement savings scheme for public servants or government workers. It operates in the same way as NASFUND. Government workers are entitled to contribute to this retirement scheme while they remain as employees of the state. This money will benefit them when they retire and leave their jobs. Under this scheme the government contributes 8.4% while the employee contributes 6 % based on the employee's normal salaries or wages.

Let us look at an example of how contributions are made.

Example 1:
Margaret works for a business that employs about 30 workers. She earns K250 per fortnight.

The Nasfund contribution from her wage would be:
K250 × 6/100 = K15.00

Her employer would also pay:
K250 × 8.4/100 = K21.00

So her total contributions to the superfund will be K15.00 + K21.00 = K36 per fortnight

Example: 2
Sequence Kaka works with the education department and earns a total of K650 per fortnight.

The Nambawan super contribution from his wage would be:
K650 × 6/100 = K39.00

His employer, Department of Education, would also pay:
K650 × 8.4/100 = K54.60

So his total contributions to the superfund will be K39.00 + K54.60 = K93.60

Both NSL and NASFUND Ltd have respective Board of Trustees set up by the government to monitor the management of these funds. Trustee refers to somebody who is given the legal authority to manage money or property on behalf of somebody else. They are by- law institutions meaning they are set up and governed by an Act of the Parliament. They have been formed under the Superannuation (General Provisions) Act of 2000. Provisions refer to legal or by law contract stating that a condition must be met. So in this case all employers and employees must contribute towards the retirement benefit fund for future of the employee or worker.

The management team is appointed by the Board to manage the fund. Retirement funds can be invested in properties, shares, interest bearing deposits and other forms of investments. The income received from these investments is then distributed among its members as interests and dividends or profits.

Calculating payouts

When a worker retires he receives his total contributions.

Note that your total contributions include your contribution and the employer's contribution plus the interest.

In the box below you will see how payout is made to the person who retired.

Payout = Your total contributions - income tax charged on the total contributions.

Rates vary with how long an employee has saved.
2% for those who saved for 15 years
5-7 % for those with 9 years but less than 15 years

Let us see an example.

Jack Kindik retires at the age of 55 years and his total contributions mounts to K20 000. The interest paid on his contribution is K7000. His employers contributions is K35 000 with interest of K15 000. He worked for 16 years. The payment he will receive will be:

Payout = K20 000 + K7 000 + K35 000 + K15 000 – income tax of 10% on total contributions
= K77 000 - (2/100 of K77 000 = K1 540)
= K77 000 – K1 540
= K75 460

Activity 12.3: Complete the activities given below.

1. Explain trustees

_____

2. What happens to employers who do not contribute to the superannuation funds for their employees' contribution?

_____

3. What is the rate of contribution for employers and employees towards the superannuation?

_____

Summary:

You have come to the end of Lesson 12. In this lesson you learnt that;

- There are two retirement benefit funds. They are (1) Nambawan Superannuation Fund Ltd (NSL) and (2) National Superannuation Fund Ltd (NASFUND).
- Nambawan Super Ltd is a retirement funds for workers who are employed by the government organisations.
- NASFUND Ltd is a retirement funds for workers who are employed by private businesses or organisations.
- Retirement refers to the act of leaving a job or career at or near the required age for doing so.
- The retirement age for the employees or workers of both private and government organisation is 60 years old.
- The retirement benefit fund had been set up by the Act of the Parliament. The Superannuation (General Provisions) Act 2000.
- It is a must that all employees or workers contribute 6% of their normal salaries and wages whilst the employers contribute 8.4% of the normal wages and salaries of the employee.
- Retirees are encouraged to save their retirement benefits into the Retirement Savings Account (RSA).
- Retiree refers to the person who has retired from his or her job.
- Retirement funds can be paid out as lump sum.
- If Retirement benefit is saved with the Retirement Savings Account payment will not be taxed and can be paid fortnightly.
- Payouts are made using this formula.
  Payout = Your total contributions - income tax charged on the total contributions.

NOW DO PRACTICE EXERCISE 12 0N THE NEXT PAGE

Practice Exercise 12

1. State the function of retirement benefit funds

_____

2. What is the set age for retirement?

_____

3. In what year was the superannuation fund contributions made a law?

_____

4. Fill in the table by listing the differences and similarities between Nambawan Super Ltd and NASFUND Ltd.

Institution	Differences	Similarities
(i)		
(ii)		

5. Fill in the missing blank spaces with the correct words from the word list given below.

Nambawan Super Ltd, 8.4%, pension, retiree, NASFUND Ltd, sixty years, government, public servants, private companies, 2%, Act, legal ,6 %, formal, workers, superannuation.

In Papua New Guinea the _____ of the Parliament states that all working in _____ employment must contribute to the retirement benefit funds. Those working for the government contribute to _____ whilst those working in _____ _____ contribute to _____. The employees' contribution to the superannuation funds of their normal wages and salaries is _____ and _____ from the employer's contribution. The _____ only is paid out the contribution upon retiring. The tax deduction rate of _____ is charged on the lump sum payout after 15 years.

6. Calculate the contributions of the following workers and their employers' to their respective superannuation funds.

(a) Mary Ikupu works with Digicel Pty Ltd. She earns K1000 fortnightly.
(i) Work out her contributions. _____
(ii) Work out her employers contributions. _____
(iii) Work out Mary's total contributions. _____

(b) Wali is employed by PNG Power Ltd. He earns K700 per fortnight.
(i) Work out his contributions. _____
(ii) Work out his employer's contribution. _____
(iii) Work out his total contributions. _____

(c) Ruth works with Lae Biscuits. Her fortnightly wage is K300.
(i) Work out her contributions. _____
(ii) Work out employer's contributions. _____
(iii) Work out her contributions. _____

7. Calculate the payout the following people will get from their retirement funds. Refer to the formula given on page 133.

(a) Billy Koite retired from the Department of Works. His contribution mounts to K50 000 with interest of K25 000. His employers contributions is K60 000 and interest of K35 000.

(b) Angela George retired from Bank South Pacific Limited. Her total contributions mounts to K85 000 with interest of K40 000. Her employer's total contributions including interest is K90 000.

CHECK YOUR WORK. ANSWERS AT THE END OF UNIT 6

ANSWERS TO

TOPIC 4

PRACTICE EXERCISE

Answers to Practice Exercise 10-12

Practice Exercise 10

1. Refer to the exchange rate table on page 118 to answer the questions. Calculate how much;

(i) Japanese yen equals to K150. *K150 × 40.69 = JP¥6103.50*

(ii) Philippine peso equals to K100. *K100 × 17.88 = PH$(MXN) 1788*

(iii) K2000 be in Australian dollar. *K2000 × 0.4359/ 0.44 = AU$871.80/ AU$880.00*

(iv) K500 be in Hongkong dollars. *K500 3.2014/3.20 = HK$1600.70/HK$ 1600*

(v) K400 be equal to Singapore dollars. *K400 .5132/0.51 = SG$205.28/SG$204.00*

2. Refer to the exchange rate table on page 118 to answer the questions. Calculate how much;

(i) Kina equals to US$200. *US$200 ÷ 0.4130/0.41 = K484.26/K487.80*

(ii) Kina equals to FJ$50. *FJ$50 ÷ 0.7636/0.76 = K65.48/K65.79*

(iii) Kina equals to SG$100. *SG$100 ÷ 0.5132/0.51= K194.86/K196.08*

(iv) AU$10 000 be in kina. *AU$10 000 ÷ 0.4359/0.44 = K22 941.04/ K22* 727.230

(v) GB£5000 be in kina. *GB£5000 ÷ 0.2587/0.26 = K19 327.41/K19 230.77*

3. A tourist from Australia to PNG brings with him AU$3000. How much would this amount equate to PNG currency. Show working out.

AU$3000 × 0.4387/0.44 = K6838.39/ K6918.19

Practice Exercise 11

1. Explain the following.
(i) Taxable income
Taxable income is the amount of money that the government will deduct from the taxpayers' income.

(ii) Tax liability of a business.
Tax liability is the amount of money in tax that the business has to pay to the government.

2. Refer to the information given below and the personal income tax rate table on page 114 to answer these questions.

A partnership consisting of three members had a net profit of K75 000. The members agreed to share profits equally.

(i) Calculate how much profit did each partner earned?
K75 000 ÷ 3 = K25 000

(ii) How much tax was paid by the partnership?

Tax on K70 000 =	*K 19 210*
Tax on K5 000 (K75 000 - K70 000) (K5000 ÷ 40%)	*K 2 000*
Tax on K75 000	*K21 210*

(iii) If the partnership had been a sole trader business instead, how much tax would have been paid by the sole trader?
The same amount of K21 210 is paid as tax since sole traders just like the partnership all pay their profits using the personal income tax rate.

3. Refer to tax rate for company and shareholders to calculate the tax payable.
Lae Bakeries Ltd has a taxable income of K240 000. It distributes K100 000 of its profit to its shareholders.

(i) Calculate the amount of company tax paid.
K240 000 × 30/100 = K72 000

(ii) How much money was distributed as dividends?
K100 000 × 17/100 = K17 000
K100 000 - K17 000 = K83 000

4. Morobe Construction Pty Ltd earned taxable income of K570 000. It retained 15% of its income (after company tax) in the business and distributed the rest to its shareholders. Calculate the amount of money after withholding tax, distributed to shareholders.

K570 000 × 30/100 = K171 000 (company tax paid)
K570 000 - K171 000 = K399 000 (amount after company tax)
K399 000 × 15/100 = K59 850 (amount to be kept by the company)
K399 000 - K59 850 = K339 150 (amount paid to shareholders)
K339 150 × 17/100 = K57 655.50 (amount after withholding tax)
K339 150 - K57 655.50 = K281 494.50 (dividend of shareholders)

Practice Exercise 12

1. State the function of retirement benefit funds.
   The function of the retirement benefit fund is for workers while working to save their money for after retirement.

2. What is the set age for retirement?
   The age for retirement is 55 years old in PNG.

3. In what year was the superannuation fund contributions made a law?
   In year 2000.

4. Fill in the table by listing the difference and similarities between Nambawan Super Ltd and NASFUND Ltd.

Institution	Difference	Similarities
(i) Nambawan Super Ltd	*It saves money for those working for the government*	*It saves formal workers money for retirement*
(ii) NASFUND Ltd	*It saves money for those working for the private companies and businesses*	*It saves formal workers money for retirement*

5. Fill in the missing blank spaces with the correct words from the word list given below.

   Nambawan Super Ltd, 8.4%, pension, retiree, NASFUND Ltd, fifty-five years, government, public servants, private companies, 10%, Act, legal ,6 %, formal, workers, superannuation.
   In Papua New Guinea the *Act* of the Parliament states that all working in *formal* employment must contribute to the retirement benefit funds. Those working for the government contribute with *Nambawan Super Ltd* whilst those working with *private companies* contribute with *NASFUND Ltd*. The employees' contribution to the superannuation funds of their gross wages and salaries is *6%* and *8.4 %* for the employer's contribution. The *retiree* only is paid out the contribution upon retiring. The tax deduction rate of *10%* is charged on the lump sum payout.

6. Calculate the contributions of the following people and their employers' to their respective superannuation funds.
   (a) Mary Ikupu works with Digicel Pty Ltd. She earns K1000 fortnightly.
   (i) Work out her contributions. *K1000 × 6/100 = K60.00*
   (ii) Work out her employers contributions. *K1000 × 8.4/100 = K84.00*
   (iii) Work out total contributions. *K60 + K84 = K144.00*

   (b) Wali is employed by PNG Power Ltd. He earns K700 per fortnight.
   (i) Work out his contributions. *K700 × 6/100 = K42.00*
   (ii) Work out his employer's contribution. *K700 × 8.4/100 = K58.80*
   (iii) Work out his total contributions. *K42 + K58.80 = K100.80*

   (b) Ruth works with Lae Biscuits. Her fortnightly wage is K300.
   (i) Work out her contributions. *K300 × 6/100 = K18.00*
   (ii) Work out employer's contributions. *K300 × 8.4/100 = K25.20*
   (iii) Work out her contributions. *K18 + K25.20 = K43.20*

7. Calculate the payout the following people will get from their retirement funds. Refer to the formula given on page 116.

(a) Billy Koite retired from the Department of Works. His contribution mounts to K50 000 with interest of K25 000. His employers contributions is K60 000 and interest of K35 000.

Payout = K50 000 + K25 000 + 60 000 + 35 000 - (10/100 of Total)
= K170 000 - (K10/100 × K170 00 = K17 000)
= K170 000 - K17 000 = <u>K153 000</u>

(b) Angela George retired from Bank South Pacific Limited. Her total contributions mounts to K85 000 with interest of K40 000. Her employer's total contributions including interest is K90 000.

Payout = K85 000 + K40 000 + K90 000= K215 000 - (10% of Total)
= K215 000 - (10/100 × K215 000 = K21 500)
=K215 000 - K21 500 = <u>K193 500</u>

REVISE TOPIC 4 AND DO TOPIC 4 TEST IN YOUR ASSESSMENT BOOK 6

ANSWERS TO

UNIT 6

LESSON ACTIVITIES

Answers to Lesson Activities in Unit 6

Lesson 1

Activity 1.1

1. There are twenty (20) lollies in a packet of lollies. Calculate the Cost-Into-Store for each packet.

   K10 + K1.67 = K 11.67

   = K 11.67÷ 4 = K2.90 per packet (round off to nearest decimal point)

2. (a) Calculate the Cost- Into-Store for a carton of biscuit.

   K60 + K1.67 = K61.67
   = K61.67 ÷ 3 = K23.33 per carton (round off to nearest decimal point)

   (b) Calculate the Cost- Into-Store for a packet of biscuit, given there are twenty (20) packets in a carton.

   K23.33 ÷ 20 = K1.20 per packet.

Activity 1.2

1. A phone haus in a remote area has a running cost of K15 000 and the total cost of goods worth K100 000.
   What is the percentage of running cost to the total cost of goods?

   $$\frac{\textit{Running/operating costs}}{\textit{Total Cost Into Store}} \times \frac{100}{1}$$

   $$\frac{15\,000}{100\,000} \times \frac{100}{1} = 15\%$$

2. A retailer's total cost of goods is K200 000, his running cost is K20 000 and his desired profit is K15 000. What is the % mark-up?

   $$\frac{\textit{Running/operating costs}}{\textit{Total Cost Into Store}} \times \frac{100}{1}$$

   $$\frac{20\,000 + 15\,000}{200\,000} \times \frac{100}{1} = 17.5\%$$

3. Calculate the mark-up for this retailer.

Cost of goods	K78 000
Freight and Insurance cost	K 2 000
Running cost of the business	K10 000
Profit required by owner	K10 000

   $$\frac{\textit{Running/operating costs}}{\textit{Total Cost Into Store}} \times \frac{100}{1}$$

   $$\frac{10\,000 + 10\,000 + 2000}{78\,000} \times \frac{100}{1}$$

   =28.21%

Activity 1.3

1. a. Paula sells boiled eggs. The cost of a dozen egg is K12. Her mark-up is 20%. What is Paula's mark-up?

Cost-Into-Store + (Cost-Into-Store × Mark-up)
12+ (12 × 20 ÷100)
= 12 + 2.40
= K 14.40
Her mark-up is K2.40

b. How much would she sell one egg for if there are 12 eggs in a dozen?
14.40 ÷ 12= K1.20

2.a. Francisca received an invoice for the cost of 10 packets of Flex cards worth K720. Her mark-up was K155. What is the selling price for one packet of Flex cards?

$$\text{Selling Price} = \frac{\text{Cost of Flex + Mark-up}}{\text{No. of Packets of flex}}$$

$$= \frac{720 + 155}{10}$$
$$= 875 \div 10$$
$$= K87.50$$

b. If there are 25 flex cards in a packet, how much will a flex card sell for?

= 87.50÷25= K3.50

Lesson 2

Activity 2.1

1. What was Miriam's closing stock after the schools purchased the toners?

   K200

2. What was the Cost of Goods Sold?

   = Opening stock + Purchases – Closing stock
   = (550 + 1320) – 200
   = K1 670

Activity 2.2

1. Complete this Revenue Statement for Ben Gatana

Revenue statement of Ben Gatana

For the week ending 10 January, 2014

	K	*K*
Sales		*2000*
Stock (Opening)	*500*	
Add purchases	*500*	
Total Stock	*1000*	
Less stock (Closing)	*300*	
Cost of Goods Sold		*700*
Gross Profit		*1300*

Lesson 3

Activity 3.1

1. A book shop borrowed K6000 from a bank at a rate of 30% per annum (p.a) for three (3) years. What is the simple interest on the loan?

   = P× R ×T
   = 6000 × 0.30 × 3
   = K5400

2. A person took a loan of K10 000 for three (3) months at the rate of 10% per annum (p.a). Calculate the simple interest.

   = P× R ×T
   = 100 000 × 0.10 × 3/12
   = K250

3. A retailer made a loan of K20 000 from the bank for five (5) years at the rate of 25% per year. What was the simple interest?

   = P× R ×T
   = 20 000 × 0.25 × 5
   = K25 000

4. Tau borrowed K6000 for school fees from the loan society. He paid 12% per annum (p.a) of the loan over twelve (12) months. Calculate the simple interest.

   = P× R ×T
   = 6000 × 0.12 × 1(12/12)
   = K720

Lesson 4

Activity 4.1

1. What does discount mean?
   Discount is a reduction in the price of a good. This means the sellers' prices are reduced by a certain percentage and their goods are sold at lower prices.
2. What does trade discount mean?
   Trade discounts are discounts given by businesses to other business or their corporate customers to keep them.
3. Name two (2) customers, manufacturers give discount to.
   a. retailers *b. corporate members*

Activity 4.2

1. What are mark downs?
   Mark downs are discounts offered by retailers to the customers.
2. Write two (2) examples of mark downs.
   a. Clearance Sales *b. Christmas Sales*
3. Write two (2) reasons why businesses give discounts to their corporate partners.
   a. To promote sales *b. to keep their cooperate customers with lower prices*
4. Why do retailers offer mark down?
   To promote sales or clear old stock or out-dated models.

Activity 4.3

1. What is another name for Cash Discount?
   Sales Discount
2. What is a Credit Term?
   Credit term is the time period given in which the credit customer pays for the listed goods written on the invoice.
3. What do 7/7, 3/14, n/30 mean?
   - *7% discount is offered if the payment is made within 7 days of the invoice being received.*
   - *3% is allowed if the payment is made within 14 days.*
   - *Normal credit term applies where debt is paid within 30 days.*
   - *After 30 days, the bill is overdue for payment and interest may be charged on the full amount outstanding.*
4. Ryan received his goods worth K5000 from a wholesaler and the cash discount 7/7, 3/14, n/30.
   a. How much would the discount be if he paid his invoice within ten (10) days?
      = 3/100 × 5000
      = K150 (10 days is more than 7 days so we use 3% for 14 days)

      (b) How much would he pay for the goods he received if he paid them within five (5) days?
      = 7/100 × 5000
      = 0.07 × 5000
      = K350 Discount.
      Therefore, he will pay: 5000-350 = K4650
      (5 days is less than 7 days so we use 7% for 7 days)

Lesson 5

Activity 5.1

1. What is wage?
   Wage is an income earned by people working for others.
2. What is the difference between wages and salary?
   Wages are paid on hourly rates while salaries are fixed yearly incomes paid fortnightly or monthly.
3. What is current minimum wage hourly rate?
   K3.20 per hour (2014 rate)

Activity 5.2

1. What is overtime wage?
   Overtime is working beyond the required hours.
   Such extra time is paid at higher rate for the extra work done by employees.

2. State two (2) reasons why people work overtime.

a. *To earn extra income to meet their demands*

b. When business needs to complete work on time or produce more goods to meet the demands of its customers

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Activity 5.3

1. If Joyce was earning K5.25 hourly and worked eight (8) hours daily and six (6) hours on Saturdays and three (3) hours on Sundays.
   a. How much did Joyce earn for overtime weekly?
      Overtime (OT) = (K5.25 × 1.5 × 6 hours) + (5.25 × 2 × 3 hours)
      = 47.25 + 31.50
      = K78.75

   b. What would be her weekly pay?
      Wages = K5.25 × 40 hours (5days × 8 hours) + (K5.25 × 1.5× 6 hours) + (K5.25 × 2 × 3hours)
      = K210 + K47.25 + K31.50
      = K288.75

Lesson 6

Activity 6.1

1. Define depreciation.

   Depreciation means a loss in value of an asset.

2. Name two (2) examples of assets that depreciate.
   a. Machinery *b. Equipment or motor vehicle, furniture*

3. Differentiate between current asset and non-current asset.

Current assets are assets that can be converted into cash quickly example, debtors. Non-current assets are fixed assets which losses value overtime such as machinery, equipment or motor vehicle, furniture

Activity 6.2

1. What is the term used for the value of an asset that is fully depreciated and is no longer in use?
   Residual value

2. Gima bought a lounge set costing K5000. The residual value is K500 and the annual depreciation is 30%. Draw up a depreciation schedule for three (3) years using the straight line method.

Straight Line Method

A	***B***	***C***	***D***	***E***
Year	Cost (K)	Annual depreciation (K)	Accumulated depreciation (C + Previous D) (K)	Residual value at the end of the year *(Carrying cost – accumulated depreciation)* (B – D) (K)
1	*5000*	*K1500*	*1500*	*3500*
2	*5000*	*K1500*	*3000*	*2000*
3	*5000*	*K1500*	*4500*	*500*

Activity 6.3

4	*K6141.25*	*K921.19*	*K4779.94*	*K5220.06*
5	*K5220.06*	*K783.00*	*K5562.94*	*K4437.06*

Lesson 7

Activity 7.1

1. What is insurance?
   Insurance is a fair transfer of risk of a loss from one person or organisation to an insurance company in exchange for a payment.
2. Who is the insurer?
   The Insurance Company
3. What is premium?
   Premium is the money paid by the insured or the assured to the insurance company for protection against financial loss.

Activity 7.2

1. What is the difference between the Term Life policy and the Whole Life policy?
   Term Life insurance can be bought for a specific period of time or up to a certain age. Whole life insurance offers financial protection throughout a person's life.
2. Why do people with the Whole Life policy pay more?
   Whole life insurance provides financial protection throughout a person's life.
3. Why do older people pay more premiums?
   Older people have higher risks of dying than the younger people.
4. Linda is 45 years old. She pays thirty (30) units of K1000 of whole life premium. How much does she pay for the premium? Use the table to calculate the premium.

   Payment = Rate × 30
   = 31.18 × 30
   = K93.54

Activity 7.3

1. Which of the insurance covers medical expenses?
   Health or medical insurance
2. What is the third party policy?
   Insurance against claims for bodily injuries or deaths caused to other people aswell as claims for loss or damage to other people's property caused by your vehicle.
3. What is No claim bonus?
   A No claim bonus is a reward scheme for motor vehicle owners if they have not lodge any claim against their policy during the preceding twelve months.
4. Julie's house worth K10 000 was insured for K7500. A nearby bush fire affected the house and when assessed, K5000 worth of household goods were damaged. How much did Julie receive from the insurance company?

   $$Claim = \frac{Insured\ Value}{Total\ Value} \times \frac{Total\ Loss}{1}$$

   $$= \frac{7500}{10\ 000} \times 5000$$

   $$= K3750$$

Lesson 8

Activity 8.1

(a) Define

(i) Partnership Deed: *A partnership deed refers to a document that outlines the rights and responsibilities of all parties to a business operation.*

(ii) Partnership Ordinance: *A Partnership Ordinance refers to a law that protects partners in a partnership business.*

(b) What is a partnership business? *A partnership business is a business made up of at least 2 and not more than 20 members. The members have something in common they want to get into business together and earn a profit. Example, doctors providing private hospital or clinic business.*

Activity 8.2

(a) A partnership of three people- Kasi, Kalum and Lalu contributed the following amounts to set up their partnership business:

Kasi K10 000
Kalum K25 000
Lalu K15 000

They agreed to share any profit in proportion to their capital contributions.

(i) In 2010 the partnership made a profit of K60 000. Calculate the profit earned by each partner. Show your calculations in the space provided.

Kasi: $\frac{K10\,000}{K50\,000} \times K60\,000 = K12\,000$

Kalum: $\frac{K25\,000}{K50\,000} \times K60\,000 = K30\,000$

Lalu: $\frac{K15\,000}{K50\,000} \times K60\,000 = K18\,000$

Lesson 9

Activity 9.1

1. Define

(i) Share: *Share refers to one of a number of titles of part ownership in a company.*

(ii) Stock: *Stock refers to the shares of the business that are sold to the public.*

(iii) Debenture: *Debenture refers to a certificate that acknowledges the existence of a debt of a particular amount owed to somebody by a company for a fixed period of time at a fixed rate of interest.*

(iv) Bond: *Bond refers to a certificate issued by a government or company to pay back borrowed money at a fixed rate of interest on a specific date.*

(v) Invest: *Invest refers to putting money in something or some place in the hope of a future return or benefit.*

2. What is the purpose of companies buying and selling shares and stock?

The purpose of the companies buying and selling shares is to make more money and expand their businesses and increase their profits.

Activity 9.2

State the difference between incomes earned from trading with shares, stocks, debentures and bonds.

The income earned by shares and stocks is a share of the profit known as dividend and is charged dividend withholding tax of 17%. The income earned by debentures and bonds is interest worked out using the formula of Principle × Rate × Time.

Lesson 10

Activity 10.1

(a) What is a currency? *Currency refers to one country's money.*

(b) Explain what exchange rate is. *An exchange rate is the price or value of one currency measured in terms of another currency.*

Activity 10.2

1. How much would the following amount of money in PNG be worth in the following countries' currencies? Use the exchange rate table given on page 106.

(i) K500 in United States of America.	*K500 × 0.4130 = US$206.50*
(ii) K1000 in Japan.	*K1000 × 40.69 = JP¥40 690*
(iii) K200 in Philippines.	*K200 17.88 = PH$MXN3576*
(vi) K100 in Canada.	*K100 × 0.4312 = CA$K43.12*
(v) K1500 in Singapore.	*K 1500 × 0.5132 = SG$769.80*

2. How much would the following amount of money from other foreign currencies be worth to PNG's currency?

(i) South Korean 100 won (KR ₩100) be in PNG.	*KR ₩ 100 ÷ 438.26 = K0.23t*
(ii) Japanese 1000 yen (JP¥1000) be in PNG.	*JP¥100 ÷ 40.69 = K24.58*
(iii) Fiji 10 dollars (FJ $10) be in PNG.	*FJ $10 ÷ .7636 = K13.10*
(iv) Great Britain 200 pound (GB£200) be in PNG.	GB£*200 ÷ 0.2587 = K773.10*
(v) Australian 150 dollars (AU$150) be in PNG.	AU$*150/ 0.4359 = K344.12*

Activity 10.3

Explain how foreign currencies are bought and sold in PNG.

Foreign currencies are bought when people wish to travel overseas thus they buy the foreign currency from the banks who sell to them at the selling rate of currencies offered. Foreign currencies are sold when people return to PNG. There is no need for it so they sell them to bank who buys it at the buying rate.

Lesson 11

Activity 11.1

1. Define the following words.

(i) Tax: *Tax refers to the money paid by citizens of a country to their government to run the country.*

(ii) Income tax: *Income tax refers to a government tax imposed or charged on the taxpayers' taxable income.*

(iii) Taxpayers: *Taxpayers refers to people or businesses who pay tax.*

(iv) Taxable income: *Taxable income refers to the amount of money that the government will charge tax on or deduct tax from.*

2. Fill in the table by stating the four categories of income and their sources.

Source of Income	**Types of Income Taxed**
Land	*Rent*
Labour	*Wages And Salaries*
Capital	*Interest*
Entrepreneurial skills	*Profit*

Activity 11.2

1. What does the following stand for?

(i) IRC: *Internal Revenue Commission* (iii) VAT: *Value Added Tax*

(ii) GST: *Goods and Services Tax* (iv) PAYE: *Pay-as-you-earn*

2. Explain the difference between the business income tax and personal income tax.

Business income tax refers to tax paid by a company at a standard rate of 30 % off their profit whilst person income tax refers to tax paid by wage and salary earners depending on their income. Total tax equals personal taxable income times tax rate given by the government through IRC.

Lesson 12

Activity 12.1

1. Define

(i) Retirement. *Retirement refers to the act of leaving a job or career at the end of your working life.*

(ii) Institution. *Institution refers to a large organisation that is very influential or has greater effect on people in the community.*

(iii) Superannuation. *Superannuation refers to pension for retiring person* from a fund.

(iv) Pension. *Pension refers to the fixed amount of money paid regularly to somebody during retirement by the government, a former employer, an insurance company or a superannuation fund..*

2. Name the two superfunds/superannuation institutions.

(i) *Nambawan Superannuation Fund Ltd (NSL)*

(ii) *National Superannuation Fund Ltd (NASFUND)*

Activity 12.2

1. What is a Retirement Savings Account?

   A retirement savings account is an account where people retiring from work can have their savings superfund deposited into this account to be managed by the super funds.

2. How important is the Retirement Savings account?

   Retirement Savings account is important because it will help people retiring to keep their money safe and not to use it all at once and at the same time earn interest on the savings.

3. List the six retirement benefits offered by the Nambawan super fund Ltd.

(i) *Significant tax savings*

(ii) *You choose how you want your funds to be managed*

(iii) *Prudent professional fund management*

(iv) *Financial guidance and advice*

(v) *Access to the member benefit program*

(vi) *You choose who receives your benefits in the event of your death*

Activity 12.3

1. Explain trustees

Trustee refers to someone who is given the legal or by law authority or power to manage money or property on behalf of somebody else.

2. What happens to employers who do not contribute to the superannuation funds for their employees' contribution?

Because it is required by law that employers contribute for their employees, if they do not contribute for their workers they will be fined or taken to court by the government through its organisation like the superfunds.

3.What is the rate of contribution for employers and employees towards the superannuation?

Rate of contributions for employers is 8.4% of the employee's normal wage or salary.
Rate of contribution for employee is 6% of his or her normal wage or salary.

UNIT 6

REFERENCE

REFERENCE

1. Burrowes David & Kinder Rex. *'Retailing in Papua New Guinea'.* Dellasta Pty Ltd, Victoria, Australia, 1989.

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3. O'Neill Edger & Wheeler Bob 1994, '*Business Practice in PNG'* Dellasta Pty Ltd 2001.

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6. Wama G Jeffery & Tau Yuwak, '*Business in Melanesia'*. Book 1, Kim Printing, Goroka, Eastern Highlands Province, Papua New Guinea, 2008.

7. Department of Education. *Commerce Teachers Guide Single Entry Bookkeeping Grade 10 Unit 4,* 1989.

8. URL:

(i) http://www.easyasaccountingsoftware.com/pics/CredtNote.png. December 17, 2013.

STUDENT'S AND MARKER'S COMMENTS

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FODE PROVINCIAL CENTRES CONTACTS

PC NO.	FODE PROVINCIAL CENTRE	ADDRESS	PHONE/FAX	CUG PHONES	CONTACT PERSON		CUG PHONE
1	DARU	P. O. Box 68, Daru	6459033	72228146	The Coordinator	Senior Clerk	72229047
2	KEREMA	P. O. Box 86, Kerema	6481303	72228124	The Coordinator	Senior Clerk	72229049
3	CENTRAL	C/- FODE HQ	3419228	72228110	The Coordinator	Senior Clerk	72229050
4	ALOTAU	P. O. Box 822, Alotau	6411343 / 6419195	72228130	The Coordinator	Senior Clerk	72229051
5	POPONDETTA	P. O. Box 71, Popondetta	6297160 / 6297678	72228138	The Coordinator	Senior Clerk	72229052
6	MENDI	P. O. Box 237, Mendi	5491264 / 72895095	72228142	The Coordinator	Senior Clerk	72229053
7	GOROKA	P. O. Box 990, Goroka	5322085 / 5322321	72228116	The Coordinator	Senior Clerk	72229054
8	KUNDIAWA	P. O. Box 95, Kundiawa	5351612	72228144	The Coordinator	Senior Clerk	72229056
9	MT HAGEN	P. O. Box 418, Mt. Hagen	5421194 / 5423332	72228148	The Coordinator	Senior Clerk	72229057
10	VANIMO	P. O. Box 38, Vanimo	4571175 / 4571438	72228140	The Coordinator	Senior Clerk	72229060
11	WEWAK	P. O. Box 583, Wewak	4562231/ 4561114	72228122	The Coordinator	Senior Clerk	72229062
12	MADANG	P. O. Box 2071, Madang	4222418	72228126	The Coordinator	Senior Clerk	72229063
13	LAE	P. O. Box 4969, Lae	4725508 / 4721162	72228132	The Coordinator	Senior Clerk	72229064
14	KIMBE	P. O. Box 328, Kimbe	9835110	72228150	The Coordinator	Senior Clerk	72229065
15	RABAUL	P. O. Box 83, Kokopo	9400314	72228118	The Coordinator	Senior Clerk	72229067
16	KAVIENG	P. O. Box 284, Kavieng	9842183	72228136	The Coordinator	Senior Clerk	72229069
17	BUKA	P. O. Box 154, Buka	9739838	72228108	The Coordinator	Senior Clerk	72229073
18	MANUS	P. O. Box 41, Lorengau	9709251	72228128	The Coordinator	Senior Clerk	72229080
19	NCD	C/- FODE HQ	3230299 Ext 26	72228134	The Coordinator	Senior Clerk	72229081
20	WABAG	P. O. Box 259, Wabag	5471114	72228120	The Coordinator	Senior Clerk	72229082
21	HELA	P. O. Box 63, Tari	73197115	72228141	The Coordinator	Senior Clerk	72229083
22	JIWAKA	c/- FODE Hagen		72228143	The Coordinator	Senior Clerk	72229085

SUBJECT AND GRADE TO STUDY

GRADE LEVELS	SUBJECTS/COURSES
Grades 7 and 8	1. English
	2. Mathematics
	3. Personal Development
	4. Social Science
	5. Science
	6. Making a Living
Grades 9 and 10	1. English
	2. Mathematics
	3. Personal Development
	4. Science
	5. Social Science
	6. Business Studies
	7. Design and Technology- Computing
Grades 11 and 12	1. English – Applied English/Language& Literature
	2. Mathematics - Mathematics A / Mathematics B
	3. Science – Biology/Chemistry/Physics
	4. Social Science – History/Geography/Economics
	5. Personal Development
	6. Business Studies
	7. Information & Communication Technology

REMEMBER:

- For Grades 7 and 8, you are required to do all six (6) courses.
- For Grades 9 and 10, you must study English, Mathematics, Science, Personal Development, Social Science and Commerce. Design and Technology-Computing is optional.
- For Grades 11 and 12, you are required to complete seven (7) out of thirteen (13) courses to be certified.

Your Provincial Coordinator or Supervisor will give you more information regarding each subject.

GRADES 11 & 12 COURSE PROGRAMMES

No	Science	Humanities	Business
1	Applied English	Language & Literature	Language & Literature/Applied English
2	Mathematics A/B	Mathematics A/B	Mathematics A/B
3	Personal Development	Personal Development	Personal Development
4	Biology	Biology/Physics/Chemistry	Biology/Physics/Chemistry
5	Chemistry/ Physics	Geography	Economics/Geography/History
6	Geography/History/Economics	History / Economics	Business Studies
7	ICT	ICT	ICT

Notes: You must seek advice from your Provincial Coordinator regarding the recommended courses in each stream. Options should be discussed carefully before choosing the stream when enrolling into Grade 11. FODE will certify for the successful completion of seven subjects in Grade 12.

CERTIFICATE IN MATRICULATION STUDIES		
No	**Compulsory Courses**	**Optional Courses**
1	English 1	**Science Stream:** Biology, Chemistry, Physics
2	English 2	**Social Science Stream:** Geography, Intro to Economics and Asia and the Modern World
3	Mathematics 1	
4	Mathematics 2	
5	History of Science & Technology	

REMEMBER:

You must successfully complete 8 courses: 5 compulsory and 3 optional.