Te Tohu Whakahaere Pūtea
Certificate in Money Management

Activity Workbook

Wāhanga Tuawhā:
Ngā Hua me ētahi atu Whakatupuranga

Module 4:
Equity and Other Investments

Clip Art Images

Clip Art Images were retrieved from Microsoft Clip Art Online.

Programme Developers and Authors

Te Wānanga o Aotearoa acknowledges Aotahi Ltd (Aotahi) as the developers and authors of the programme. Other sources of material have also been acknowledged in the publications where appropriate. Aotahi is a Māori-owned business education company specialising in developing and managing educational programmes and resources for entrepreneurs / small business owners in Aotearoa. For further information regarding Aotahi, visit www.aotahi.com.

Disclaimer

The information in this publication is not intended as a substitute for professional advice. Te Wānanga o Aotearoa expressly disclaims all liability to any person / organisation arising directly or indirectly from the use of or reliance on, or for any errors or omissions in, the information in this publication, including any references to third parties. Whilst efforts have been made by Te Wānanga o Aotearoa to ensure the accuracy of the information provided, the adoption and application of this information is at the reader's discretion and is his or her sole responsibility.

Copyright

© Te Wānanga o Aotearoa, 2007. All rights reserved. No part of this material may be reproduced or copied in any form or by any means (graphic, electronic or mechanical, including photocopying, recording, taping or information retrieval systems) without the prior permission of Te Wānanga o Aotearoa. For further information and contact details refer to www.twoa.ac.nz.

This publication was updated in October 2013.

TABLE OF CONTENTS

The Activities.....7

Activity 1: Investment Word Find 9

Activity 2: Terminology Test 10

Activity 3: Calculating Stock Market Indices 14

Activity 4: International Stock Market Indices.....18

Activity 5: Sharemarket Quiz.....19

Activity 6: From the Newspapers.....22

Activity 7: My Managed Fund 25

Activity 8: Managed Funds Missing Words.....31

Activity 9: KiwiSaver Limerick.....32

Activity 10: KiwiSaver True or False Quiz.....33

Activity 11: Dollar Cost Averaging 36

Activity 12: Risk Crossword.....39

Activity 13: Taxation of Foreign Investments 40

Activity 14: Compound Interest.....44

Activity 15: Derivatives and Commodities 46

Activity 16: Investments – Make them Right!.....48

Activity 17: The Effects of Exchange Rates 51

Activity 18: IPO Quick Questions.....56

Activity 19: Pros and Cons of Buying a Business.....57

Activity 20: Is Business Right for Me?.....58

Activity 21: Understanding the Financials.....62

Activity 22: Buying a Business *65*

Activity 23: Capitalisation Rates *67*

Activity 24: Capitalisation Case Studies *68*

Activity 25: Discounting Cashflows *73*

Activity 26: Valuation Quiz *78*

Suggested Answers 81

Activity 1 Answers: Investment Word Find *83*

Activity 2 Answers: Terminology Test *83*

Activity 3 Answers: Calculating Stock Market Indices *85*

Activity 4 Answers: International Stock Market Indices *87*

Activity 5 Answers: Sharemarket Quiz *88*

Activity 6 Answers: From the Newspapers *90*

Activity 7 Answers: My Managed Fund *91*

Activity 8 Answers: Managed Funds Missing Words *91*

Activity 9 Answers: KiwiSaver Limerick *91*

Activity 10 Answers: KiwiSaver True or False Quiz *92*

Activity 11 Answers: Dollar Cost Averaging *95*

Activity 12 Answers: Risk Crossword *96*

Activity 13 Answers: Taxation of Foreign Investments *96*

Activity 14 Answers: Compound Interest *99*

Activity 15 Answers: Derivatives and Commodities *100*

Activity 16 Answers: Investments – Make them Right! *101*

Activity 17 Answers: The Effects of Exchange Rates *103*

Activity 18 Answers: IPO Quick Questions *105*

Activity 19 Answers: Pros and Cons of Buying a Business 106

Activity 20 Answers: Is Business Right for Me? 106

Activity 21 Answers: Understanding the Financials 107

Activity 22 Answers: Buying a Business 109

Activity 23 Answers: Capitalisation Rates..... 109

Activity 24 Answers: Capitalisation Case Studies 110

Activity 25 Answers: Discounting Cashflows..... 112

Activity 26 Answers: Valuation Quiz 114

The Activities

Activity 1: Investment Word Find

Time Allocation: 30 minutes

A	B	C	A	P	I	T	A	L	G	R	O	W	T	H	O	L	Y	I	E
L	C	O	M	M	O	D	I	T	I	E	S	E	L	M	A	R	M	I	I
I	L	N	V	R	E	T	M	Q	W	S	O	D	C	N	L	Y	A	L	N
S	I	T	T	L	E	A	S	H	O	B	B	U	E	T	E	A	R	A	V
T	O	R	E	G	I	S	T	R	A	R	U	R	S	T	V	I	K	N	E
E	T	A	N	A	L	Y	F	O	I	B	Y	G	A	I	N	T	E	G	S
D	I	C	R	E	D	I	E	N	E	B	I	L	T	G	D	E	T	E	T
S	E	T	T	L	O	A	D	Y	L	Y	E	O	E	O	I	E	D	M	M
O	A	N	T	E	L	O	D	I	V	I	D	B	L	N	V	D	A	S	E
B	R	O	K	E	R	A	G	E	D	D	S	A	N	T	I	R	T	O	N
R	O	T	D	A	I	L	E	L	A	W	E	L	V	P	D	R	A	I	T
A	S	E	L	G	S	I	N	D	E	X	G	M	O	S	E	L	L	S	S
D	K	D	Y	A	H	T	M	I	G	A	I	A	L	K	N	A	I	R	T
P	O	R	T	F	O	L	I	O	E	T	S	R	A	I	D	S	T	S	A
J	V	R	T	S	H	A	R	E	B	R	O	K	E	R	R	K	Y	A	T
R	E	G	I	S	E	D	A	T	L	I	O	E	D	I	A	H	T	N	E
A	N	R	H	A	N	D	R	E	W	S	A	T	O	J	M	O	R	G	M
O	L	I	T	I	Y	C	O	M	M	I	S	S	I	O	N	L	R	E	E
B	R	S	I	M	P	U	T	A	T	I	O	N	C	R	E	D	I	T	N
I	L	K	D	S	V	O	L	A	T	I	L	E	T	Y	I	T	S	O	T

Throughout Module 4 you will be introduced to a lot of investment terminology. Become familiar with some of these terms now by finding them in the word find:

- Brokerage
- Commission
- Yield
- Global Markets
- Portfolio
- Sell
- Dividend
- Commodities
- Capital Growth
- Contract Note
- Registrar
- Listed
- Hold
- Buy
- Risk
- Sharebroker
- Volatile
- Imputation Credit
- Investment Statement
- Index

Activity 2: Terminology Test

Time Allocation: 1 hour 30 minutes

How well do you understand the meaning of the terms you found in the Word Find for Activity 1? Complete this activity to find out.

Instructions:

1. Write your current understanding of each of the twelve investment terms below in the spaces provided. Do NOT look in the glossary of terms in the module book. (30 minutes)

2. Research the correct meaning of each investment term. You can find answers by looking at the glossary in your module book, looking in a dictionary or searching the internet. (1 hour)

Investment Term	**Meaning of Term**
Listed	My Current Understanding:
	The Correct Meaning:
Brokerage	My Current Understanding:
	The Correct Meaning:

Yield	My Current Understanding:
	The Correct Meaning:
Portfolio	My Current Understanding:
	The Correct Meaning:
Investment Statement	My Current Understanding:
	The Correct Meaning:
Dividend	My Current Understanding:

Dividend	The Correct Meaning:
Stock Market Index	My Current Understanding:
	The Correct Meaning:
Sharebroker	My Current Understanding:
	The Correct Meaning:
Volatile	My Current Understanding:
	The Correct Meaning:

Imputation Credit	My Current Understanding:
	The Correct Meaning:
Commodity	My Current Understanding:
	The Correct Meaning:
Capital Growth	My Current Understanding:
	The Correct Meaning:

Activity 3: Calculating Stock Market Indices

Time Allocation: 1 hour

Use the information in the tables below to calculate both a market-weighted stock market index and a price-weighted stock market index. Use the following example as a guide:

Example

Company	Share Price ($)	No of Shares	Market Capitalisation
Y	1.50	100	150
Z	1.00	180	180
Total	**2.50**		**330**

Market-Weighted Index = 330/2 = 165

Price-Weighted Index = 2.50/2 = 1.25

Note: We divide by 2 because there are two companies in the index.

1. The prices of shares in a market on a particular day (Monday) are shown in the table below, along with the number of shares issued for each company.

   Complete this table and then use this information to calculate the value of the stock market indices in the boxes provided.

Company	Share Price on Monday ($)	No of Shares (million)	Market Capitalisation ($million)
A	1.10	600	
B	1.20	500	
C	1.50	800	
D	2.00	500	
E	3.00	300	
Total			

Value of Market-Weighted Index

Value of Price-Weighted Index

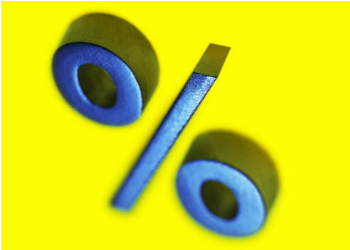
2. The next day (Tuesday), the share prices for the companies in the market are different. Some share prices have gone up and some have gone down. What are the values of the two indices now?

Company	**Share Price on Tuesday ($)**	**No of Shares (million)**	**Market Capitalisation ($million)**
A	1.20	600	
B	1.30	500	
C	1.40	800	
D	2.10	500	
E	2.20	300	
Total			

Value of Market-Weighted Index

Value of Price-Weighted Index

3. Complete the table below to work out:
   - which company's share price experienced the largest percentage increase, and
   - which company's share price experienced the largest percentage decrease.



The formula to calculate a percentage change is as follows:

Percentage Change = (New Value – Old Value) / Old Value x 100

An example of how to use this formula is given for Company A:

Percentage Change = ($1.20 – $1.10) / $1.10 x 100
= $0.10 / $1.10 x 100
= 9.1%

Company	**Share Price on Monday**	**Share Price on Tuesday**	**Percentage Increase / Decrease**
A	*$1.10*	*$1.20*	*9.1%*
B	$1.20	$1.30	
C	$1.50	$1.40	
D	$2.00	$2.10	
E	$3.00	$2.20	

Largest Percentage Increase:

Largest Percentage Decrease:

4. What was the percentage change in the stock market indices (i.e. the percentage difference between the values you calculated in Question 2 and those that you calculated in Question 1)?

Percentage Change in Market-Weighted Index

Percentage Change in Price-Weighted Index

5. Why is there such a large difference between the percentage change in the price-weighted index and the percentage change in the market-weighted index? Explain.

Activity 4: International Stock Market Indices

Time Allocation: 30 minutes

1. A list of stock market indices from around the world are given below. Identify the country / region of origin for each of these indices. You may need to refer to the module book to complete this exercise. Alternatively, conduct an internet search to find the answers.

Index	**Country / Region**
NASDAQ	
DJIA	
FTSE 100	
Nikkei 225	
S&P / ASX 200	
NZX 50	
DAX 30	
Hang Seng	
CAC 40	

2. Many of the names of indices are acronyms or abbreviations. Identify what the letters in the names of the following indices stand for.

Index	**What Does it Stand For?**
NASDAQ	
DJIA	
S&P / ASX 200	
NZX 50	
DAX 30	

Activity 5: Sharemarket Quiz

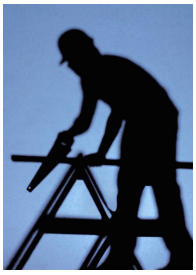
Time Allocation: 45 minutes

The table below lists a number of statements about shares and sharemarkets. Complete these statements by placing a ↑ or ↓ beside each statement, where ↑ means up and ↓ means down.

Then, in the next column, write a brief explanation about your response. One point to note is that these statements are generalisations – that is, they may not apply in every situation.

Statement	**↑ or ↓**	**Reason**
In a 'bull' market share prices generally tend to go		
The expression a 'bear' market generally means share prices are trending		
If interest rates are rising this can sometimes drive the sharemarket		
A capital gain means the value of your shares has gone		

Statement	↑ or ↓	Reason
A capital loss means the value of your shares has gone		
If you participate in a company's dividend reinvestment plan, this means that every time a dividend is paid the number of shares you own would go		
Once a share has gone 'ex-dividend' often the price goes		
If the NZX 50 closed up 6 points according to the national television news, this means the stock market was		

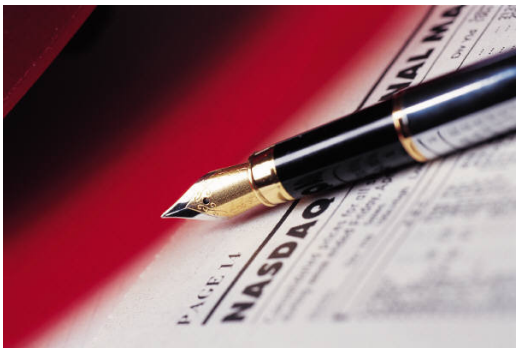
Statement	**↑ or ↓**	**Reason**
Dividend yields change as share prices rise and fall. If the share price falls, this would mean the dividend yield would go		
If a company makes a takeover offer for another company, what is likely to happen to the share price of the target company?		
If a company makes a takeover offer for another company, what is likely to happen to the share price of the company making the offer?		
If mortgage interest rates rise then the shares in the construction sector are likely to go		

Activity 6: From the Newspapers

Time Allocation: 45 minutes

The following questions are designed to help improve your understanding of terminology reported in the sharemarket section of the newspaper.

You may need to refer to your Module for assistance in answering these questions.



Part A: Company BKY

1. If Company BKY has two million shares each worth $3.00, what is its ***market capitalisation*** (value)?

2. If this same company (Company BKY) makes $500,000, what are its ***earnings per share*** (EPS)?

3. What is the price-earnings ratio (***P/E ratio***) for Company BKY?

4. If Company BKY's net tangible assets (NTA) are $1,500,000, what are its ***NTA per share***?

5. If Company BKY pays total ***dividends*** of $250,000, how much is this per share?

6. What is the ***dividend yield*** of Company BKY?

Part B: Company NKS

1. Company NKS has 6 million shares each worth $2.80. What is its ***market capitalisation*** (value)?

2. If Company NKS makes $1,900,000, what are its ***earnings per share*** (EPS)?

3. What is the price-earnings ratio (***P/E ratio***) for Company NKS?

4. If Company NKS's NTA are $3,750,000, what are its ***NTA per share***?

5. If total ***dividends*** of $600,000 are paid, how much is this per share?

6. What is the ***dividend yield*** of Company NKS?

Activity 7: My Managed Fund

Time Allocation: 4 hours
(1 hour per week)

In this activity you will need to pretend that you are developing your own managed fund. You can either make this an individual activity, or a group activity.

- **Individual Activity:**

  Set a goal of how much you would like the value of your fund to increase over the next four weeks. Then, see if you can meet or exceed that goal.

  For example, you may decide that you want to put together a portfolio that increases in value by at least 2%.

- **Group Activity:**

  Compete against someone else, or a group of people, to see who has the best performing fund over a period of four weeks.

Here are the rules and assumptions which you must abide by:

- You only have $10,000 to invest in your fund.
- You must only invest in companies listed on the New Zealand Stock Exchange.
- You are only able to invest in a maximum of eight different companies at a time.
- You can change which companies you invest in once per week.
- Trading costs and fees do not apply.
- The price for both buying and selling shares is the '**last sale price**' that is recorded in newspapers or on the internet (e.g. at http://www.nzx.com).

Instructions:

1. If you are completing this as an individual activity, set a goal of how much you would like your fund to increase over the next four weeks.

2. Complete the first three columns of the 'Fund Template for Week 1' given after the following page.
   a. Select which companies you would like to start your portfolio with and write the names of these companies in the first column of the template.
   b. In the second column, write down the 'last sale price' for these companies.
   c. In the third column, identify the number of shares that you would like to purchase of each company.
   d. Fill in the fifth column (the Value of Shareholding at Start of Week). This is calculated as the share price at the start of the week multiplied by the number of shares you purchased.
   e. Calculate the total value of your fund as at the start of the week. *Remember that the maximum you can start your fund with is $10,000*.

3. **At the end of Week 1**, fill in the rest of the 'Fund Template for Week 1', and start filling in the 'Fund Template for Week 2' as follows:
   a. In the fourth column, write down the 'last sale price' for each company. This should be the price on the day exactly one week after the day for which a price was recorded in the second column. (e.g. if the prices listed in the second column related to a Tuesday, the prices in the fourth column should relate to the Tuesday exactly one week later).
   b. Complete the sixth column by multiplying the share price at the end of the week by the number of shares purchased.
   c. Calculate the total value of your fund as at the end of the week. Depending on the performance of your shares, this could be less than, equal to or more than $10,000. This is the amount of money that you have available to invest for the following week.
   d. Decide how you will invest your money for Week 2. You may keep your portfolio exactly the same, change a few of the companies or share volumes, or even change all of the companies and share volumes. Fill in the first, second, third and fifth columns of 'Fund Template for Week 2'.

4. **At the end of Weeks 2 and 3:**
   a. Fill in the fourth and sixth columns of 'Fund Template for Week 2 (or 3)'.
   b. Decide how you will invest your money for the next week, and then fill in the first, second, third and fifth columns of 'Fund Template for Week 3 (or 4)'.

5. **At the end of Week 4:**
   a. Fill in the fourth and sixth columns of 'Fund Template for Week 4'.
   b. Answer the questions following the 'Fund Template for Week 4'.
   c. If you are completing this activity as an individual activity, work out if you met your goal.

      For example, if the value of your fund at the end of Week 4 is $10,091.40, you have increased the value of your fund by 0.9%. This is calculated as follows:

Percentage Change = (New Value – Old Value) / Old Value x 100
= ($10,091.40 - $10,000) / $10,000 x 100
= $91.40 / $10,000 x 100
= 0.914%

      If it was your goal to increase the value of your fund by 1% or more, you have not reached your goal, however, if your goal was to increase the value by 0.5% or more, you have reached your goal.

   d. If you are completing this activity as a group activity, see whose portfolio is worth the most at the end of Week 4.

Fund Template for Week 1

Company	Share Price At Start of Week	Number of Shares Purchased	Share Price At End of Week	Value of Shareholding at Start of Week	Value of Shareholding at End of Week
TOTAL VALUE OF FUND					

Fund Template for Week 2

Company	Share Price At Start of Week	Number of Shares Purchased	Share Price At End of Week	Value of Shareholding at Start of Week	Value of Shareholding at End of Week
TOTAL VALUE OF FUND					

Fund Template for Week 3

Company	Share Price At Start of Week	Number of Shares Purchased	Share Price At End of Week	Value of Shareholding at Start of Week	Value of Shareholding at End of Week
TOTAL VALUE OF FUND					

Fund Template for Week 4

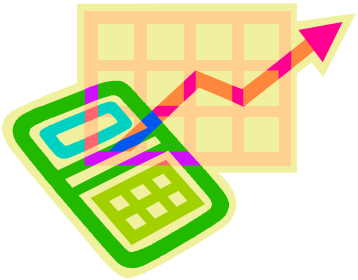
Company	Share Price At Start of Week	Number of Shares Purchased	Share Price At End of Week	Value of Shareholding at Start of Week	Value of Shareholding at End of Week
TOTAL VALUE OF FUND					

Questions to answer at the end of Week 4

1. Did your fund increase or decrease in value over these four weeks?

2. What was the percentage change in the value of your fund? For example, if your fund is worth $9,780.00 at the end of Week 4, the percentage change is -2.2%. This is calculated as ($9,780 - $10,000) / $10,000 x 100.

3. If you were to complete this activity again, what would you do differently?



Activity 8: Managed Funds Missing Words

Time Allocation: 30 minutes

Read through the passage below and identify appropriate words to insert into the spaces provided. Note that the number of letters in each missing word is indicated:

A managed fund involves _ _ _ _ _ _ _ money from a large _ _ _ _ _ _ of investors and then investing it on their behalf. The _ _ _ _ _ _ _ _ _ _ decides what investments should be bought or sold, within some limits. Managed funds allow people who do not have the _ _ _ _ or the _ _ _ _ _ to invest by themselves, to invest in the sharemarket.

Managed funds can invest in a _ _ _ _ variety of investments. This includes investments such as _ _ _ _ _ _, _ _ _ _ _ _ _ _ _ and _ _ _ _ _. Some funds will invest in all of these types of investments. One of the main _ _ _ _ _ _ _ _ _ _ of using managed funds is that they allow small _ _ _ _ _ _ _ _ _ to gain a large amount of _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _. The other main _ _ _ _ _ _ _ _ _ is that it is possible to use managed funds to invest relatively _ _ _ _ _ amounts of money on a _ _ _ _ _ _ _ basis.

The main disadvantage of using managed funds is the _ _ _ _. You will have to pay a _ _ _ _ _ _ _ _ _ _ fee to cover the ongoing _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ costs of the fund as well as _ _ _ _ _ _ _ _ fees to cover the costs associated with _ _ _ _ _ _ and _ _ _ _ _ _ _ investments. There may also be other costs, which could include _ _ _ _ _ _ _ _ _ _ _ and _ _ _ _ _ _ _ fees.

Activity 9: KiwiSaver Limerick

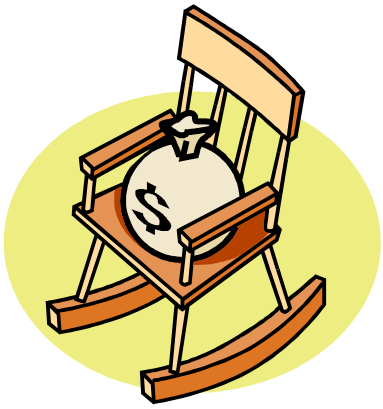
Time Allocation: 30 minutes

Below is an example of a limerick regarding KiwiSaver. A limerick usually has five lines, with the first, second and fifth lines rhyming and the third and fourth lines rhyming.

Example:

With retirement getting near
You don't have anything to fear
KiwiSaver has your money
So you can have bread and honey
When the golden years are here

You're getting nearer to 65
And you're happy to be alive
Because you were one of the braver
Who put your money with KiwiSaver
For when the retirement years arrive



In the space below, write your own limerick or poem that reflects what KiwiSaver means to you.

Activity 10: KiwiSaver True or False Quiz

Time Allocation: 45 minutes

Identify if each of the KiwiSaver statements in the table below are true or false. If false, correct the statement. You may want to refer to the content of Module 2 or to the website www.kiwisaver.govt.nz to assist you.

Statement	True or False?	Correct Statement
KiwiSaver began on the 1st of July 2007.		
Contributions from your salary are based on your net income.		
Shortly after joining KiwiSaver, you will receive a one-off lump sum contribution to your fund of $1,000 from the Government.		
You must contribute a minimum of 2% of your wages to your KiwiSaver fund.		
The Government will guarantee all money invested in KiwiSaver.		
In the event of your death, the balance of your KiwiSaver account will be paid to your estate.		

Statement	True or False?	Correct Statement
You can make lump sum contributions to your KiwiSaver fund.		
You must be between 18 and 65 to join KiwiSaver.		
If you join KiwiSaver, you must be a member for a minimum of five years, or until you turn 65 years old (whichever is later), before withdrawing.		
KiwiSaver members are entitled to fund fee subsidies of $40 per annum.		
If you are 18 or over, a yearly tax credit of up to $1,042.86, goes directly into your KiwiSaver fund.		
Part-time workers cannot join KiwiSaver.		
You can withdraw all of your savings at any time and put these savings towards a deposit on your first home.		

Statement	True or False?	Correct Statement
After an initial contribution period of 12 months you can take a contributions holiday and suspend your payments for up to five years at a time.		
If you are a KiwiSaver member, your employer will make a contribution equal to 3% of your wages into your KiwiSaver fund.		
If you are already in an established superannuation scheme, you cannot join KiwiSaver.		
Bonuses, holiday pay and allowances are not taken into consideration when determining the amount of your KiwiSaver contributions.		
All KiwiSaver schemes are run by the private sector.		
KiwiSaver offers home loan subsidies for first home buyers.		
Fund providers must provide you with an Investment Statement which accurately forecasts what your savings will be worth in the future.		

Activity 11: Dollar Cost Averaging

Time Allocation: 45 minutes

Michael has been saving for his retirement for some time now. He follows a 'dollar cost averaging' strategy which involves putting $100 every month from his pay into a managed fund. This money is used to buy units in the managed fund.

The price he has to pay for the units varies from month to month according to how the investment has performed.

Answer the following questions about Michael's investment strategy:

1. How many units did Michael buy in each month last year? Complete the table below.

   As an example, if the cost of a unit is $1.40 in one particular month, Michael will be able to buy 71.43 (i.e. $100 / $1.40) units in that month.

	Amount paid	Price of unit	No of units
January	$100	$1.10	
February	$100	$0.90	
March	$100	$1.00	
April	$100	$1.06	
May	$100	$0.91	
June	$100	$0.80	
July	$100	$0.88	
August	$100	$0.95	
September	$100	$1.05	
October	$100	$1.08	
November	$100	$1.20	
December	$100	$1.25	

2. How many units, in total, did Michael buy during the year?

3. What was the value of the units at the end of the year?

   (The total number of units x the current unit price)

4. What is the average cost of the units Michael purchased?

   (An average is calculated as total amount spent / the quantity purchased).

5. If Michael had purchased all of his units at the start of the year – i.e. spent the total $1,200 (calculated as $100 x 12 months) on the units available in January,

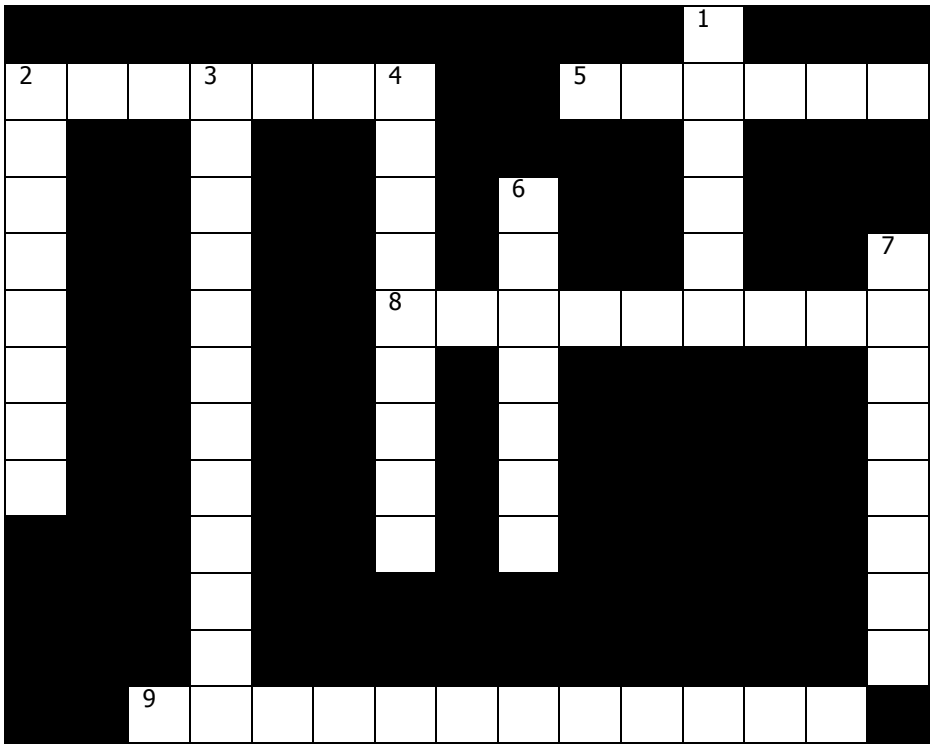
   a. How many would he have purchased?

b. How much would these units have been worth at the end of the year?

6. Explain how Michael's dollar cost investment strategy reduces risk.

Activity 12: Risk Crossword

Time Allocation: 30 minutes



Down

1. A type of risk also known as 'default risk' (6)
2. The risk associated with a change in exchange rates (8)
3. The risk that the cost of borrowing will increase and thus the profits of the company you have bought shares in will decrease (8,4)
4. The risk that you will not be able to sell your investment when you need to unless you sell it for a much lower price (9)
6. The risk that a company that you lent money to (e.g. through purchasing a bond) may not be able to pay you the amounts that they owe you (7)
7. The risk associated with a particular sector suffering a downturn (8)

Across

2. The risk that your investment fails and you lose the money you invested (7)
5. A type of risk also known as 'systematic' risk (6)
8. The risk that your investment does not earn enough to cover rises in the cost of living (9)
9. The risk associated with market interest rates having changed when your investment matures and you are looking for a new investment (12)

Activity 13: Taxation of Foreign Investments

Time Allocation: 1 hour

George bought 4,500 shares in a company listed on the London Stock Exchange.

- He paid £5.60 per share.
- The exchange rate on the day was NZ$1 = £0.47.

At the start of the next financial year, on 1 April:

- the share price was £5.50, and
- the exchange rate NZ$1 = £0.46.

Throughout the year he received dividends of NZ$820.

At the end of the financial year (on 31 March):

- the share price had increased to £5.80, and
- the exchange rate was NZ$1 = £0.44.

Answer the following questions about the taxation of George's investment:

1. What did George's investment cost him in NZ$?

2. What was George's investment worth in NZ$ on 1 April?

3. What was George's investment worth in NZ$ on 31 March the following year?

4. What was the total return on George's investment throughout the financial year (from 1 April to 31 March)?

Total Return = (Capital Gain + Dividend Income) / Start Value x 100

5. On what basis will George's investment be taxed? Explain your response.

6. If George's personal tax rate is 33%, how much tax would he have to pay for the year on these shares?

7. If the share price on 31 March had been £5.00 instead of £5.80, how much tax would George have had to pay?

8. If the exchange rate had been NZ$1 = £0.47 instead of NZ$1 = £0.44 on 31 March (and the share price was still £5.80),

   a. What would the total return on George's investment have been?

   b. On what basis would George's investment have been taxed? Explain your response.

c. How much tax would George have had to pay (assume a tax rate of 33%)?

9. If the price had jumped to £7.00 instead of £5.80 on 31 March (and the exchange rate was still NZ$1 = £0.44),

a. What would the total return on George's investment have been?

b. What would the difference be between the amount of tax that George has to pay in this scenario, compared to in Question 6 (i.e. when the price was £5.80)?

Explain your response.

Activity 14: Compound Interest

Time Allocation: 45 minutes

The concept of 'compound interest' has been introduced several times in earlier Modules of this programme and is discussed again in Section 3 of this Module with regards to term deposit investments. Test your understanding of how compound interest works by answering the following question:

Which of these term deposits would pay the most interest?
a) $1,000 compounded annually for two years at 8% per annum
b) $1,000 compounded quarterly for two years at 7.8% per annum
c) $1,000 compounded half yearly for two years at 7.9% per annum

Fill in the tables below to help determine your answer.

a) $1,000 compounded annually for two years at 8% per annum

Period	Amount Invested	Interest	Total at End of Period
Year 1			
Year 2			

b) $1,000 compounded quarterly for two years at 7.8% per annum

Period	Amount Invested	Interest	Total at End of Period
Quarter 1			
Quarter 2			
Quarter 3			
Quarter 4			
Quarter 5			
Quarter 6			
Quarter 7			
Quarter 8			

c) $1,000 compounded half yearly for two years at 7.9% per annum

Period	Amount Invested	Interest	Total at End of Period
Half-Year 1			
Half-Year 2			
Half-Year 3			
Half-Year 4			

The option which would pay the most interest is:

Activity 15: Derivatives and Commodities

Time allocation: 30 minutes

Identify whether the following statements are true or false. If they are false, explain your response.

Statement	True or False?	If false, explain your response
When you buy a call option, you are said to be going 'long'.		
You can only make a profit with derivatives if the markets go up.		
Only speculators use derivatives.		
The term 'options' is another word for 'futures'. They both mean the same thing.		
Selling an option is sometimes called 'reading'.		

Statement	True or False?	If false, explain your response
The two types of options are called 'put' and 'call'.		
A forward contract is very similar to a futures contract.		
Commodities always go up in value.		
Commodities are usually priced in US dollars.		
There are two basic types of commodities – hard and soft.		

Activity 16: Investments – Make them Right!

Time Allocation: 1 hour

Explain why the statements in the following table are incorrect and then write correct statements.

Statement	Explanation / Make it Right!
It is good to invest in oil because commodities always go up in value.	Why this is Incorrect:
	Corrected Statement:
I want a diversified portfolio, so I am going to buy several rental properties in the Auckland region.	Why this is Incorrect:
	Corrected Statement:

I want a low-risk portfolio that will give me income, so it is a good idea to invest in several finance companies.	Why this is Incorrect:
	Corrected Statement:
I want a high-risk investment for my retirement savings, so I will invest all of my money in bank term deposits.	Why this is Incorrect:
	Corrected Statement:
If you want to receive a reasonable amount of income from your investments, do not put any of your money into shares.	Why this is Incorrect:
	Corrected Statement:

If you want to receive a reasonable amount of income from your investments, invest in commodities.	Why this is Incorrect:
	Corrected Statement:
I want to make a lot of money quickly, so I will invest in derivatives.	Why this is Incorrect:
	Corrected Statement:
I do not want high-risk investments, so I am just going to invest in property.	Why this is Incorrect:
	Corrected Statement:

Activity 17: The Effects of Exchange Rates

Time Allocation: 1 hour 15 minutes

Part A: Understanding Exchange Rates (45 minutes)

Working with exchange rates can be very confusing! Answer the following general questions to familiarise yourself with how exchange rates work.

> Note that NZD/AUD 0.90 means that 1 New Zealand dollar is worth 0.90 Australian dollars, or 90 Australian cents.

1. If you are going to Australia on holiday, which of these exchange rates is better for you?

   a) NZD/AUD 0.90
   b) NZD/AUD 0.83
   c) NZD/AUD 0.75

Explain your answer:

2. If you own shares in a company whose main business is exporting to Australia, which of the exchange rates given in Question 1 is better for you?

Explain your answer:

3. If you have NZ$750 to spend on holiday in Australia, how much will you receive in AUD (ignoring any commission charged by banks to exchange your money) if:

   a. The exchange rate is NZD/AUD 0.83?

   b. The exchange rate is NZD/AUD 0.76?

4. Refer to the two scenarios in Question 3 above. If you were to cancel your trip to Australia and exchange your money back to NZD at an exchange rate of NZD/AUD 0.79, how much would you receive in NZD?

   Again, ignore commission charged by banks to exchange your money.

   a) If the original exchange rate was NZD/AUD 0.83:

   b) If the original exchange rate was NZD/AUD 0.76:

5. Suppose you have been to Disneyland, and somehow you did not spend all the money you took with you. How many NZD will you get if you return with US$200, and the exchange rate is NZD/USD 0.82?

   Again, ignore commission charged by banks to exchange your money.

Part B: The Effect of Exchange Rates on Investments (30 minutes)

Answer the following questions about the effect of exchange rates on international investments.

For some of these questions you will need to calculate the percentage return on an investment. To do this, use the following calculation for a percentage change.

Percentage Change = (New Value – Old Value) / Old Value x 100

1. Suppose you want to buy 1,000 shares in AMP (a company listed on the Australian Stock Exchange), and the share price is AU$4.50.

   a. How much will it cost you (in NZD) to buy these shares if the exchange rate is NZD/AUD 0.80?

b. If the share price increases to AUD$4.90, what is the percentage return that you will get on your shares in AUD?

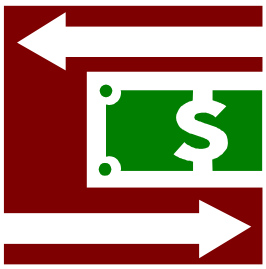
Note: Calculate this using the formula given on the previous page.

c. If you were to sell your shares after the price rose from AUD$4.50 to AUD$4.90 and convert the money back to NZD at an exchange rate of 0.78, how much would you receive in NZD?

d. What would be the percentage return on your investment in NZD?

Note: Calculate this using the formula given on the previous page.

e. Is this exchange rate change in your favour?



2. Suppose you want to buy 100 shares in Coca Cola (a US company), and the share price is US$38.26.

   a. How much will it cost you (in NZD) to buy these shares if the exchange rate is NZD/USD 0.7850?

   b. If the share price increases to US$42.55 one year later, what is the percentage return that you will get on your shares in USD?

   c. If you were to sell your shares after the price rose from US$38.26 to US$42.55 and convert the money back to NZD at an exchange rate of 0.8010, how much would you receive in NZD?

   d. What would be the percentage return on your investment in NZD?

   e. Is this exchange rate change in your favour?

Activity 18: IPO Quick Questions

Time Allocation: 30 minutes

Answer the following five quick questions about IPOs:

1. What does IPO stand for?

2. What is an IPO?

3. What are the two main reasons for companies to choose to conduct an IPO?

4. Do IPOs always involve issues of new shares? Explain your response.

5. Does the share price usually increase or decrease following an IPO?

Activity 19: Pros and Cons of Buying a Business

Time Allocation: 1 hour

Unscramble each of the words below and then identify whether the resulting factor is an advantage or a disadvantage. Explain your response.

Scrambled Factor: CRTKA OEDRRC Unscrambled Factor: _____

Is this an advantage or disadvantage? Why?

Scrambled Factor: IIESXGNT FSFTA Unscrambled Factor:_____

Is this an advantage or disadvantage? Why?

Scrambled Factor: TNGXSEII SSOUTCMRE Unscrambled Factor: _____

Is this an advantage or disadvantage? Why?

Scrambled Factor: AEIOUTNTRP Unscrambled Factor: _____

Is this an advantage or disadvantage? Why?

Scrambled Factor: GENCASH Unscrambled Factor: _____

Is this an advantage or disadvantage? Why?

Scrambled Factor: NEXTSIGI QUIETPMEN Unscrambled Factor: _____

Is this an advantage or disadvantage? Why?

Activity 20: Is Business Right for Me?

Time Allocation: 1 hour

Have you ever considered operating your own business? In this activity you will identify a business idea and then consider whether you think self-employment is right for you. Start by answering the questions below, and then completing the 'Self-Analysis Table' given.

Self-Employment Questions

1. What (if anything) appeals to you about self-employment?

   _____

   _____

   _____

2. If you were to run your own business, what type of business would it be?

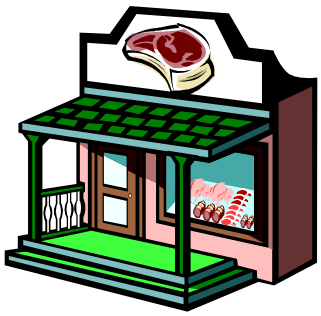
   _____

   _____

   _____

   _____

   _____



3. What appeals to you about this particular type of business?

   _____

   _____

   _____

   _____

   _____

   _____

Evaluating the Business Idea

As noted in Module 4, the decision to go into business should not solely be based on a personal desire to be self-employed: It should also take into account the strength of your business idea and your suitability for self-employment.

Answer the following questions about your business idea.

4. Do you consider that the products or services your business will sell will be better than those presently available in the marketplace? Explain.

_____

_____

_____

_____

5. Why do you think that customers will come to you rather than to your competitors?

_____

_____

_____

_____

_____

6. Be honest with yourself about your business idea – do you really think there would be a strong demand for your product or service? Would this demand be strong enough to enable you to reach your financial goals?

_____

_____

_____

_____

_____

Evaluating your Personal Strengths and Weaknesses

Complete the table below to evaluate your suitability for business, in general. Do this by placing a tick in the relevant column for each factor listed.

Self-Analysis Table: My Strengths and Weaknesses

	Your Response				
	Very Poor	Poor	Reasonably Good	Good	Excellent
Interpersonal skills					
Communication					
Time management					
A willingness to sacrifice					
Passion					
Vision					
Planning skills					
Commitment					
Problem Solving					
Ability to cope with stress					
Creativity and innovation					
Decision making skills					
Money management skills					

7. What skills / strengths do you consider you have that are relevant to your specific business idea?

_____

_____

_____

_____

_____

_____

8. What weaknesses do you consider you have in regards to your specific business idea? Can these weaknesses be overcome with, for example, training or practice?

_____

_____

_____

_____

_____

_____

_____

_____

Conclusions

Based on your responses to the questions / tasks in this activity, explain whether or not you think self-employment is right for you now, in the near future, in the distant future, or not at all.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Activity 21: Understanding the Financials

Time Allocation: 1 hour 15 minutes

Part A: The Contents of Financial Statements (15 min)

Tick the relevant column to show in which financial statement you would find each of the figures listed in the left-hand column.

	Income Statement	Statement of Financial Position	Cashflow Statement
How much profit the business made			
The value of the business's assets			
How much the business owes			
The value of the business's sales for the year			
The amount of money going into the business bank account			
The total amount of business expenses for the year			
The total amount of income tax payable for the year			
The amount of tax actually paid during the year			
The amount of tax still owing at the end of the year			
The net worth of the business			
Money received from customers through the year			

Part B: Financial Analysis Quiz (1 hour)

Test your knowledge on the content of Section 4.3.2 (The Financials) of the Module.

1. Where are you likely to find the most recent sales figures for a business? Why?

2. What should you do if you cannot get to see the accounts of the business you would like to buy? Why?

3. If a business is making profits, it will not go bankrupt. True or False? Explain your answer.

4. If there are two similar businesses, each of which earned the same amount of profit over a period of ten years (e.g. $2 million), which one is likely to be more valuable:
   - the one which experienced a small increase in profits, year after year (but still earned a total of $2 million over the ten year period), or
   - the one for which the profit figure changed substantially (increasing and decreasing) from year to year?

   Why?

5. What are 'accounts receivable' and why is it a good idea to not pay for these when buying a business?

6. When analysing stock records and the stock on hand (inventory) figures shown in the financial statements, what questions should you be trying to answer?

Activity 22: Buying a Business

Time Allocation: 45 minutes

Georgina, who has been working in a well-paid job for several years, is saving for her retirement (which is still about 30 years away). She has already invested in a rental property and thinks that a business would be a useful addition to her investment portfolio. She believes she can manage a business in her spare time, and without too much effort. After all, how difficult can it be?

Georgina therefore decides to buy a hairdressing business from Jenny. Although Georgina does not have any experience as a hairdresser, and has not owned a business before, she feels that she knows enough about the hairdressing industry as she has been a regular customer at various hairdressers over many years.

Georgina and Jenny agree on a price of $75,000 and Georgina pays cash up front. This payment was to cover:

- ☑ Stock
- ☑ Client base
- ☑ Vendor to stay on for one month to help with taking over
- ☑ All hairdressing equipment

As Georgina and Jenny have known each other for several years (although not that well) Georgina feels she can trust Jenny and therefore does not want the additional expense of seeing a lawyer to draw up a written contract.

Georgina decides to take a holiday for the first week that she owns the business so as to start her new venture refreshed. When Georgina returns, she finds that:

- About half of the stock of hairdressing products that was there on the day the business was sold is missing.
- The client appointment book is not on the premises.
- Jenny does not turn up to help (and has not been present during the week Georgina was away).
- The client database is missing.
- Two staff members have failed to turn up for work.

A few days later, she discovers that Jenny has started another hairdressing business around the corner, and has taken staff, clients and stock with her.

What should Georgina have done differently and / or better? Why?

Activity 23: Capitalisation Rates

Time Allocation: 45 minutes

Part A: Calculating Values

This activity is designed to give you practice in using the capitalisation rate formula. Complete the table below to show what the value of the business would be in each of the scenarios:

Value of a Business:

Profits	Capitalisation Rate				
	20%	**30%**	**40%**	**50%**	**60%**
$25,000					
$50,000					
$75,000					
$100,000					

What conclusions can you make from this exercise?

Part B: Determining Capitalisation Rates

Rana paid Rawiri $80,000 for a business. Fill in the table to show what capitalisation rate would have been used for each of the profit levels shown.

	Profit Levels				
	$10,000	**$20,000**	**$30,000**	**$50,000**	**$80,000**
Capitalisation Rate					

Activity 24: Capitalisation Case Studies

Time Allocation: 1 hour

Two case study scenarios are given below. The questions that follow involve completing calculations using the capitalisation rate valuation method.

Case Study 1: Soft Touch Massage

Aaron, a massage therapist, has been given the opportunity to buy Soft Touch Massage. This is an Auckland-based business specialising in relaxation massage, employing three full-time therapists (including the current owner).

The business has only been operating for two and a half years, so financial reports are only available for two full years.

- In the first half year of operation, the business made a loss. But then, in the first full year of operation, the business made a small profit of $8,000 as its customer base started to grow.
- In the second year of operation, profits rose to $32,000. At this level of profits, the business was operating at near full capacity with the 3 staff members.
- The current owner considers that prospects for the business are very positive, despite the current economic downturn.

1. Aaron is deciding what capitalisation rate to apply. Which would you suggest out of the following three options: 20%, 30% or 60%? Why?

_____

_____

_____

_____

_____

_____

_____

2. Calculate the value of the business based on a profit of $32,000 and the capitalisation rate chosen in Question 1.

3. Aaron is not convinced about the profitability of the business in the near future. Although the current owner considers the outlook to be great for the business, Aaron is aware that relaxation massage is a luxury for many, not a necessity, and thus believes that in difficult economic times, demand will go down.

   If profits were expected to fall by 50% in the following year and remain at this level for several years, what would be the value of the business? Assume the same capitalisation rate as selected in Question 1.

4. If Aaron instead received some information that made him believe the capitalisation rate should be only half that selected in Question 1 what would be the value of the business? Assume profits are expected to remain at $32,000 per annum.

   E.g. if a rate of 20% was selected in Question 1, a rate of 10% would now be considered appropriate.

5. Complete this statement:

   If the level of profit halves, the value of the business _____. But if the capitalisation rate to be used halves, the value of the business _____.

Case Study 2: Tangaroa Takeaways

Tipene is interested in buying Tangaroa Takeaways, a small fish and chip shop that has been struggling in recent times.

The current owners, Kane and Toia, are quite reluctant to sell, but have decided that they really do need to sell. Kane has been battling with cancer for over two years and Toia is finding it difficult to run the business and care for him at the same time. It is for this reason that profits have been declining.

For example, two years ago, net profit after tax was $52,000 and had been close to this level in previous years. However, the next year profit dropped to $46,000 and then fell again to $39,000 in the most recent financial year.

Tipene has experience in the takeaways industry and is well-known in the community. He therefore feels he can turn the business around. In fact, he has some expansion strategies that he projects will return an after-tax profit of at least $58,000 in the first year of business alone.

1. Tipene's financial adviser has valued Tangaroa Takeaways using the capitalisation rate formula. He recommended to Tipene that he pay a maximum of $78,000 for the business. If a capitalisation rate of 50% was applied, what profit figure was the financial adviser basing their recommendation on?

2. Assuming that Tipene also considers that a capitalisation rate of 50% should be applied, what is the overall value of the business to him?

3. Kane and Toia are not prepared to accept the $78,000 suggested by Tipene's financial adviser.

In fact, their accountant suggested that, based on their profit two years ago ($52,000) and their performance in previous years, they should ask Tipene to pay at least $149,000 for the business.

What capitalisation rate is Kane and Toia's accountant using?

Remember, the formula to calculate the value of a business is as follows.

Value of Business = Profits / Capitalisation Rate

Since you know the value of the business, and the profit level, you can use this formula to work out the capitalisation rate.

4. Why do you think that Kane and Toia's accountant suggests using the profit figure of $52,000 and the capitalisation rate you calculated in Question 3?

5. How much do you think Tipene should offer for the business? Why?

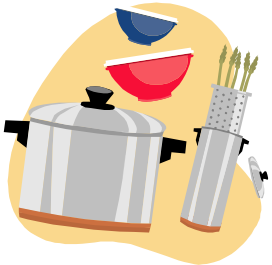
Activity 25: Discounting Cashflows

Time Allocation: 1 hour 30 minutes

This activity will introduce you to valuing a business based on forecasted cashflows. The scenario provided follows a similar format to that given in the example in Section 5.3.3 of the Module. It will therefore help to refer to the example as you complete these calculations.

The Scenario

You are making an offer to buy a homewares store that has been in operation for many years.



- Over the past few years, the business has had after-tax profits of around $60,000 per year.
- You work out that a capitalisation rate of 40% would be appropriate if you were to buy the business and not make major changes to the way it runs.

However, if you buy the business, you do plan to make significant changes to it over a period of four years. This includes:

- a 'face-lift' in Year 1,
- an extension of the premises in Year 2, and, finally,
- the introduction of a café in Year 4.

You want to calculate the expected value of the business to you, so that you can make sure that you do not offer more for the business than it is worth to you.

You decide that, as there is more risk associated in your strategy, it would be appropriate to discount cashflows using a higher capitalisation rate of 45%.

Note: *you will need to use the following formula throughout this activity.*

Present Value = Net cashflows per period / $(1 + r)^n$

Where: r = the required rate of return (the capitalisation rate)

n = the number of time periods (e.g. years)

1. Year 1 Cashflows

- In Year 1, you will spend $22,000 to renovate the premises to attract more customers.
- As a result, you expect cash inflows to increase from $405,000 to $425,000 in the first year.
- You expect total cash outflows, including the cost of the renovations, to be $370,000.

Use the formula given on the previous page to work out the present value of these cashflows.

2. Year 2 Cashflows

- At the start of Year 2, you will spend $45,000 extending the premises. This will allow you to hold (and sell!) more stock. It will also provide space for the café that will be added at the start of Year 4.
- You expect cash inflows to increase to $500,000.
- Total cash outflows, including the cost of the extension, are expected to be $454,000.

Use the formula given on the previous page to work out the present value of these cashflows.

3. Year 3 Cashflows

You will not make any major changes in Year 3, but you do expect sales to increase more as customers become aware of the changes already made.

- You expect cash inflows to increase by 7% to $535,000.
- Total cash outflows will only be $428,000, as you will not be paying for renovations or extensions.

Use the formula given previously to work out the present value of these cashflows.

4. Year 4 Cashflows

At the start of Year 4 you will add a café into the business.

- As the space for this café will have already been provided for in the extensions planned for Year 2, the total cost of equipment and other capital would only be $20,000.
- You expect that both cash inflows and cash outflows for the homewares part of the business to increase by 5% to $561,750 and $449,400, respectively.
- Total cash inflows for the café would be $100,000 and total outflows, including the cost of equipment and other capital, would be $95,000.

Use the formula given previously to work out the present value of these cashflows.

5. Cashflows for Year 5 Onwards

You expect cashflows will become quite steady from now onwards.

- Total cash inflows for both parts of the business will increase by 5% per year.
- Thus, in Year 5, cash inflows will be about $694,837.50.
- Cash outflows will also increase by 5% per year from Year 5 onwards.
- However, in Year 5, they will be somewhat lower than in Year 4 ($550,620 in total). This is because there will not be any more costs to set up the café.

Use the following formula to work out the present value of these cashflows:

$$\text{Present Value} = [\text{Net Cashflow} * (1 + g) / (r)] / [1 + r]^{n}$$

Where: g = the growth rate in net cashflow (i.e. 5%)

r = the capitalisation rate

n = the number of periods

6. Total Value

Calculate the total value of the homewares business to you by adding up the amounts calculated in Questions 1 to 5.

7. Value Based on Current Profits

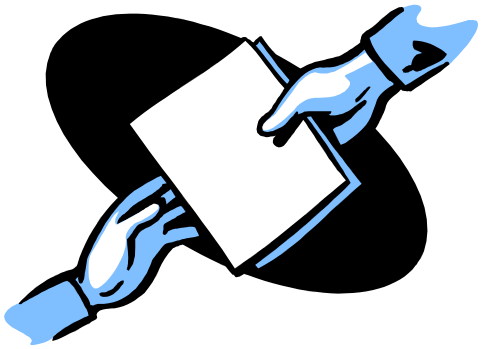
If you value the business based on its current profits, using the basic capitalisation rate method, what would be the resulting value?

8. Offer Price

You are now ready to place an offer to buy this business. How much would you place the offer for?

If the vendor does not accept your offer, what price would you be willing to pay?

Explain your response.



Activity 26: Valuation Quiz

Time Allocation: 45 minutes

Answer the following questions about business valuations.

1. If someone is to value a business based on **net assets**, how would this figure be calculated?

   _____

   _____

   _____

   _____

   _____

2. Assume you were to use the **capitalisation rate method** to value a business and then buy a business based on this method.

   If the price paid for the business is *higher* than would be paid if the business was valued based on **net assets**, what would the **difference** between these two amounts be referred to as?

   _____

   _____

   _____

3. What is the '**earnings multiple**'?

   _____

   _____

   _____

   _____

   _____

4. If the **earnings multiple** is 2.5, what is the **capitalisation rate**?

   How is this calculated?

   _____

   _____

   _____

   _____

   _____

5. Assume that you value a business using the **capitalisation rate method** and use last year's profit figure in this calculation. What **key assumption** are you making?

   _____

   _____

   _____

6. Assume that you value a business at $125,000 based on last year's profits, then value it again based on the cashflow method at $135,000. Should you consider paying more than $125,000 for the business? Why?

   What if the value based on last year's profits was $135,000 and the value based on the cashflow method was $125,000?

   _____

   _____

   _____

   _____

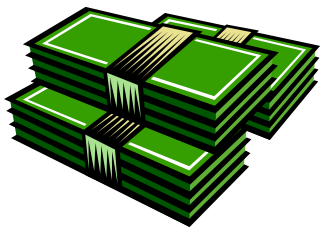
   _____

   _____

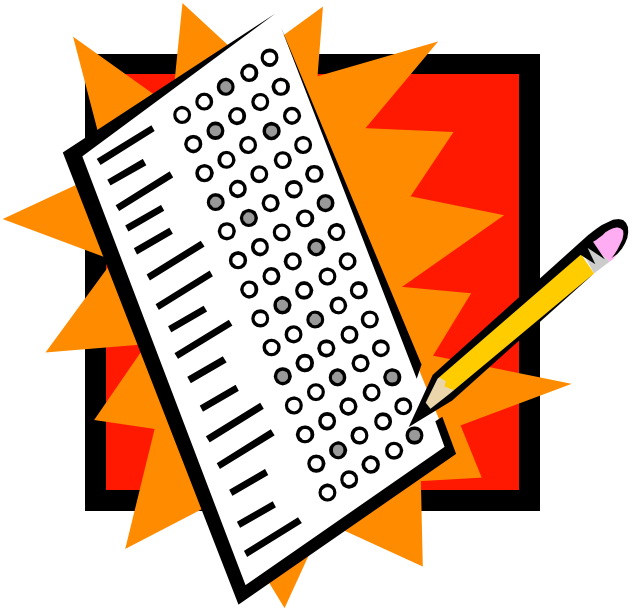
   _____

   _____

   _____



Suggested Answers



Activity 1 Answers: Investment Word Find

A	B	***C***	***A***	***P***	***I***	***T***	***A***	***L***	***G***	***R***	***O***	***W***	***T***	***H***	O	L	Y	I	E
L	***C***	***O***	***M***	***M***	***O***	***D***	***I***	***T***	***I***	***E***	***S***	E	L	M	A	R	M	I	***I***
I	L	***N***	V	R	E	T	M	Q	W	S	O	D	C	N	L	Y	A	L	***N***
S	I	***T***	T	L	E	A	S	H	O	B	***B***	U	E	T	E	A	R	A	***V***
T	O	***R***	***E***	***G***	***I***	***S***	***T***	***R***	***A***	***R***	***U***	R	S	T	V	I	K	N	***E***
E	T	***A***	N	A	L	Y	F	O	I	B	***Y***	***G***	A	I	N	T	E	G	***S***
D	I	***C***	R	E	D	I	E	N	E	B	I	***L***	T	G	***D***	E	T	E	***T***
S	E	***T***	T	L	O	A	D	***Y***	L	Y	E	***O***	E	O	***I***	E	D	M	***M***
O	A	***N***	T	E	L	O	D	***I***	V	I	D	***B***	L	N	***V***	D	A	S	***E***
B	***R***	***O***	***K***	***E***	***R***	***A***	***G***	***E***	D	D	S	***A***	N	T	***I***	R	T	O	***N***
R	O	***T***	D	A	I	L	E	***L***	A	W	E	***L***	V	P	***D***	R	A	I	***T***
A	S	***E***	L	G	S	***I***	***N***	***D***	***E***	***X***	G	***M***	O	***S***	***E***	***L***	***L***	S	***S***
D	K	D	Y	A	H	T	M	I	G	A	I	***A***	L	K	***N***	A	I	R	***T***
P	***O***	***R***	***T***	***F***	***O***	***L***	***I***	***O***	E	T	S	***R***	A	I	***D***	S	T	S	***A***
J	V	R	T	***S***	***H***	***A***	***R***	***E***	***B***	***R***	***O***	***K***	***E***	***R***	R	K	Y	A	***T***
R	E	G	I	S	E	D	A	T	L	I	O	***E***	D	I	A	***H***	T	N	***E***
A	N	***R***	H	A	N	D	R	E	W	S	A	***T***	O	J	M	***O***	R	G	***M***
O	L	***I***	T	I	Y	***C***	***O***	***M***	***M***	***I***	***S***	***S***	***I***	***O***	***N***	***L***	R	E	***E***
B	R	***S***	***I***	***M***	***P***	***U***	***T***	***A***	***T***	***I***	***O***	***N***	***C***	***R***	***E***	***D***	***I***	***T***	***N***
I	L	***K***	D	S	***V***	***O***	***L***	***A***	***T***	***I***	***L***	***E***	T	Y	I	T	S	O	***T***

Activity 2 Answers: Terminology Test

Suggested correct meanings of the terms are given below. Note that, in some cases, your definitions may be slightly different, but still accurate.

- **Listed:** In regards to share markets, the term 'listed' refers to a public company. That is, a company whose shares members of the general public can buy and sell on a stock exchange.

- **Brokerage:** A fee charged by someone who offers trading services (e.g. a stock broker) for completing a transaction such as, for example, buying or selling shares. This is often referred to as 'commission'.

- **Yield:** In finance, the term 'yield' is used to refer to a percentage that measures the financial return to the owner of a security / investment. For example, the dividend yield is the dividend received for an investment expressed as a percentage of the current market price of the dividend.

- **Portfolio:** A collection of securities / investments held by an individual or by another entity (e.g. a professionally managed fund).

- **Investment Statement:** A document that describes the details of an investment. It is a legal requirement for many types of investments to give a copy of the investment statement to investors before they invest their money. The investment statement includes important information which can help an investor decide whether or not they want to invest in that particular investment.

- **Dividend:** A portion of the profits of a company that is paid out to the company's shareholders.

- **Stock Market Index:** A measure of how well a group of shares have performed. It is basically calculated as an average of either the share prices, or market values, of a group of companies.

- **Sharebroker:** Someone who buys and sells shares on behalf of investors.

- **Volatile:** In finance, the term 'volatile' is used to refer to an investment for which the prices change a lot, and by large amounts. The larger and more frequent the price changes, the more volatile an investment is.

- **Imputation Credit:** When a company in New Zealand pays tax on its profits, it will carry tax credits called imputation credits. These tax credits avoid double taxation of company profits when paid to shareholders. That is, when the shareholder receives their dividends, they will not be taxed on the entire amount of the dividend if the company has already paid some of the tax.

  For example, if the individual is on a personal tax rate of 33%, and the company had already paid tax on their profits at the company rate of 28%, the imputation credit would ensure that the individual only ended up paying an additional 5% tax on their dividend.

- **Commodity:** Commodities are physical goods that investors buy. That is, instead of investing in a company that sells a range of different products, an investor may decide to invest in a physical good. Some of the most common goods traded include metals (e.g. gold) and agricultural products (e.g. wheat).

- **Capital Growth:** An increase in the value of an asset or investment. That is, the difference between the current value and the purchase price.

Activity 3 Answers: Calculating Stock Market Indices

1. Market Indices on Monday

Company	Share Price on Monday ($)	No of Shares (million)	Market Capitalisation ($million)
A	1.10	600	660
B	1.20	500	600
C	1.50	800	1,200
D	2.00	500	1,000
E	3.00	300	900
Total	**8.80**		**4,360**

Value of Market-Weighted Index = 4,360 / 5 = 872
Value of Price-Weighted Index = 8.8 / 5 = 1.76

2. Market Indices on Tuesday

Company	Share Price on Tuesday ($)	No of Shares (million)	Market Capitalisation ($million)
A	1.20	600	720
B	1.30	500	650
C	1.40	800	1,120
D	2.10	500	1,050
E	2.20	300	660
Total	**8.20**		**4,200**

Value of Market-Weighted Index	=	4,200 / 5	=	840
Value of Price-Weighted Index	=	8.2 / 5	=	1.64

3. Share Price Changes

Company	Share Price on Monday	Share Price on Tuesday	Percentage Increase / Decrease
A	$1.10	$1.20	9.1%
B	$1.20	$1.30	8.3%
C	$1.50	$1.40	-6.7%
D	$2.00	$2.10	5.0%
E	$3.00	$2.20	-26.7%

Largest Percentage Increase: Company A (9.1%)
Largest Percentage Decrease: Company E (-26.7%)

4. Percentage Change in Stock Market Indices:

Percentage Change in	=	(4,200 – 4,360)/4,360 x 100
Market-Weighted Index	=	-0.037
	=	decrease of 3.7%
Percentage Change in	=	(1.64 – 1.76)/1.76 x 100
Price-Weighted Index	=	-0.068
	=	decrease of 6.8%

5. The price-weighted index has changed nearly twice as much as the market-weighted index – a decrease of 6.8% compared to a decrease of only 3.7%.

   This difference is largely due to the fact that Company E's share price dropped almost 27%. However, because this company only has 300 million shares (whereas the other companies have at least 500 million shares), this price change had a relatively smaller impact on the overall value of the market.

Activity 4 Answers: International Stock Market Indices

Index	Country / Region
NASDAQ	USA
DJIA	USA
FTSE 100	United Kingdom
Nikkei 225	Japan
S&P / ASX 200	Australia
NZX 50	New Zealand
DAX 30	Germany
Hang Seng	Hong Kong
CAC 40	France

Index	What Does it Stand For?
NASDAQ	National Association of Securities Dealers Automated Quotation system
DJIA	Dow Jones Industrial Average
S&P / ASX 200	Standard and Poor's / Australian Stock Exchange
NZX 50	New Zealand Stock Exchange
DAX 30	Deutscher Aktien Exchange

Activity 5 Answers: Sharemarket Quiz

Statement	**↑ or ↓**	**Reason**
In a 'bull' market share prices generally tend to go	↑	A 'bull' market means that share prices in general are rising.
The expression, a 'bear' market, generally means share prices are trending	↓	A 'bear' market means that share prices in general are falling.
If interest rates are rising this can sometimes drive the sharemarket	↓	Share prices are generally based on company profits. Rising interest rates will mean that company interest expenses will be higher and thus profits are likely to be lower. This is likely to result in falling share prices.
A capital gain means the value of your shares has gone	↑	Your shares have increased in value.
A capital loss means the value of your shares has gone	↓	Your shares have gone down in value.
If you participate in a company's dividend reinvestment plan, this means that every time a dividend is paid the number of shares you own would go	↑	A dividend reinvestment plan involves receiving extra shares instead of receiving cash dividends.

Statement	↑ or ↓	Reason
Once a share has gone 'ex-dividend' often the price goes	↓	When the share goes ex-dividend it means that you are not entitled to the next dividend payment. The shares will therefore not be worth as much as previously.
If the NZX 50 closed up 6 points according to the national television news, this means the sharemarket was	↑	The NZX 50 is a stock market index, which is an overall measure of how the stock market performed. Therefore, if the NZX 50 was 'up', this means the sharemarket increased.
Dividend yields change as share prices rise and fall. If the share price falls, this would mean the dividend yield would go	↑	The dividend yield is calculated as the total dividend per share divided by the current market price (x 100). If the share price falls, the dividend will be a higher percentage of the share price, meaning that the dividend yield will increase.
If a company makes a takeover offer for another company, what is likely to happen to the share price of the target company?	↑	The share price usually rises because most offers are higher than the current share price – why would the current shareholders want to sell otherwise?
If a company makes a takeover offer for another company, what is likely to happen to the share price of the company making the offer?	↓	The share price usually falls, as often the company making the offer will borrow lots of money to make the purchase. This increases the risk to shareholders.

Statement	↑ or ↓	Reason
If mortgage interest rates rise then the shares in the construction sector are likely to go	↓	If mortgage rates rise, this means that not as many people can afford to build houses or have extensions made. This will lower sales, and thus profits, in the construction sector.

Activity 6 Answers: From the Newspapers

Part A: Company BKY

1. Market Capitalisation = $3.00 x 2,000,000 = $6,000,000
2. EPS = $500,000 / 2,000,000 = $0.25 (25 cents per share)
3. P/E Ratio = $3 / $0.25 = 12
   (Alternatively, calculate the P/E Ratio as $6,000,000 / $500,000 = 12)
4. NTA per share = $1,500,000 / 2,000,000 = $0.75
5. Dividends per Share = $250,000 / 2,000,000 = $0.125 (12.5 cents per share)
6. Dividend Yield = $0.125 / $3 x 100 = 4.167%
   (Alternatively, calculate this as $250,000 / $6,000,000 x 100 = 4.167%)

Part B: Company NKS

1. Market Capitalisation = $2.80 x 6,000,000 = $16,800,000
2. EPS = $1,900,000 / 6,000,000 = $0.3167 (31.67 cents per share)
3. P/E Ratio = $2.80 / $0.3167 = 8.84
   (Alternatively, calculate the P/E Ratio as $16,800,000 / $1,900,000 = 8.84)
4. NTA per share = $3,750,000 / 6,000,000 = $0.625
5. Dividends per Share = $600,000 / 6,000,000 = $0.10 (10 cents per share)
6. Dividend Yield = $0.10 / $2.8 x 100 = 3.57%
   (Alternatively, calculate this as $600,000 / $16,800,000 x 100 = 3.57%)

Activity 7 Answers: My Managed Fund

There are no set answers to this activity as the activity depends on the companies selected to be in the portfolio and on current share prices.

Activity 8 Answers: Managed Funds Missing Words

A managed fund involves pooling money from a large number of investors and then investing it on their behalf. The fund manager decides what investments should be bought or sold, within some limits. Managed funds allow people who do not have the time or the skill to invest by themselves, to invest in the sharemarket.

Managed funds can invest in a wide variety of investments. This includes investments such as shares, property and bonds. Some funds will invest in all of these types of investments. One of the main advantages of using managed funds is that they allow small investors to gain a large amount of diversification. The other main advantage is that it is possible to use managed funds to invest relatively small amounts on a regular basis.

The main disadvantage of using managed funds is the cost. You will have to pay a management fee to cover the ongoing administration costs of the fund as well as activity fees to cover the costs associated with buying and selling investments. There may also be other costs which could include performance and upfront fees.

Activity 9 Answers: KiwiSaver Limerick

There are no set answers for this activity.

Activity 10 Answers: KiwiSaver True or False Quiz

Statement	True or False?	Correct Statement
KiwiSaver began on the 1st of July 2007.	***True***	
Contributions from your salary are based on your net income.	***False***	Contributions from your salary are based on your gross income.
Shortly after joining KiwiSaver, you will receive a one-off lump sum contribution to your fund of $1,000 from the Government.	***True***	
You must contribute a minimum of 2% of your wages to your KiwiSaver fund.	***False***	You must contribute a minimum of 3% of your wages to your KiwiSaver fund. The minimum contribution increased from 2% to 3% in April 2013.
The Government will guarantee all money invested in KiwiSaver.	***False***	No one guarantees money invested in KiwiSaver funds.
In the event of your death, the balance of your KiwiSaver account will be paid to your estate.	***True***	
You can make lump sum contributions to your KiwiSaver fund.	***True***	

Statement	True or False?	Correct Statement
You must be between 18 and 65 to join KiwiSaver.	***False***	Anyone under the age of 65 can join KiwiSaver.
If you join KiwiSaver, you must be a member for a minimum of five years, or until you turn 65 years old (whichever is later), before withdrawing.	***True***	
KiwiSaver members are entitled to fund fee subsidies of $40 per annum.	***False***	Originally, KiwiSaver members were entitled to fund fee subsidies of $40 per annum, but this benefit has since been removed.
If you are 18 or over, a yearly tax credit of up to $1,042.86, goes directly into your KiwiSaver fund.	***False***	Although this used to be true, in April 2012 the rate was halved to $521.43.
Part-time workers cannot join KiwiSaver.	***False***	Part-time workers can join KiwiSaver.
You can withdraw all of your savings at any time and put these savings towards a deposit on your first home.	***False***	Once you have been a KiwiSaver member for three years, you can withdraw your savings (except for the $1,000 kick-start from the government and any tax credits received) and put these savings towards a deposit on your first home.
After an initial contribution period of 12 months you can take a contributions holiday and suspend your payments for up to five years at a time.	***True***	

Statement	True or False?	Correct Statement
If you are a KiwiSaver member, your employer will make a contribution equal to 3% of your wages into your KiwiSaver fund.	***True***	
If you are already in an established superannuation scheme, you cannot join KiwiSaver.	***False***	If you are already in an established superannuation scheme, you can still join KiwiSaver.
Bonuses, holiday pay and allowances are not taken into consideration when determining the amount of your KiwiSaver contributions.	***False***	Bonuses, holiday pay and allowances are included in the 'gross pay' figure on which KiwiSaver contribution amounts are based.
All KiwiSaver schemes are run by the private sector.	***True***	
KiwiSaver offers home loan subsidies for first home buyers.	***True***	
Fund providers must provide you with an Investment Statement which accurately forecasts what your savings will be worth in the future.	***False***	Fund managers must provide you with an Investment Statement. However, as no one can accurately forecast the future, this Investment Statement is not required to include an accurate forecast of what your savings will be worth in the future.

Activity 11 Answers: Dollar Cost Averaging

1. The number of units Michael bought in each month last year are as follows:

	Amount paid	Price of unit	No of units
January	$100	$1.10	90.91
February	$100	$0.90	111.11
March	$100	$1.00	100.00
April	$100	$1.06	94.34
May	$100	$0.91	109.89
June	$100	$0.80	125.00
July	$100	$0.88	113.64
August	$100	$0.95	105.26
September	$100	$1.05	95.24
October	$100	$1.08	92.59
November	$100	$1.20	83.33
December	$100	$1.25	80.00

2. The total number of units purchased through the year was 1,201.31.

3. The value of the units at the end of the year was $1,501.64. This is calculated as $1.25 x 1,201.31 units.

4. The average cost of the units Michael purchased can be calculated as the total amount spent divided by the quantity purchased. Michael spent $1,200 on units (i.e. $100 per month for 12 months). Therefore, the average cost is $1,200 divided by 1,201.31 units = $0.9989, which can be rounded to $1.00.

5. If Michael had spent $1,200 on units in January, he would have purchased 1,090.91 units ($1,200 / $1.10).

6. These units would have been worth $1,363.64 at the end of the year (i.e. $1.25 x 1,090.91 units).

7. Michael's dollar cost investment strategy reduces risk as, instead of buying all of his shares on one day at one price, he is buying them over a period of time. Therefore, if prices suddenly drop, Michael will not have lost as much of his investment, and he will not have missed out on the opportunity of buying more shares at the lower price.

Activity 12 Answers: Risk Crossword

Down: (1) Credit. (2) Currency. (3) Interest Rate. (4) Liquidity. (6) Default. (7) Industry.

Across: (2) Capital. (5) Market. (8) Inflation. (9) Reinvestment.

Activity 13 Answers: Taxation of Foreign Investments

1. George's investment cost him £25,200 (calculated as 4,500 shares x £5.60). In NZ$, this was equal to $53,617.02 (calculated as 25,200 / 0.47).

2. On 1 April, George's 4,500 shares were worth £24,750 (calculated as 4,500 shares x £5.50). In NZ$, this was equal to $53,804.35 (calculated as 24,750 / 0.46).

3. On 31 March the following year, George's 4,500 shares were worth £26,100 (calculated as 4,500 shares x £5.80). In NZ$, this was equal to $59,318.18 (calculated as 26,100 / 0.44).

4. Total return is the capital gain plus dividend income as a percentage of the value as at 1 April.
   - The capital gain is equal to $5,513.83 (calculated as $59,318.18 - 53,804.35).
   - The capital gain plus the dividends (of $820) is therefore equal to $6,333.83.
   - This is a return of 11.77% (calculated as $6,333.83 / $53,804.35).

5. In this particular situation, George would be taxed using the 'Fair Dividend Rate' method. This involves being taxed on 5% of the value of his investment as at the start of the year. That is, he would be taxed on an amount of $2,690.22 (5% of $53,804.35).

   The Fair Dividend Rate method applies to him because the value of his investment was worth over $50,000 when he purchased it and because the total return for the year was over 5%.

6. If George's personal tax rate is 33%, he would pay $887.77 income tax on his shares. This is calculated as 0.33 x $2,690.22.

7. If the share price was £5.00 on 31 March, the shares would be worth £22,500, which, at an exchange rate of NZ$1 = £0.44 would be equal to $51,136.36.

   This is a capital loss of $2,667.99 (calculated as $51,136.36 - $53,804.35). Even when the dividends of $820 are added to this amount, George still has a loss. In this case, no tax would be payable.

8. (a) The value of the portfolio would have been $55,531.91 (calculated as 26,100 / 0.47).

   - The capital gain would therefore be $1,727.56 (calculated as $55,531.91 - $53,804.35).
   - The total gain, including the dividends of $820, would therefore be $2,547.56.
   - This results in a total return of 4.735% (calculated as $2,547.56 / $53,804.35) x 100.

   (b). In this particular situation, George would be taxed using the 'Comparative' method. This involves being taxed on the actual % return that he earned. That is, he would be taxed on an amount of $2,547.56 (which is 4.735% of $53,804.35).

   The Comparative method applies to him because the value of his investment was worth over $50,000 when he purchased it but the total return for the year was between 0% and 5%.

   (c). George would have to pay tax of $840.69 (33% of $2,547.56).

9. (a). The value of the portfolio would have been $71,590.91 (calculated as (4,500 x £7.00) / 0.44).
   - The capital gain would therefore be $17,786.56 (calculated as $71,590.91 - $53,804.35).
   - The total gain, including the dividends of $820, would therefore be $18,606.56.
   - This results in a total return of 34.582% (calculated as $18,606.56 / $53,804.35).

   (b). George would pay the same amount of tax as he would have paid had the price only been £5.80 on 31 March. This is because, under the Fair Dividend Rate method, the amount of tax paid is limited to 5% of the value of the portfolio as at the start of the year.

   George would therefore pay $887.77 (calculated as 0.33% of 5% of $53,804.35).

Activity 14 Answers: Compound Interest

a)

Period	Amount Invested	Interest	Total at End of Period
Year 1	$1,000.00	$80.00	$1,080.00
Year 2	$1,080.00	$86.40	$1,166.40

b)

Period	Amount Invested	Interest	Total at End of Period
Quarter 1	$1,000.00	$19.50	$1,019.50
Quarter 2	$1,019.50	$19.88	$1,039.38
Quarter 3	$1,039.38	$20.27	$1,059.65
Quarter 4	$1,059.65	$20.66	$1,080.31
Quarter 5	$1,080.31	$21.07	$1,101.38
Quarter 6	$1,101.38	$21.48	$1,122.86
Quarter 7	$1,122.86	$21.90	$1,144.76
Quarter 8	$1,144.76	$22.32	$1,167.08

c)

Period	Amount Invested	Interest	Total at End of Period
Half-Year 1	$1,000.00	$39.50	$1,039.50
Half-Year 2	$1,039.50	$41.06	$1,080.56
Half-Year 3	$1,080.56	$42.68	$1,123.24
Half-Year 4	$1,123.24	$44.37	$1,167.61

Answer: Term Deposit (c) would pay the most interest.

Activity 15 Answers: Derivatives and Commodities

Statement	True / False	If false, explain your response
When you buy a call option, you are said to be going 'long'.	True	
You can only make a profit with derivatives if the markets go up.	False	You can also make a profit with derivatives if the markets go down, as long as you bought or sold the correct one.
Only speculators use derivatives.	False	Derivatives can be used to 'hedge' – i.e. to reduce risk, as well as to speculate (which involves taking on more risk – i.e. like betting).
The term 'options' is another word for 'futures'. They both mean the same thing.	False	If you have a futures contract, you must buy or sell a particular asset at a particular price at a particular time in the future. However, if you have an 'option', you do not have to buy or sell the asset if you do not want to (i.e. you have the option of doing so).
Selling an option is sometimes called 'reading'.	False	Selling an option is sometimes called 'writing'.
The two types of options are called 'put' and 'call'.	True	
A forward contract is very similar to a futures contract.	True	
Commodities always go up in value.	False	They sometimes go down in value – sometimes for a very long time!
Commodities are usually priced in US dollars.	True	
There are two basic types of commodities – hard and soft.	True	

Activity 16 Answers: Investments – Make them Right!

Suggested answers are given in the table below. Note that there are a range of 'corrected statements' that could be provided. It is possible that your corrected statement is different from that given, yet is also correct.

Statement	Explanation / Make it Right!
It is good to invest in oil because commodities always go up in value.	**Why this is Incorrect:** Commodities can spend a long period of time going down in value or not changing very much in value.
	Corrected Statement: It is good to invest in commodities because they usually provide good diversification.
I want a diversified portfolio, so I am going to buy several rental properties in the Auckland region.	**Why this is Incorrect:** In order to get a diversified portfolio, you need to spread your money across a variety of investments – trying to get ones for which the prices will not move together. Investing in the same type of asset (i.e. property) in the same region (i.e. Auckland) will not provide the benefits of a diversified portfolio.
	Corrected Statement: I want a diversified portfolio, so I am going to invest in property, shares, cash, commodities and bonds.
I want a low-risk portfolio that will give me income, so it is a good idea to invest in several finance companies.	**Why this is Incorrect:** Investing in finance companies is not low risk – just remember when a number of finance companies went bust in 2007-2009! Just because the risks are not apparent, it does not mean that they do not exist. Furthermore, if you want a low-risk portfolio, you will spread your money across a number of different types of investments instead of investing in several of the same kind.
	Corrected Statement: I want a low-risk portfolio that will give me income, so I am going to have a well-diversified portfolio that has a high proportion of cash in banks, some bonds and perhaps some shares in well-established companies that pay high dividends.

I want a high-risk investment for my retirement savings, so I will invest all of my money in bank term deposits.	**Why this is Incorrect:** Bank term deposits are one of the lowest risk investments.
	Corrected Statement: I want a high-risk investment for my retirement savings, so I am going to invest all of my money in a small number of international shares.
If you want to receive a reasonable amount of income from your investments, do not put any of your money into shares.	**Why this is Incorrect:** Some shares, including some New Zealand shares, pay high dividends and can therefore be a good source of income for investors who are seeking this.
	Corrected Statement: If you want to receive a reasonable amount of income from your investments, consider including some shares in your portfolio of companies who pay good dividends.
If you want to receive a reasonable amount of income from your investments, invest in commodities.	**Why this is Incorrect:** If you buy physical commodities such as gold bars, you will receive no income. In fact, the opposite happens – you will have to pay charges to store and insure your commodities.
	Corrected Statement: If you want to diversify your portfolio, consider investing some of your money in commodities.

I want to make a lot of money quickly, so I will invest in derivatives.	**Why this is Incorrect:** Although it is possible to make a lot of money quickly using derivatives, it is also possible to lose a lot of money very quickly.
	Corrected Statement: I do not want to lose a lot of money quickly, so I am not going to use derivatives unless I am using them to 'hedge'.
I do not want high-risk investments, so I am just going to invest in property.	**Why this is Incorrect:** Investing in only one type of asset (e.g. property) is riskier than investing in a range of types of investments. Furthermore, the main reason property prices do not go up and down rapidly is because properties are not bought and sold as frequently as shares. In fact, there is a large amount of liquidity risk in property investment – that is, you may not be able to sell your property and get your money when you want it.
	Corrected Statement: I do not mind high risk investments, so I am just going to invest in property.

Activity 17 Answers: The Effects of Exchange Rates

Part A: Understanding Exchange Rates

1. (a). A rate of NZD/AUD 0.90 is better than the other two rates given as it means that you will get AUD $0.90 for every $1 that you exchange, instead of only $0.83 or $0.75.

2. (c). If you sell your products in NZD (e.g. a product sells for NZ$80 regardless of what country it is sold to), it is best to have a lower exchange rate as your products will be cheaper to customers in Australia. That is, a lower exchange rate means that the New Zealand dollar is worth less to someone in Australia, so they can afford to buy more of your products.

Even if you sell your products in AUD (e.g. a product sells for AU$80 regardless of what country it is sold to), it is still better to have a lower exchange rate.

This is because, when you convert your money back to NZD, you will receive more. For example, AU$80 converted at NZD/AUD 0.9 is only NZ$88.89, whereas AU$80 converted at NZD/AUD 0.75 is NZ$106.67.

3. (a) NZ$750 converted to AUD at an exchange rate of NZD/AUD 0.83 is AU$645. This is calculated as $750 x 0.83 = $622.50.

   (b) NZ$750 converted to AUD at an exchange rate of NZD/AUD 0.76 is AU$570.00. This is calculated as $750 x 0.76 = $570.00.

4. (a) AU$622.50 converted back to NZD at an exchange rate of NZD/AUD 0.79 is $787.97. This is calculated as $622.50 / 0.79 = $787.97.

   (b) AU$570.00 converted back to NZD at an exchange rate of NZD/AUD 0.79 is $721.52.

5. US$200 converted to NZD at an exchange rate of NZD/USD 0.82 is $243.90 This is calculated as $200 / 0.82 = $243.90.

Part B: The Effect of Exchange Rates on Investments

1. 1,000 shares at AU$4.50 = AU$4,500.
   a. At an exchange rate of NZD/AUD 0.80, these will cost NZ$5,625.00 (calculated as $4,500 / 0.8).
   b. If the share price increases to AU$4.90, this is a return of 8.889%. This is calculated as ($4,900 - $4,500)/$4,500 x 100 = 8.889.
   c. AU$4,900 converted to NZD at an exchange rate of 0.78 is equal to NZ$6,282.05 (calculated as $4,900/0.78).
   d. This is a return on your investment in NZD of 11.681%. This is calculated as ($6,282.05-$5,625.00)/$5,625.00 x 100.
   e. In this scenario, the exchange rate change improved the financial return. Instead of getting a return of 8.889%, you would get a return of 11.681%.

2. 100 shares at US$38.26 = US$3,826.00.
   a. At an exchange rate of NZD/USD 0.785, these will cost NZ$4,873.89 (calculated as $3,826/ 0.785).

b. If the share price increases to US$42.55, this is a return of 11.213%. This is calculated as ($4,255 - $3,826)/$3,826 x 100 = 11.213.

c. US$4,255 converted to NZD at an exchange rate of 0.8010 is equal to NZ$5,312.11 (calculated as $4,255/0.801).

d. This is a return on your investment in NZD of 8.991%. This is calculated as ($5,312.11-$4,873.89)/$4,873.89 x 100 = 8.991

e. In this scenario, the exchange rate change decreased the financial return. Instead of getting a return of 11.213%, you would only get a return of 8.991%.

Activity 18 Answers: IPO Quick Questions

1. IPO stands for Initial Public Offering.

2. An IPO occurs when a company first offers its shares for sale to the general public (changing from a privately-owned company to a publicly-traded company).

3. The two main reasons for companies to choose to conduct an IPO include:

   a. Raising funds to expand the business – if existing owners do not have the funds required to grow the business in the way desired, they may choose to seek investment from the general public instead of, or in addition to, borrowing money.

   b. To enable existing owners to sell their stake in the company.

4. IPOs do not always involve issues of new shares. If the reason why a company has conducted an IPO is so that existing owners can sell the business, there may not be any need to offer additional shares as the current owners do not want to keep the ones they have.

   However, even if the existing owners do not want their shares, it is still possible for the number of shares offered to be larger than the number of shares that originally exist.

5. It is more common for a share price to increase following an IPO than decrease, as the shares are often a little underpriced due to the uncertainty surrounding valuation of an 'unknown' company. However, there is no guarantee that they will be underpriced and that the share price will then increase – after all, as a result of this uncertainty, the value may actually be much lower than originally estimated and, once this is known, the share price will fall.

Activity 19 Answers: Pros and Cons of Buying a Business

1. **Track Record:** Advantage. If a business has a long track record, this increases the certainty around the business. Even if it is a track record of poor performance, this will indicate how much the business is truly worth so you can make a decision about how much you'd be willing to pay for it (that is, if you are still interested in buying it).

2. **Existing Staff:** This is usually an advantage as staff know what they are supposed to do and should be able to work more efficiently than new staff. However, it can be a disadvantage if the staff are not good workers as it may be difficult to get rid of them or if the staff are not open to the changes you want to make in the business.

3. **Existing Customers.** Advantage. If a business already has a loyal customer base, and you do not intend to make a lot of changes to the nature of the products and services offered, it is likely you will have customers as soon as you take over the business and will thus have money coming into the bank account. In comparison, if you start a brand new business, it may be months or years before you develop a loyal client base.

4. **Reputation.** This could be an advantage or a disadvantage, depending on whether the reputation is good or bad! If there is a bad reputation, this is a major disadvantage as it is very difficult to encourage customers to return to a business if they have previously had a bad experience, even if that experience was with a previous business owner. Moreover, if a customer has had a bad experience, they may discourage other potential customers from buying from the business.

5. **Changes**. Disadvantage. It can be very difficult to make changes in an existing business – both customers and staff may resist changes to, for example, prices, products and services offered and internal systems.

6. **Existing Equipment**. This could be an advantage or a disadvantage. It is a disadvantage if you are expected to purchase equipment that you do not really want, but an advantage if the equipment that the business already owns is equipment that you want.

Activity 20 Answers: Is Business Right for Me?

There are no set answers to this activity.

Activity 21 Answers: Understanding the Financials

Part A: The Contents of Financial Statements

	Income Statement	Statement of Financial Position	Cashflow Statement
How much profit the business made	✓		
The value of the business's assets		✓	
How much the business owes		✓	
The value of the company's sales for the year	✓		
The amount of money that went into the business bank account during the year			✓
The total amount of business expenses for the year	✓		
The total amount of income tax payable for the year	✓		
The amount of tax actually paid during the year			✓
The amount of tax still owing at the end of the year		✓	
The net worth of the business		✓	
Money received from customers through the year			✓

Part B: Financial Analysis Quiz

1. You are likely to find the most recent sales figures for a business in the business's GST returns.

   This is because most small businesses complete their GST returns every two months. At the most, they would complete them every six months. In comparison, business financial statements can be up to a year (or even longer), out of date.

2. If you cannot get access to the accounts of the business you would like to buy, do not buy the business.

   The financial accounts are usually the best indicator that a prospective buyer has of the likely future returns of the business.

   If the current business owner will not show you the accounts, or makes excuses as to why they are not available, it is usually best to assume that these will show that the business performs very poorly or that it is in a very poor financial position.

   Even if you decided to make an offer based on the market value of the assets that you see at the business (i.e. only pay what you could re-sell the assets for) without seeing the financial accounts, how would you know if the business even owns those assets or what debts it has to pay?

3. False: If a business is making profits, it is still possible to go bankrupt.

   This is because accounts are prepared based on what sales and expenses were incurred during the year, and not based on what cash was received and cash paid. It is possible for many sales to be made (and thus a great profit reported) but, over the same period, not have any customers pay you!

   You need cash to pay your bills and keep the business from going bankrupt.

4. The business which experienced a small increase in profits, year after year, is likely to be more valuable than one which has large fluctuations in profits. This is because it is more consistent and thus, you are able to forecast future profits with more certainty.

5. Accounts receivable are amounts owed to the business from customers.

   When you buy a business, it is a good idea to not buy these (or at least buy them at a much discounted price). This is because there is a chance that the customers will never pay and you will therefore never recover the money you spent on buying these.

6. Questions to answer when looking at stock records and at the stock on hand figures shown in the financial statements include:

   a. Does the business actually own all of the stock that is on the premises?

   b. Is the stock out-dated or slow-moving?

   c. Do you actually want to buy the stock that the business has? That is, do you want to change the product range?

   d. Is the amount of stock kept on hand normal for the industry? If not, why not, and do you still want to buy it all?

Activity 22 Answers: Buying a Business

Georgina should have:

- Consulted a lawyer. The savings can easily outweigh the additional cost.
- Prepared a written agreement. This way, there would not be any 'misunderstandings' about the details of the agreement. It would have also provided her with evidence of what she paid for.
- Made a list of stock to be included in the sale and then conducted a proper stock take when she returned from holiday. This way she would have known for sure if anything was missing.
- Not taken a holiday at such a critical time – she should have made the most of the one month during which she was able to learn from Jenny.
- Talked to other business owners about the real time commitment involved in running a business before she decided to purchase one and / or completed a business course.
- Thought carefully about her decision to enter an industry which she has not had experience working in.
- Got her lawyer to prepare a 'restraint of trade' clause so that Jenny could not start another hairdressing business in the neighbourhood for a certain period of time. This could also stop her from contacting staff or clients.
- Not handed over her money until she received what she had paid for.

Activity 23 Answers: Capitalisation Rates

Part A: Calculating Values

Profits	**Capitalisation Rate**				
	20%	**30%**	**40%**	**50%**	**60%**
$25,000	$125,000	$83,333	$62,500	$50,000	$41,667
$50,000	$250,000	$166,667	$125,000	$100,000	$83,333
$75,000	$375,000	$250,000	$187,500	$150,000	$125,000
$100,000	$500,000	$333,333	$250,000	$200,000	$166,667

Conclusions:

- The higher the capitalisation rate, the lower the value of the business
- The higher the profits, the higher the value of the business
- The choice of a capitalisation rate has a large impact on the resulting calculated value of a business. As such, people interested in buying a business should be very cautious in determining what capitalisation rate they should use.

Part B: Determining Capitalisation Rates

	Profit Levels				
	$10,000	**$20,000**	**$30,000**	**$50,000**	**$80,000**
Capitalisation Rate	12.5%	25%	37.5%	62.5%	100%

Activity 24 Answers: Capitalisation Case Studies

Case Study 1: Soft Touch Massage

1. The suggested response is a capitalisation rate of 60%.

   This is because the business's cashflows are not stable and the business has not been in operation long enough to develop a solid track record.

   Furthermore, it is stated that there is currently an economic downturn. In hard financial times, amongst the first goods / services that consumers stop buying are luxury goods. For many people, relaxation massage would fit into this category. So although the current owner has said that they consider prospects are positive, they may be wrong and / or may only be saying this to reduce Aaron's concerns about buying the business.

   The rate of 20% was not chosen because this is the lowest rate that should be applied to a business – and would therefore only be applied to a very stable, reliable business. A rate of 30% is also relatively low.

2. If the capitalisation rate of 60% was selected, the value of the business would be calculated as $32,000 / 0.6 = $53,333.33.

3. Based on a capitalisation rate of 60%, the new value would be $26,666.67 (calculated as $16,000 / 0.6). This is half the value of what was calculated in Question 2.

4. If a capitalisation rate of 60% was originally applied, the new capitalisation rate selected would be 30%.

   The value of the business would be $106,666.67. This is calculated as $32,000 / 0.3. This is twice the value of what was calculated in Question 2.

5. If the level of profit halves, the value of the business ***halves.*** But if the capitalisation rate to be used halves, the value of the business ***doubles.***

Case Study 2: Tangaroa Takeaways

1. Profit / 0.5 = $78,000. Therefore, $78,000 x 0.5 = Profit. Profit amount = $39,000.

2. The profit figure of $58,000 is used as this reflects the value of the business to Tipene. Note that this is NOT necessarily how much he should pay for the business. The value of the business is therefore $116,000. This is calculated as $58,000 / 0.5.

3. $52,000 / capitalisation rate = $149,000. Therefore, $52,000 / $149,000 = capitalisation rate = 0.349 = 34.9%.

4. Kane and Toia's accountant probably suggests using the profit figure of $52,000 because this is how much the business 'usually' earned.

   I.e. until Kane got sick, the business had achieved a profit level of close to, or equal to, $52,000 for several years. This indicates that the business could have continued to earn this profit if Kane had not become ill.

   The capitalisation rate of 34.9% is probably being suggested because it is suggested that profits were reasonably stable until Kane became ill.

   Therefore, a lower rate than the 50% suggested by Tipene and his financial adviser may be appropriate.

5. There is no set answer to this question. However, if Tipene believes that the capitalisation rate of 50% is most appropriate, the maximum he should offer is $116,000. But if he does this, he needs to be prepared to accept the fact that Kane and Toia may not be willing to consider an offer this low.

   However, if Tipene agrees that this capitalisation rate is too high, and that a rate of 34.9% is reasonable, he may be prepared to pay up to $166,189 (calculated as $58,000 / 0.349).

   Given that Kane and Toia are asking a minimum of $149,000, Tipene may take the approach of starting at $116,000 and then negotiating upwards to $149,000 (or perhaps a little more).

Activity 25 Answers: Discounting Cashflows

1. The present value of Year 1 cashflows can be calculated as follows:

   Present Value = Net cashflows / $(1.45)^1$
   = ($425,000 - $370,000) / $(1.45)^1$
   = $55,000 / 1.45
   = $37,931.03

2. The present value of Year 2 cashflows can be calculated as follows:

   Present Value = Net cashflows / $(1.45)^2$
   = ($500,000 - $454,000) / $(1.45)^2$
   = $46,000 / 2.1025
   = $21,878.72

   Note that $(1.45)^2$ is equal to 1.45 x 1.45.

3. The present value of Year 3 cashflows can be calculated as follows:

   Present Value = Net cashflows / $(1.45)^3$
   = ($535,000 - $428,000) / $(1.45)^3$
   = $107,000 / 3.04862
   = $35,097.85

   Note that $(1.45)^3$ is equal to 1.45 x 1.45 x 1.45.

4. The present value of Year 4 cashflows can be calculated as follows:

   Present Value = Net cashflows / $(1.45)^4$
   = ($561,750 +100,000 -$449,400 - $95,000) / $(1.45)^4$
   = $117,350 / 4.42051
   = $26,546.71

   Note that $(1.45)^4$ is equal to 1.45 x 1.45 x 1.45 x 1.45.

5. The present value of cashflows for Year 5 onwards can be calculated as follows:

   Present Value = [Net Cashflow * (1 + g) / (r)] / $[1 + r]^n$
   = [($694,837.50 - $550,620) * (1.05)/0.45] / $(1.45)^5$
   = ($144,217.50 * 1.05/0.45) / 6.40973
   = $336,507.5 / 6.40973
   = $52,499.48

   Note that $(1.45)^5$ is equal to 1.45 x 1.45 x 1.45 x 1.45 x 1.45.

6. The total value of the homewares business to you can be calculated by adding up all of the amounts calculated in Questions 1 to 5:

Present Value of Year 1 Cashflows:	$37,931.03
Present Value of Year 2 Cashflows:	$21,878.72
Present Value of Year 3 Cashflows:	$35,097.85
Present Value of Year 4 Cashflows:	$26,546.71
Present Value of Cashflows for Year 5 Onwards:	$52,499.48
Present Value of all Future Cashflows:	**$173,953.79**

7. The value of the business based on its current profits can be calculated using the basic capitalisation rate method as follows:

   Value = After-Tax Profits / Capitalisation Rate
   = $60,000 / 0.4
   = $150,000

8. Offer price. Note that your answer may vary from the response below:

   Based on the current profits, the business is only worth $150,000. You may therefore decide to place an offer lower than this (e.g. $135,000), with the intention of negotiating up to $150,000.

   If the vendor will not accept $150,000 (or anything below it), and you are reasonably confident in your cashflow estimates for the next few years, you may decide to offer a higher amount. You could do this even though you believe that the vendor only deserves $150,000.

   The very maximum that you would be willing to pay is $173,953.79, as this is the value of the business to you.

Activity 26 Answers: Valuation Quiz

1. The net assets figure is calculated as the value of a business's assets less the value of its liabilities.

2. Goodwill. Goodwill is calculated as the difference between the purchase price of the business and the value of the net assets of the business.

3. The earnings multiple is another name for the P/E Ratio. It is a figure which tells you how many times this year's profits, the value of a business is.

4. If the earnings multiple is 2.5, the capitalisation rate is 40%. This is because the earnings multiple is equal to 100% divided by the capitalisation rate. This means that 100% divided by 2.5 is equal to the capitalisation rate, which equals 40%.

5. You are making the assumption that future profits are expected to be about the same as last year's profits.

6. You may consider paying more than $125,000 because the business is worth $135,000 based on expected future cashflows, whereas $125,000 is the value based on recent profit.

   It is the future expected cashflows of the business which matter most. So, if the value of the business was only $125,000 based on cashflows, you should not pay more than this amount.