ANALYSIS AND INTERPRETATION OF FINANCIAL REPORTS

LEARNING OUTCOME:
TO ANALYSE AND INTERPRET FINANCIAL REPORTS AND RELATED INFORMATION IN ORDER TO PROVIDE ADVICE TO MANAGEMENT.

Chapter 2

CONCEPTS

Concepts covered in this chapter are:

- a revision of the classification of the Statement of Financial Performance and the Statement of Financial Position
- a brief comparison of budgeted and actual results, and an analysis of the variances
- the analysis and interpretation of reports
- the calculation and use of common liquidity and profitability ratios, that is:
  - accounts receivable turnover and number of days
  - equity
  - gross profit
  - inventory turnover and number of days
  - net profit
  - quick asset
  - return on equity
  - return on assets
  - working capital
- interpreting information and reporting results to management.

KEY TERMS

accounts receivable turnover ratio annual credit sales divided by the average accounts receivable.

budget a forecast of business activities in monetary terms.

equity ratio total owner's equity divided by the total assets.

gross profit ratio gross profit divided by net sales.

inventory turnover ratio cost of goods sold divided by the average inventories.

net profit ratio net profit divided by net sales.

quick asset ratio current assets less inventories and prepayments divided by current liabilities less the bank overdraft.

ratios a measure of performance to enable financial reports to be interpreted.

return on equity ratio net profit divided by the average owner's equity.

return on assets ratio net profit divided by total assets.

Statement of Financial Performance the newer name for a classified profit and loss statement that must show the 'Cost of goods sold'.

Statement of Financial Position the newer name for a balance sheet or a statement of assets and liabilities that must show assets and liabilities classified between 'current' and 'non-current'.

variance variations of actual results compared with budgeted forecasts.

working capital ratio current assets divided by current liabilities.

INTRODUCTION

In order for a business to operate efficiently, management requires information to assist in its planning and decision making. Ratio analysis provides information with which to compare business results over several years or time periods and to compare a business with its competitors in the same industry.

Analysis involves reviewing, calculating and distinguishing between sets of figures using ratios and percentages. Interpretation is the translation of the information calculated into a meaningful form and the determination of reasons for any significant variance between time periods. Together, analysis and interpretation facilitate effective management decision making.

The accounting reports covered in this chapter are the Statement of Financial Performance and the Statement of Financial Position, for non-companies. These two reports provide information about a business to interested parties, including the owners, departmental managers, creditors, banks (for loan applications), the Australian Tax Office and auditors.

Other internal reports include those that analyse sales and sales trends, production reports, an analysis of wages trends, comparison of actual results with budgeted figures and a review of variances from the budget, future budgets and plans, and cash-flow statements.

CLASSIFICATION OF THE STATEMENT OF FINANCIAL PERFORMANCE

Before ratios can be accurately determined, it is necessary for the financial statements to be properly classified. The following is a summary of the classifications required for a Statement of Financial Performance for non-companies:

1 COST OF GOODS SOLD

The 'Cost of goods sold' is the information shown in the trading account, in the following form of a Statement of Financial Performance, to calculate the gross profit or loss:

- Opening inventories
- *plus* Purchases *less* Purchases returns
- Any other trading expenses such as customs duty, buying expenses and freight inwards
- *less* Closing inventories.

2 SELLING EXPENSES

These are the expenses that can be attributed directly to the selling and the distribution of the trading stock. Examples are: advertising for sales, sales salaries, rent of the shop or warehouse, telephone for the shop, freight outwards (e.g. delivering the trading stock, after sale, to the customer), sales commissions paid, depreciation of the delivery or sales motor vehicles, and motor-vehicle expenses associated with the sales functions.

3 ADMINISTRATIVE EXPENSES

These expenses apply to the business overall and are those that cannot be identified as selling or finance expenses. They include expenses of the administration of the organisation.

Examples are: advertising for staff, the general manager's salary, depreciation and running expenses of the general manager's motor vehicle, office staff salaries, office expenses, stationery, depreciation of office equipment, depreciation of computers, office telephones, travel expenses, postage, insurance, light and power, rent of the office, rates and taxes, and cleaning wages.

4 FINANCE EXPENSES

These are the costs associated with financial aspects of the business, such as the cost of raising a business loan. Examples are: discount allowed, interest on mortgage, interest on loans, bank charges, bad debts, and doubtful debts.

5 MISCELLANEOUS OR OTHER OPERATING EXPENSES

There may be some minor items that do not fit directly into the four classifications covered. So there may be a need for a miscellaneous grouping of operating expenses. Examples are: a small legal cost and a donation to a charity.

CLASSIFICATION OF THE STATEMENT OF FINANCIAL POSITION

This statement contains all the items that are not profit-determining accounts. It is a statement of assets, liabilities and owner's equity at a particular point of time. It shows the accounting equation:

Assets − Liabilities = Owner's equity.

The Statement of Financial Position is classified into (a) current items (short-term) and (b) non-current items (long-term). Non-current assets include items that can be depreciated. Consequently, accumulated depreciation will appear as deductions from the appropriate non-current assets. Descriptions of current and non-current items follow.

1 CURRENT ASSETS

Current assets are those expected to be turned over or converted to cash within a twelve-month period. Examples are: cash at bank, inventories, accounts receivable (less the provision for doubtful debts), cash on hand (e.g. a change float for a shop), petty cash advance, prepaid expenses, and accrued revenue.

2 CURRENT LIABILITIES

Current liabilities are those amounts owed that are expected to be cleared within a twelve-month period. Examples are: a bank overdraft, short-term loans, accounts payable, goods and services tax payable, accrued expenses, and revenue in advance. (Note that current items are also dependent on the intention of management. A non-current asset in one business might be a current asset in another, depending on the circumstances.)

3 WORKING CAPITAL

Working capital equals current assets less current liabilities. It is the ability of the business to meet its short-term commitments in times of difficulty. If the excess of current assets over current liabilities is favourable, it means that the business is in a position to meet its short-term debts. If the position is reversed, it is cause for concern for management.

4 NON-CURRENT ASSETS

Non-current assets are those to be held in a business over a longer period of time—that is, in excess of twelve months. There are generally three types of non-current assets:

- *Tangible:* physical assets (e.g. plant)
- *Intangible:* non-physical assets (e.g. patents)
- *Investments* (e.g. shares in other companies).

All non-current assets can be grouped under the one heading. If a business had substantial investments, an 'Investments' heading would be required. Examples of non-current assets are: plant and machinery, land, buildings, motor vehicles, shares, debentures, other investments such as a fixed deposit in excess of twelve months, patents, computer systems, and office furniture. Accumulated depreciation is also deducted from some of the assets in this section.

5 NON-CURRENT LIABILITIES

Non-current liabilities are those that will be owed by the business for a period in excess of twelve months. Examples are: loans secured by a mortgage and long-term loans.

6 OWNER'S EQUITY

Owner's equity contains the accounts that relate directly to the owner of the business. Examples are:

- *Capital*—the amount invested in the business by the owner
- *Drawings*—withdrawals of cash or inventories by the owner
- *Net profit or loss*—the amount transferred to the owner from the profit and loss account.

Illustration 2A

Here are a classified Statement of Financial Performance and a classified Statement of Financial Position:

I. M. Classified, Statement of Financial Performance for the year ended 30 June

	$	$	$
Sales		800 000	
less Sales returns		14 000	786 000
***less* Cost of goods sold**			
Opening inventories		65 000	
Purchases	485 000		
less Purchases returns	3 000	482 000	
Cartage inwards		3 500	
		550 500	
less Closing inventories		81 500	469 000

Gross profit			317 000
Other income			
Commission revenue		3 000	
Discount revenue		400	
Rent revenue		5 600	9 000
			326 000
***less* Selling expenses**			
Advertising	6 000		
Cartage outwards	4 500		
Light and power—shop	760		
Motor car expenses—delivery	5 800		
Rent shop	7 500		
Depreciation—delivery vehicle	3 600		
Sales salaries	98 000	126 160	
***less* Administrative expenses**			
Depreciation—computer	2 500		
Depreciation—manager's vehicle	3 200		
General office expenses	6 000		
Insurance	2 800		
Light and power—office	880		
Managers salary	60 000		
Motor car expenses—manager	4 000		
Office expenses	3 800		
Office salaries expenses	39 000		
Rent office	2 500		
Telephone expenses	3 000	127 680	
***less* Finance expenses**			
Bad debts	600		
Discount allowed	450		
Doubtful debts	550		
Interest expense of loans	2 560	4 160	258 000
Net profit			**68 000**

I. M. Classified, Statement of Financial Position as at 30 June

	$	$	$
Current assets			
Accounts receivable	17 000		
less Provision for doubtful debts	200	16 800	
Accrued revenue		300	
Cash at bank		11 000	
Inventories (closing)		81 500	
Petty cash float		600	
Prepaid expenses		200	110 400
***less* Current liabilities**			
Accounts payable		24 000	

Accrued expenses		1 500	
Goods and services tax		9 000	
Revenue in advance		1 000	35 500
Working capital			**74 900**
Non-current assets			
Buildings		180 000	
Computer equipment	6 600		
less Accumulated depreciation	3 300	3 300	
Fixtures and fittings	24 000		
less Accumulated depreciation	3 000	21 000	
Motor vehicles—delivery	42 000		
less Accumulated depreciation	15 600	26 400	
Motor vehicles—manager	40 000		
less Accumulated depreciation	9 600	30 400	261 100
			336 000
***less* Non-current liabilities**			
Bank loan (5 years)		20 000	
Mortgage loan		70 000	90 000
Net assets			**246 000**
Owner's equity			
Capital		183 000	
plus Net profit		68 000	
		251 000	
less Drawings		5 000	**246 000**

COMPARISON OF BUDGETED AND ACTUAL RESULTS

A budget is a plan of expected future action expressed in monetary terms. Budget comparison is a useful lead-in to reviewing Statements of Financial Performance and Financial Position. The expected results are compared with the actual results, and the variations are analysed to see where and why changes have occurred. The difference between the actual result and the budget result is called a 'variance' and it can be unfavourable ('U') or favourable ('F') for the business.

The variance ratio is calculated by dividing the amount of the variance into the budgeted figure. For example, in Illustration 2B that follows, budgeted sales are $150 000 and actual sales are $195 000, and the variance is $45 000 F. (It is favourable because actual sales have exceeded the forecast.) $45 000 × 100 % divided into $150 000 is a percentage variation of 30% F. The budgeted figure for purchases is $42 000 but the actual cost is $50 000. The purchases variation is $8 000 U. (It is unfavourable because expenses are higher.) 8 000 × 100% divided by $42 000 is 19.05% U.

Favourable percentages are shown as a positive figure. Percentages unfavourable to the business are shown in brackets to indicate a minus figure.

Illustration 2B

Variances and percentage calculations are inserted into a comparative Statement of Financial Performance for the year ended 30 June:

Account	Budget ($)			Actual ($)			Variance and %	
Sales			150 000			195 000	45 000 F	30.00
***less* Cost of sales**								
Opening inventory		26 000			26 000		–	
Purchases		42 000			50 000		8 000 U	(19.05)
		68 000			76 000			
Closing inventory		22 000			21 000		1 000 U	(4.55)
			46 000			55 000		
Gross profit			104 000			140 000	36 000 F	34.62
less Expenses								
Selling expenses								
Sales salaries	25 000			32 000			7 000 U	(28.0)
Freight outwards	1 000			1 300			300 U	(30.0)
Delivery expenses	2 000			1 500			500 F	25.0
Total		28 000			34 800		6 800 U	(24.29)
Administrative expenses								
Office salaries	30 000			30 000			–	–
Office expenses	4 500			5 000			500 U	(11.11)
Depreciation	4 400			3 800			600 F	13.64
Telephone expense	2 500			2 400			100 F	4.00
Total		41 400			41 200		200 F	0.48
Finance expenses								
Interest expense	560			640			80 U	(14.29)
Bad debts	2 000			3 400			1 400 U	(70.0)
Discount allowed	800			800			–	
Total		3 360			4 840		1 480 U	(44.05)
Total expenses			72 760			80 840	8 080 U	(11.11)
Net profit			**31 240**			**59 160**	**27 920 F**	**89.37**

A brief analysis of Illustration 2B

No advertising expenses were needed to increase the sales that resulted in the higher net profit. The 24.29% U increase in selling expenses is a consequence of the higher actual sales made. An increase in bad debts is also due to the increase in sales, although this is not fully accounted for in the year that sales are made.

The information about selling expenses, for example, can be looked at in relation to increased sales, and it also allows a comparison with previous years' results.

Although this analysis is not as definitive as ratio analysis, it gives a useful indication of business performance.

Illustration 2C

The following is an example of variations and ratios for a Statement of Financial Position:

Account	Budget ($)		Actual ($)		Variance	%
Current assets						
Accounts receivable (net)	17 000		25 000		8 000 F	47.06
Cash at bank	3 000		2 500		500 U	(16.66)
Inventories (closing)	22 000		21 000		1 000 U	(4.55)
Total current assets		42 000		48 500	6 500 F	15.48
***less* Current liabilities**						
Accounts payable	9 000		12 000		3 000 U	(33.33)
Goods and services tax	2 000		3 000		1 000 U	(50.0)
Short-term loan	4 000		4 000		–	
Total current liabilities		15 000		19 000	4 000 U	(26.66)
Working capital		27 000		29 500	2 500 F	9.26
Non-current assets						
Buildings	180 000		180 000		–	–
Computer equipment (net)	7 000		6 000		1 000 U	(14.29)
Motor vehicles—delivery (net)	42 000		40 000		2 000 U	(4.76)
Total non-current assets		229 000		226 000	3 000 U	(1.31)
		256 000		255 500		
***Less* Non-current liabilities**						
Bank loan (5 years)		15 000		15 000	–	
Net assets		241 000		240 500	500 U	(0.21)
Owner's equity						
Capital		215 000		215 000	–	–
Plus net profit		31 240		59 160	27 920 F	89.37
		246 240		274 160		
Less Drawings		5 240		33 660	28 420 U	(542.37)
Closing owner's equity		241 000		240 500	500 U	(0.21)

A brief analysis of Illustration 2C

The higher sales (30%) have led to increased accounts receivable, and accounts payable are also higher, as purchases have increased by 19.05%.

The higher profit figure allowed the owner to draw out over five times more cash from the business than anticipated at the start of the year.

Working capital is higher because the current assets have increased more than the current liabilities.

TIP

When completing the variance ensure that the total for each group of accounts equals the net variances. For example, 8000 F – 500 U – 1000 U = a total for the current assets group in the balance sheet of 6500 F.

Activity 1.1 (p 000) gives you practice at working with a Statement of Financial Performance with budgeted and actual figures.

ADVANTAGES OF BUDGETING

An analysis of the difference between actual results and budgets enables management to:

- compare the results of various classifications of items with previous years' results
- set future budgets
- review any variations from budgets and determine the reasons for them
- take remedial action for future periods
- make decisions such as whether the business needs to expand
- establish future marketing and selling practices
- ascertain the reliability of its budget forecasts.

In practice there will be many individual budgets making up the whole of the business master budget; for example, separate budgets will be prepared for sales, wages, purchases, office administration costs and so on.

RATIOS

Ratios provide the tools for management to be able to effectively measure and compare financial information within a business over several time periods. Ratio analysis also enables comparisons with other similar businesses in the same industry. If that industry information is not available, for example in annual reports, statistical information is available from sources such as finance journals and newspapers and publications of the Australian Bureau of Statistics.

Ratio analysis comes from three separate areas:

- from the Statement of Financial Performance, for example gross and net profit ratios
- from the Statement of Financial Position, for example the working capital ratio or the quick asset ratio
- from both the Statement of Financial Performance and the Statement of Financial Position, for example the accounts receivable turnover ratio and the return on equity.

Most ratios are produced by computer software, and there are special packages and spreadsheet programs available to facilitate the analysis of accounting data.

CALCULATION OF RATIOS

The first set of ratio calculations are based on the information shown in the classified Statement of Financial Performance and the classified Statement of Financial Position contained in Illustration 2A. Ratio analysis is more effective when comparing financial reports over several years.

The ratios on the next few pages will be considered for the information regarding one year only; comparison analysis will be covered later in the chapter.

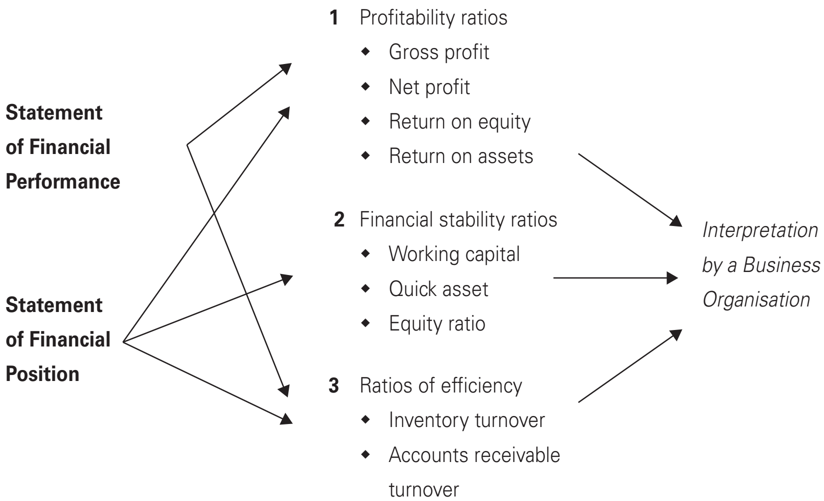
Ratios can be expressed either as a percentage (e.g. 125%) or in a ratio to 1 (e.g. 1.25:1). In this chapter all ratios will be expressed as a percentage, except for working capital and quick asset ratios which are normally shown as a comparison with 1. Turnover ratios are stated in 'times' or number of days.

There may be variations in the content of items used in calculating ratios. However, it is important within a business that the formula for ratio preparation is consistent. This will ensure that there is meaningful interpretation of the analyses.

The ratios contained in this chapter are for businesses that are non-companies.

THREE MAIN AREAS FOR RATIO ANALYSIS

Figure 2.1 The three main areas for ratio analysis



Financial ratios can be used to analyse profitability, financial stability and solvency, and management efficiency. The ratio analysis here will use the information in Illustration 2A.

Profitability ratios

1 $$\textbf{Gross profit ratio} = \frac{\textbf{Gross profit} \times \textbf{100\%}}{\textbf{Net sales}} = \frac{317\ 000 \times 100\%}{786\ 000} = 40.33\%$$

2 $$\textbf{Net profit ratio} = \frac{\textbf{Net profit} \times \textbf{100\%}}{\textbf{Net sales}} = \frac{68\ 000 \times 100\%}{786\ 000} = 8.65\%$$

3 Return on equity ratio $= \dfrac{\textbf{Net profit} \times \textbf{100\%}}{\textbf{Average owner's equity}}$

$= \dfrac{68\ 000 \times 100\%}{183\ 000 \text{ (at start)} + 246\ 000 \text{ (at end)} \ / \ 2}$

$= \dfrac{68\ 000 \times 100}{214\ 500} = 31.70\%$

4 Return on assets $= \dfrac{\textbf{Net profit} \times \textbf{100\%}}{\textbf{Average total assets}}$

Assume that the total assets for I.M.Classified, from the previous balance sheet, totalled \$318 500. Total assets for the current year as at 30 June from Illustration 2A are \$110 400 (current) + 261 100 (non-current) = \$371 500.
\$371 500 + 318 500 = \$690 000. Divide by 2 = \$345 000.

$\dfrac{68\ 000 \times 100}{345\ 000} = 19.71\%$

Financial stability ratios

1 Working capital $= \dfrac{\textbf{Current assets}}{\textbf{Current liabilities}} = \dfrac{110\ 400}{35\ 500} = 3.1:1$

2 Quick asset ratio $= \dfrac{\textbf{Current assets less inventories less prepayments}}{\textbf{Current liabilities less bank overdraft}}$

$= \dfrac{110\ 400 - 81\ 500 - 200}{35\ 500\ \star} = \dfrac{28\ 700}{35\ 500} = 0.81:1$

⋆ There is no bank overdraft in this instance

3 Equity ratio $= \dfrac{\textbf{Total owner's equity} \times \textbf{100\%}}{\textbf{Total assets}}$

$= \dfrac{246\ 000 - 100}{110\ 400 + 261\ 100} = \dfrac{246\ 000 \times 100}{371\ 500} = 66.22\%$

Ratios of efficiency

1(a) Inventory turnover $= \dfrac{\textbf{Cost of goods sold}}{\textbf{Average inventories}}$

$= \dfrac{\text{Cost of goods sold}}{\text{Opening inventory + closing inventory divide by 2}}$

$= \dfrac{469\ 000}{65\ 000 + 81\ 500 \ / \ 2}$

$= \dfrac{469\ 000}{73\ 250} = 6.40 \text{ times per annum}$

1(b) Inventory turnover in days $= \dfrac{\textbf{365 days}}{\textbf{Inventory turnover}}$

$$= \frac{365 \text{ days}}{6.4 \text{ times}}$$

$$= 57 \text{ days}$$

2(a) Accounts receivable turnover $= \dfrac{\textbf{Annual credit sales}}{\textbf{Average accounts receivable}}$

Additional information:

- Credit sales are 20% of the total net sales.
- The accounts receivable balance at the end of the previous year was $18 200.

$$= \frac{\text{Total sales } 786\ 000 \times 20\%}{18\ 200 + 16\ 800 \text{ divide by } 2}$$

$$= \frac{157\ 200}{17\ 500}$$

$$= 8.89 \text{ times}$$

2(b) Accounts receivable turnover collection period

$$\frac{\textbf{365 days}}{\textbf{Accounts receivable turnover}} = \frac{365}{8.98}$$

$$= 40.64 \text{ days}$$

3 Other ratios

These calculations add to the information about a business:

(a) Selling expense ratio $= \dfrac{\textbf{Total selling expenses} \times \textbf{100\%}}{\textbf{Net sales}}$

$$= \frac{126\ 160 \times 100\%}{786\ 000}$$

$$= 16.05\%$$

(b) Administration expense ratio $= \dfrac{\textbf{Total administration expenses} \times \textbf{100\%}}{\textbf{Net sales}}$

$$= \frac{127\ 680 \times 100\%}{786\ 000}$$

$$= 16.24\%$$

(c) Finance expense ratio $= \dfrac{\textbf{Total finance expenses} \times \textbf{100\%}}{\textbf{Net sales}}$

$$= \frac{4160 \times 100\%}{786\ 000}$$

$$= 0.53\%$$

Tutorial A

What are the advantages of calculation ratios? Discuss.

Tutorial B

Outline the differences between the working capital ratio and the quick asset ratio.

(d) Total operating expense ratio $= \dfrac{\textbf{Total operating expenses} \times \textbf{100\%}}{\textbf{Net sales}}$

$= \dfrac{258\ 000 \times 100\%}{786\ 000}$

$= 32.82\%$

INTERPRETATION OF RATIOS

Interpretation of ratio analysis depends on the circumstances of the business. The analysis will usually involve more than one accounting period. However, the following comments are based on the results for just one year; Illustration 2D will cover three years of figures, to give a more comprehensive review.

Profitability ratios

1 Gross profit ratio = 40.33%

This ratio shows the return on net sales before any revenue is added or other expenses are deducted. The cost of goods sold is deducted from the net sales to show the profit margin for every dollar of sales made. The aim of a business should be to gradually increase the gross profit margin to cover possible increases in other expenses used in calculating the net profit.

For every dollar of sales this business is returning 40.33 cents.

The reasons for an increase in the gross profit ratio include:

- selling prices were increased while the purchase price remained unchanged
- opening inventory was undervalued
- closing inventory was overvalued
- purchases were bought at a lower price.

The reasons for a decrease in gross profit ratio include:

- discounts given on sales products
- closing inventory was undervalued
- obsolete or damaged stock was written off
- purchases were bought at a higher price but sales values were not adjusted.

The management strategy for a declining gross profit margin would include:

- raising selling prices, or increasing the volume of goods sold
- looking for alternative suppliers of inventories to reduce the expense of purchases
- searching for additional sale markets for current products, investigating diversifying the trading stock for sale, and looking for new products
- considering whether packaging and freight-inwards costs can be reduced
- if the price is competitive, buying within Australia to reduce packaging, freight, customs duty and insurance charges associated with imports.

2 Net profit ratio = 8.65%

This ratio shows the amount earned by a business in its normal activities after accounting for other revenue and expenses. It is a measure of the efficiency of its operations.

The amount of net return for every dollar of sales is 8.65 cents, which is returned to the owner of the business.

The reasons for an increase in net profit ratio include:

- expenses have decreased
- other operating revenue has increased
- the fixed costs such as depreciation can be spread over a higher sales revenue.

The reasons for a decrease in net profit ratio include:

- expenses have increased at a higher rate than that of the cost of goods sold
- the other operating revenue sources have declined.

To arrest declining net profit margins, management can:

- investigate the business selling plans and techniques
- increase effective promotion and advertising
- encourage areas of operating revenue other than sales of products or services
- review alternative sources of finance with cheaper interest rates
- review all of the expense areas.

3 Return on equity ratio = 31.70%

This ratio shows the owner that for every dollar invested in the business the return is 31.7 cents. The ratio allows the owner to judge whether the funds invested are being effectively employed.

The rate in this example is a very good return on capital compared with other avenues of investment that are available to the owner. If the return on equity was low, the owner might consider selling the business or withdrawing funds to invest in areas that offer more attractive rates of return on investment.

4 Return on assets = 19.71%

This ratio adds to the return on equity ratio and it indicates the earning capacity of the business. It allows management to consider whether funds are being effectively used or whether alternative investment strategies should be considered. It is a measure of how efficiently the business assets are being used to produce a net profit for the owner.

Financial stability ratios

1 Working capital ratio = 3.1:1

This is a test of business solvency, to see whether a business can meet its short-term debts from its current assets. The working capital and the quick asset ratios are expressed as a measure to 1.

The interpretation of this ratio is that, for every dollar of current liabilities owed, the business has $3.10 to meet its short-term obligations, which is considered a healthy position to be in.

Working capital represents the funds available to finance daily business operations. The higher this ratio the better the position of the business; for example, a ratio of 2 current assets to 1 current liability is considered to be adequate. To be acceptable, this ratio must be well above 1:1. If the working capital ratio fell to, say, .70 of current liabilities, then further capital might be needed or some non-current assets might need to be liquidated, undermining the business's future growth and profits.

If the ratio was high, say 5:1, the investment in inventories might be too high, or part of the amount of cash at bank might bring a higher return to the business if invested in a short-term investment.

2 Quick asset ratio = 0.81:1

A limitation of the working capital ratio is that some assets are difficult to convert to cash. For example, inventories may be slow-moving and may contain some obsolete items; in addition, prepayments have already been paid and may not be easy to recover quickly.

For current liabilities bank overdrafts can be considered to be longer term. For example, a bank will not call in a bank overdraft operating within an agreed limit.

For this ratio only the liquid or 'quick' business items that are easily converted to cash are used, so inventories and prepayments are excluded from current assets and the bank overdraft from current liabilities.

The assets that are included are cash at bank, accounts receivable, a petty cash float and short-term investments.

Generally it is considered that a ratio well above 1:1 is acceptable. In this instance, the high level of inventories in the current assets has forced this ratio below 1:1. This means that not all immediate debts can be paid from current assets, and non-current assets may have to be sold or additional finance sought by the business if an emergency arose.

3 Equity ratio = 66.22%

The equity ratio shows the relationship of the owner's equity invested in the business to the total assets of the business. It is the degree to which the business relies on the owner's capital to fund its operations. In this case, the owner owns two-thirds of the business, with the other one-third emanating from debt finance.

The higher the equity ratio the lower the need for externally borrowed funds, and the higher the likelihood that the creditors would be paid in full if the business were to close. A high ratio indicates long-term financial stability and an assurance that debts owing by the business can be paid from the current resources.

In this instance, the owner is using $0.34 cents in the dollar of outside finance to fund the business.

Ratios of efficiency

1(a) Inventory turnover = 6.40 times per annum

This ratio means that the inventories are turning over 6.4 times per annum, or about once every 1.8 months. Whether this is acceptable to the business depends on the type of trading stock. Consumable goods need to turn over at a rapid rate to avoid wastage.

A high turnover of trading stock means that increased units are sold and thus converted to cash to assist the cash-flow position and to increase profits.

1(b) Inventory turnover in days = 57 days

The shorter the time that inventories are retained, the better the effect on profits. If inventories are held for, say, a period of six months before they are sold, capital is invested for a long period before a profit is determined. There are additional costs of storage, handling, insurance, potential deterioration and the cost of the investment in the trading stock, meaning a loss of earning potential for the business. In the case of inventories such as computers, there is an additional problem of obsolescence if the stock is not quickly turned over, as computer technology changes rapidly.

A low turnover rate may indicate that inventory levels are too high or that some of the stock is old, slow-moving or obsolete. Alternatively, demand for the product might have slowed, which can happen with new products. For example, demand for computer equipment in the mid-1990s was high initially but levelled off when the consumer market was satisfied.

Tutorial C

Which ratio shows how effectively the business assets are being used?

2(a) Accounts receivable turnover = 8.98 times
This ratio measures the efficiency of management in collecting the debts of the business. It shows that accounts receivable have been collected nearly nine times within a 12-month period. The shorter the period of collection the greater the enhancement of the cash-flow position of the business. Longer periods of collection may lead to bad debts.

There is a strong indication in this business that the credit control procedures are operating relatively effectively.

2(b) Accounts receivable turnover collection period = 40.64 days
Generally a business would prefer to see no more than a 30-day period for the collection of its debts. If it is considered that the accounts receivable owing are regular payers, then a longer period of settlement may be acceptable. Sometimes a discount is given to encourage early payment—for example a 5% discount for payment within seven days.

LIMITATIONS OF RATIOS

Tutorial D

What ratio determines how effective the credit policies of the business are?

Tutorial E

State and discuss three limitations of ratios.

Ratio analysis and interpretation can be influenced by the following factors:

- poor-quality or inadequate accounting methods
- incomplete financial reports
- changes in accounting methods
- end-of-year information that is not typical of the position during the year or of a comparative year
- the existence of unusual items during a financial year, such as losses by fire
- legislation, for example the introduction of the goods and services tax from 1 July 2000, and policy changes, for example a change in the trading stock from electrical goods to furniture
- management changes
- changes in the state of the economy, such as a major recession in the industry
- similar businesses in the industry not being comparable (e.g. because they use different accounting methods or carry different product lines).

Ratio analysis is a very useful tool for management, but other information must also be used when studying trends (e.g. see the percentages in Illustration 2B). In addition, management needs to take into account unusual factors in the business and in the industry.

Illustration 2D

A comparison of a business over a three-year period showing percentages to net sales and percentages to total assets follows:

1 Calculate all ratios for the year ended 30 June 2009 and interpret the information.

2 Comment on the trends as shown by the percentages for sales, the cost of goods sold, each classification of expense, and current and non-current assets and liabilities.

Con Parison, Statements of Financial Performance for a three-year period ending 30 June 2009

Account	**30 June 2007 ($)**	**% sales**	**30 June 2008 ($)**	**% sales**	**30 June 2009 ($)**	**% sales**
Cash sales	200 000	33	250 000	37	320 000	59
Credit sales	400 000	67	420 000	63	220 000	41
Total sales	600 000	100	670 000	100	540 000	100
less Cost of goods sold						
Opening inventory	50 000	8	40 000	6	30 000	6
Purchases	300 000	50	310 000	46	270 000	50
	350 000	58	350 000	52	300 000	56
less Closing inventory	40 000	7	30 000	4	45 000	8
Cost of goods sold	310 000	52	320 000	48	255 000	47
GROSS PROFIT	290 000	48	350 000	52	285 000	53
Other revenue						
Discount revenue	300	–	0	–	400	-
Commission revenue	5 700	1	6 600	1	5 800	1
Total	6 000	1	6 600	1	6 200	1
Gross profit *plus* revenue	296 000	49	356 600	53	291 200	54
less Selling expenses						
Advertising	1 200	–	5 000	1	4 000	1
Sales salaries	80 000	13	95 000	14	98 000	18
Delivery expenses	6 400	1	7 200	1	8 600	2
Total	87 600	15	107 200	16	110 600	20
less Administrative expenses						
Office expenses and salaries	34 000	6	35 000	5	35 000	6
Depreciation	5 800	1	7 800	1	9 000	2
Management expenses	62 000	10	66 000	10	72 000	13
Total	101 800	17	108 800	16	116 000	21
less Finance expenses						
Bad debts	1 000	–	4 000	1	2 000	-
Interest on loans and overdraft	3 800	1	5 000	1	5 500	1
Discount allowed	500	–	600	–	0	-
Total	5 300	1	9 600	1	7 500	1
Total expenses	194 700	32	225 600	34	234 100	43
less Gross profit + revenue (above)	296 000	49	356 600	53	291 200	54
Net profit	101 300	17	131 000	20	57 100	11

Note: All percentages are to the nearest whole number.

Con Parison, Statements of Financial Position for a three-year period as at 30 June

Account	30 June 2007	% total assets	30 June 2008	% total assets	30 June 2009	% total assets
ASSETS						
Current assets						
Accounts receivable	30 000	12	20 000	9	25 000	10
Inventories	40 000	16	30 000	14	45 000	19
Cash on hand	500	–	1 200	–	1 500	-
TOTAL	70 500	28	51 200	23	71 500	29
***less* Current liabilities**						
Accounts payable	15 000	6	12 000	5	18 000	7
Bank overdraft	6 000	2	7 500	3	7 800	3
Short-term loans	500	–	600	–	300	–
TOTAL	21 500	9	20 100	9	26 100	11
Working capital	49 000	20	30 100	14	45 400	19
Non-current assets						
Delivery vehicle	50 000		50 000		50 000	
less Accumulated depreciation	3 000		8 000		14 000	
	47 000	19	42 000	19	36 000	15
Office equipment	7 000		7 000		7 000	
less Accumulated depreciation	500		3 300		6 300	
	6 500	3	3 700	2	700	–
Buildings	125 000	50	125 000	56	125 000	51
Fixtures	–		–		10 000	4
TOTAL NON-CURRENT ASSETS	178 500	72	170 700	77	171 700	71
less **Non-current liabilities**						
Long-term loans	12 000	5	14 000	6	25 000	10
NET NON-CURRENT ASSETS	166 500	67	156 700	71	146 700	60
plus WORKING CAPITAL	49 000	20	30 100	14	45 400	19
NET ASSETS	215 500	87	186 800	84	192 100	79
Owner's equity						
Capital	134 200	54	215 500	97	186 800	77
plus Net profit	101 300	41	131 000	59	57 100	23
	235 500	95	346 500	156	243 900	100
less Drawings	20 000	8	159 700	72	51 800	21
TOTAL OWNER'S EQUITY	215 500	87	186 800	84	192 100	79

Summary:	2007 ($)	2008 ($)	2009 ($)
Current assets	70 500	51 200	71 500
Non-current assets	178 500	170 700	171 700
Total assets	249 000	221 900	243 200

Note: All percentages are to the nearest whole number and there are no prepayments.

The following table shows the calculation of the ratios and the interpretation for the year ended 30 June 2009:

Ratio type	Formula	Calculation
1 Gross profit	$\frac{\text{Gross profit}}{\text{Net sales}}$	$\frac{285\,000 \times 100\%}{540\,000} = 52.7\%$ It is essential that a business maintains its gross profit margin compared with earlier periods. The ratio for the previous year is: $\frac{350\,000 \times 100\%}{670\,000} = 52.2\%$ This means that there has been little change from the previous year and so the sale price has been maintained without an increase in the cost of acquiring trading stock. The gross profit margin must be maintained to ensure that operating expenses are covered to provide a net profit to the owners.
2 Net profit	$\frac{\text{Net profit}}{\text{Net sales}}$	$\frac{57\,000 \times 100\%}{540\,000} = 10.6\%$ This ratio shows the amount earned after completing normal business activities. Compare this with the year ended 30 June 2008: $\frac{131\,000 \times 100\%}{670\,000} = 19.5\%$ Although the gross profit margin has been maintained, the net profit margin has been affected by lower sales, which in the current year are 80% of the previous year. In addition, selling and administration costs have risen.
3 Return on equity	$\frac{\text{Net profit}}{\text{Average owner's equity}}$	$\frac{57\,100 \times 100\%}{186\,800 + 192\,100/2} = \frac{57\,100 \times 100\%}{189\,450}$ $= 30.14\%$ This ratio shows the return on the capital invested by the owner. The ratio for the previous year is: $\frac{131\,000 \times 100\%}{215\,500 + 186\,800/2} = \frac{131\,000 \times 100\%}{201\,150}$ $= 65.13\%$ The year ended 2008 was an exceptionally good year and 30% is excellent for the owners given the alternative forms of investment available.

4 Return on assets

$$\frac{\text{Net profit}}{\text{Average total assets}}$$

$$\frac{57\,100 \times 100\%}{221\,900 + 243\,200\,/2} = \frac{57\,100 \times 100\%}{232\,550}$$

$$= 24.55\%$$

The ratio for the previous year is:

$$\frac{131\,000 \times 100\%}{249\,000 + 221\,900\,/2} = \frac{131\,000 \times 100\%}{235\,450}$$

$$= 55.64\%$$

This shows the owner's return on all assets and adds to the ratio for the return on owner's equity. It indicates the effectiveness with which funds are being employed in the business. The percentage can be compared with outside business or investment opportunities. The rate of 24.55% would be considered favourable. The return on assets for the previous year is exceptional.

5 Working capital

$$\frac{\text{Current assets}}{\text{Current liabilities}}$$

$$\frac{71\,500}{26\,100} = 2.74{:}1$$

For every dollar of current liabilities the business has $2.74 to use to pay out the current liabilities should a crisis arise. More than 2:1 is considered to be acceptable.

6 Quick asset

$$\frac{\text{Current assets less inventories}}{\text{Current liabilities less bank overdraft}}$$

$$\frac{71\,500 - 45\,000}{26\,100 - 7800} = \frac{26\,500}{18\,300}$$

$$= 1.44{:}1$$

Similar to working capital, this ratio considers the 'quick' assets that would be available in an emergency to cover the 'quick' current liabilities. More than 1:1 is considered to be acceptable.

7 Equity ratio

$$\frac{\text{Owner's equity}}{\text{Total assets}}$$

$$\frac{192\,100 \times 100\%}{243\,200} = 79\%$$

This ratio gives an indication of the borrowing strength of a business. A high level of equity, as shown here, means that the business does not need to be funded from its creditors or outside finance.

8 Inventory turnover

$$\frac{\text{Cost of goods sold}}{\text{Average inventories}}$$

$$\frac{255\,000}{30\,000 + 45\,000\,/2} = \frac{255\,000}{37\,500}$$

$$= 68 \text{ times}$$

		This ratio discloses the number of times the inventories are replaced within a 12-month period. Whether a rate is acceptable depends on the nature of the stock (e.g. a greengrocer would lose all of the stock left in wastage in this example).
9 Inventory days	$\frac{\text{365 days}}{\text{Inventory turnover}}$	$\frac{365}{6.8} = 53.68$ days If the stock consisted of items normally expected to turn over in, say, 30 days, this delay would be of concern to a business. It may indicate poor buying practices or that the stock is not the latest product and therefore demand has diminished. If the turnover rate is lower than normal, a business can afford to discount to attract more sales.
10 Accounts receivable turnover	$\frac{\text{Annual credit sales}}{\text{Average accounts receivable}}$	$\frac{220\,000}{20\,000 + 25\,000 \;/2} = \frac{220\,000}{22\,500}$ This ratio shows the amount of times debtors pay their accounts within a 12-month period. Only credit sales are used, because cash sales do not affect accounts receivable.
11 Accounts receivable turnover—days	$\frac{\text{365 days}}{\text{Accounts receivable turnover}}$	$\frac{365}{9.78} = 37.32$ days This shows the number of days the average debtor's account was outstanding. It is a measure of how effective the business credit policies are. An acceptable turnover to a business is 30 to 40 days, so 37 days is adequate, but the business should aim to reduce this to 30 days.

Interpretation using the percentages over the three-year period

Statement of Financial Performance for Con Parison

1 Sales

There is almost a 20% ($130 000) decline in sales from 2008 to 2009. Although cash sales have increased, actual credit sales have been halved compared with the previous two years. The mix to more cash sales is encouraging and there is no cost of collection of debts or risk of bad debts for these sales. The closing inventory has increased by 50% in the last year while sales are declining. Unless this is part of an expansion plan, the matter needs to be investigated, as there is a cost involved in maintaining higher stock levels.

2 Cost of goods sold

The cost of goods sold has decreased over the three-year period from 52% of sales to 47% of sales. Consequently the gross profit margin has been maintained and has even increased.

3 Selling expenses

The selling expenses have increased from 15% to 20% over the three-year period with declining sales. Sales salaries have risen during the period from 13% to 18% and may be in need of review. Delivery expenses are 34% higher than in 2007, with fewer current sales.

4 Administration expenses

Administration expenses are up from 17% to 21% of net sales. Although some of these costs are relatively fixed, for example office expenses, management expenses have increased from 10% to 13% of net sales.

5 Finance expenses

These expenses are small overall and constitute only 3% of total expenses. Bad debts were reduced in 2009, partly due to the reduction in credit sales, although bad debts usually occur in the year after the sales are made.

6 Total expenses

There is a marked increase in total expenses over the three-year period, increasing from 32% in 2007 to 43% in 2009. The expenses in 2 to 5 above must be reviewed.

Statement of Financial Position for Con Parison

1 Current assets

The current assets have remained stable over the period. The amount owing by accounts receivable has declined, but this has been offset by a 50% increase in closing inventories. The reasons for the increase in inventories will need to be examined; it might be part of a proposed expansion plan or the business might be about to engage in major discounting activities.

2 Non-current assets

The value of non-current assets is reasonably stable, with a new asset, fixtures, being added in the last year. The value of office equipment, which would include a computer, has been written down almost to its original cost; this might indicate that the equipment will need replacing in the next financial year.

3 Current liabilities

Current liabilities have been slowly increasing, but the amounts owed to accounts payable are still fairly constant. A review could be made to see whether the bank overdraft that has operated for each of the three years could be eliminated, thus reducing the interest costs as part of the finance expenses.

4 Non-current liabilities

The only non-current liability, the long-term loan, has been steadily increasing, from 5% to 10% over the three-year period. Given that profit levels are encouraging, consideration could be given to the owner eliminating or reducing the loan, to reduce finance costs.

5 Owner's equity

The owner's investment in the business has declined from 87% to 79% over the three-year period. This is partly explained by the large amount of drawings for the year 2008, which was far higher than for the previous year.

Tutorial F

Name and define the three areas of a business subject to ratio analysis.

SUMMARY OF RATIOS

There are other methods of calculating ratios, but the following table summarises the ones that have been discussed:

Ratio type	Formula	Comment
1 Gross profit	Gross profit / Net sales	This ratio is a measure of profitability to ensure that the gross profit margin is maintained on sales, to ensure that operating expenses are covered so that a net profit is available to the owners.
2 Net profit	Net profit / Net sales	This ratio measures the percentage of the profit passed on to the owners.
3 Return on equity	Net profit / Average owner's equity	This ratio shows the return on the capital invested by the owner.
4 Return on assets	Net profit / Average total assets	This ratio shows the owner's return on all assets and it indicates the effectiveness with which funds are being employed in the business.
5 Working capital	Current assets / Current liabilities	This ratio indicates the business's ability to meet its current obligations from its current assets.
6 Quick asset	Current assets less inventories / prepayments / Current liabilities less bank overdraft	This ratio considers the 'quick' assets that would be available in an emergency, to cover the 'quick' current liabilities.
7 Equity ratio	Owner's equity / Total assets	This ratio gives an indication of the borrowing strength of a business and the contribution of funds provided by the owners.
8 Inventory turnover	Cost of goods sold / Average inventories	Disclosed by this ratio is the number of times the inventories are replaced within a 12-month period.
9 Inventory turnover —days	365 days / Inventory turnover	This shows the number of days that trading stock takes to be sold.

Try Activities 2.2 to 2.4 (p 000) for ratio calculations.

Activity 2.5 (p 000) covers ratios and interpretation for classified statements, and 2.6 requires ratio calculations for unclassified statements.

10	Accounts receivable turnover	$\frac{\text{Annual credit sales}}{\text{Average accounts receivable}}$	This ratio shows the number of times debtors pay their accounts within a 12-month period.
11	Accounts receivable turnover—days	$\frac{\text{365 days}}{\text{Accounts receivable turnover}}$	This turnover shows the number of days the average debtor's account was outstanding. It is a measure of how effective the business's credit policies are.

Activities 2.7 to 2.10 (p 000) add further to the calculation of ratios.

ACTIVITIES

Use your workbook to complete these activities.

WB p000

ACTIVITY 2.1

(See Workbook, page xx)

Required

1 Prepare variances and percentages for the following Statement of Financial Performance.
2 Briefly comment on any trends.

Account		Budget ($)			Actual ($)		Variance and %
Sales			270 000			245 000	
***less* Cost of sales**							
Opening inventory		31 000			31 000		
Purchases		92 000			90 000		
Freight inwards		1 000			1 200		
		124 000			122 200		
Closing inventory		32 000			31 000		
			92 000			91 200	
Gross profit			178 000			153 800	
less Expenses							
Selling expenses							
Sales salaries	55 000			52 000			
Freight outwards	1 800			1 500			
Advertising	2 000			4 300			
Total		58 800			57 800		
Administrative expenses							
Manager's salary	45 000			47 000			
Office expenses	25 000			25 000			
Depreciation	7 400			8 800			
Telephone expense	4 500			4 800			
Rent of premises	10 000			10 000			
Total		91 900			95 600		
Finance expenses							
Interest expense	350			700			
Bad debts	2 400			2 200			
Discount allowed	500			500			
Total		3 250			3 400		
Total expenses			153 950			156 800	
Net profit/loss			24 050 P			3 000 L	

ACTIVITY 2.2

WB p000

(See Workbook, page xx)

The following information is provided:

Net profit $30 000
Gross profit $80 000
Owner's equity at the start $220 000
Owner's equity at the end $240 000
Total assets at the start $150 000
Total assets at the end $180 000
Total sales $300 000 less sales returns $5000.

Required

Calculate the gross profit ratio, the net profit ratio, the return on equity ratio and the return on assets ratio.

ACTIVITY 2.3

WB p000

(See Workbook, page xx)

The following information is provided:

Current assets $70 000
Current liabilities $40 000
Bank overdraft $17 500
Inventories $22 000
Owner's equity at the end $140 000
Total assets at the end $180 000
Prepayments $500.

Required

Calculate the working capital ratio, the quick asset ratio and the equity ratio.

ACTIVITY 2.4

WB p000

(See Workbook, page xx)

The following information is provided:

Opening inventories $23 000
Closing inventories $28 000
Cost of goods sold $120 000
Total sales $300 000 of which 40% are credit sales
Owed by accounts receivable at the start of the year $16 000
Owed by accounts receivable at the end of the year $19 000.

Required

Calculate the inventory turnover rate and days ratios, and the accounts receivable rate and days ratios.

ACTIVITY 2.5

WB p000

(See Workbook, page xx)

An extract from two consecutive Statements of Financial Performance and two Statements of Financial Position follow:

STATEMENT OF FINANCIAL PERFORMANCE

	Year to 30 June 2008		Year to 30 June 2009	
	$	**$**	**$**	**$**
Net sales (50% are credit sales)	100 000		130 000	
Gross profit	30 000		41 000	
Net profit	7 500		10 200	
STATEMENT OF FINANCIAL POSITION				
Assets				
Plant & equipment	32 000		29 000	
Furniture & fittings	3 400		3 100	
Closing inventory	15 000		16 000	
Accounts receivable	8 000		7 800	
Cash on hand	750	59 150	750	56 650
***less* liabilities**				
Bank overdraft	2 600		4 100	
Goods and services tax	800		950	
Accounts payable	6 500		6 000	
Long-term loan	9 000	18 900	13 000	24 050
Owner's equity		40 250		32 600
Additional information				
Opening inventory	14 000		15 000	

Required

Calculate the following ratios for the year ended 30 June 2009. (Note that here you will need to calculate the 'Cost of goods sold' and to group current and non-current balance sheet items.)

- Gross profit
- Net profit
- Return on equity
- Return on assets
- Working capital
- Quick asset
- Inventory turnover and days
- Accounts receivable turnover and days

WB p000

ACTIVITY 2.6

(See Workbook, page xx)

Required

Use the following ratios to prepare a brief report that comments on the strengths and potential weaknesses of the business and suggests remedies.

Ratio	2007	2008	2009
Gross profit	40%	50%	42%
Net profit	6%	8%	6%
Return on equity	18%	15%	12%
Return on assets	9%	10%	11%
Working capital	2.3:1	1.4:1	0.9:1
Quick asset	1.6:1	0.9:1	0.5:1
Equity ratio	22%	21%	19%
Stock turnover	8 times per year	9 times per year	6 times per year
Accounts receivable—collection period	32 days	40 days	43 days

ACTIVITY 2.7

WB p000

(See Workbook, page xx)

An extract from the books of a business disclosed the following balances:

Account	30 June 2008 ($)	30 June 2009 ($)
Accounts payable	7 000	11 000
Accounts receivable	33 000	22 000
Bank overdraft	4 300	14 650
Cash on hand	600	800
Cash sales	110 000	120 000
Cost of goods sold	170 000	185 000
Credit sales	160 000	180 000
Inventories (closing)	25 000	24 000
Motor vehicle	43 000	41 000
Office equipment	6 000	9 500

Required

Using the above information, calculate these ratios for the year ended 30 June 2009:

- working capital
- quick asset
- accounts receivable turnover and number of days for collection
- inventory turnover and number of days.

ACTIVITY 2.8

WB p000

(See Workbook, page xx)

An extract from the books of a business disclosed the following balances:

Account	30 June 2008 ($)	30 June 2009 ($)
Cash sales	110 000	120 000
Cost of goods sold	170 000	185 000
Credit sales	160 000	180 000
Total operating expenses	74 000	89 000
Total operating revenue	6 000	8 000
Total assets	230 000	235 000
Total liabilities	170 000	160 000
Total owner's equity	60 000	65 000

Note: Gross and net profits will need to be calculated.

Required

Using the above information, calculate these ratios for the year ended 30 June 2009:

- Gross profit
- Net profit
- Equity
- Return on equity
- Return on assets.

WB p000

ACTIVITY 2.9

(See Workbook, page xx)

The total net sales for a business were $400 000. The operating expenses after gross profit was calculated were as follows:

Expense	Amount ($)
Bad debts	500
Bank interest	5 400
Cartage outwards	1 300
Discount allowed	300
Manager's salary	62 000
Office salary	26 000
Rent—office	1 000
Rent—shop	3 000
Sales salaries	103 000
Stationery	2 000
Telephone—office	1 200
Telephone—shop	800
Total expenses	**206 500**

Required

1 Classify the expenses into three categories: Selling, Administrative and Finance.

2 Prepare ratios to net sales for:
   (a) Selling expenses
   (b) Administrative expenses
   (c) Finance expenses
   (d) Total expenses

ACTIVITY 2.10

WB p000

(See Workbook, page xx)

The following are summarised financial statements for a three-year period:

Statements of Financial Performance for years ended 30 June

Items	2007	2008	2009
Sales (30% are on credit)	$350 000	$400 000	$360 000
Cost of goods sold	170 000	190 000	190 000
Gross profit	180 000	210 000	170 000
Selling expenses	76 000	82 000	84 000
Administrative expenses	54 000	55 000	57 500
Finance expenses	2 000	3 000	2 500
Total expenses	132 000	140 000	144 000
Net profit	$48 000	$70 000	$26 000

Statements of Financial Position as at 30 June

Items	2007	2008	2009
Current assets	$50 000	$40 000	$30 000
Current liabilities	16 000	18 000	15 000
Working capital	34 000	22 000	15 000
Non-current assets	150 000	200 000	220 000
	184 000	222 000	235 000
Non-current liabilities	14 000	27 000	35 000
Net assets	170 000	195 000	200 000
Opening capital	154 000	170 000	195 000
Net profit	48 000	70 000	26 000
	202 000	240 000	221 000
Drawings	32 000	45 000	21 000
Closing capital	$170 000	$195 000	$200 000

Required

1 For the years 2008 and 2009, calculate the following ratios:
   (a) Gross profit
   (b) Net profit
   (c) Working capital
   (d) Accounts receivable collection period in days (accounts receivable $20 000 in 2007, $18 000 in 2008 and $12 000 in 2009)
   (e) Inventory turnover period in days (inventories $12 000 in 2007, $15 000 in 2008 and $13 000 in 2009)
   (f) Return on assets
   (g) Return on equity
   (Show your workings in the boxes supplied.)

2 Briefly comment on what these ratios mean to the business.

HOMEWORK QUESTIONS

Use your workbook to answer these homework questions.
Use the following information for Questions 2.1 to 2.5:

I. M. Worried, Statements of Financial Performance

Details	**Year ended 30 June 2008 ($)**			**Year ended 30 June 2009 ($)**		
Net sales (40% of net sales are on credit)			360 000			320 000
less Cost of goods sold						
Opening inventory		16 000			17 000	
Purchases (net)		134 000			140 000	
Cartage inwards*		1 800			2 300	
		151 800			159 300	
less Closing inventory		17 000	134 800		22 000	137 300
Gross profit			**225 200**			**182 700**
Add Operating revenue						
Commission revenue			1 000			300
			226 200			183 000
less Selling expenses						
Advertising	1 200			1 500		
Sales salaries/expenses	58 600			59 000		
Delivery expenses	4 000			4 500		
Depreciation—vehicle	5 000			5 500		
Vehicle expenses	2 000			3 000		
Commission expenses	7 000	77 800		4 000	77 500	
less Administrative expenses						
Management expenses	65 000			66 000		
Office expenses	27 000			21 000		
Rent and electricity expenses	5 000			6 600		
Insurance expenses	3 000			4 100		
Telephone expenses	6 000			7 100		
Stationery expenses	3 000	109 000		2 300	107 100	
less Finance expenses						
Discount allowed	500			1 000		
Bad debts expenses	1 500			6 600		
Interest expenses	5 400	7 400		7 000	14 600	
Total expenses			194 200			199 200
Net profit			**32 000**			
Net loss						**16 200**

I. M. Worried, Statements of Financial Position as at:

Details		**30 June 2008 ($)**			**30 June 2009 ($)**	
Current assets						
Cash on hand		200			800	
Accrued revenue		400			50	
Prepayments		300			200	
Inventories		17 000			22 000	
Accounts receivable		16 500	34 400	16 600	15 800	38 850
less **Current liabilities**						
Bank overdraft		1 400			4 000	
Accounts payable		8 000			10 000	
Accrued expenses		100			200	
GST payable		7 400	16 900		6 350	20 550
Working capital			17 500			18 300
Non-current assets						
Machinery	128 000			128 000		
less Accumulated depreciation	12 800	115 200		25 600	102 400	
Motor vehicle	42 000			42 000		
less Accumulated depreciation	2 000	40 000		6 200	35 800	
Buildings		100 000	255 200		100 000	238 200
			272 700			256 500
Non-current liabilities						
Loan to the bank		8 700			9 500	
Mortgage		40 000	48 700		39 200	48 700
Net assets			224 000			207 800
Owner's equity						
Capital		194 000			224 000	
plus Net profit		32 000				
less Net Loss					16 200	
		226 000			207 800	
less Drawings		2 000	224 000		0	207 800

Additional information

- Accounts receivable as at 30 June 2007 = $15 000.
- Total assets as at 30 June 2007 = $260 000.

WB p000

HOMEWORK QUESTION 2.1

(See Workbook, page xx)

For the years ended 30 June 2008 and 2009, using the information given, calculate:

- the gross profit ratio
- the net profit ratio.

Comment on the business's performance for each of the two years.

WB p000

HOMEWORK QUESTION 2.2

(See Workbook, page xx)

For the years ended 30 June 2008 and 2009, using the information given, calculate:

- the working capital ratio
- the quick assets ratio.

Comment on the business's ability to pay its short-term debts.

WB p000

HOMEWORK QUESTION 2.3

(See Workbook, page xx)

For the years ended 30 June 2008 and 2009, using the information given, calculate:

- the accounts receivable turnover ratio
- the turnover ratio in days.

Comment on the business's collection of debts.

WB p000

HOMEWORK QUESTION 2.4

(See Workbook, page xx)

For the years ended 30 June 2008 and 2009, using the information given, calculate:

- the inventory turnover ratio
- the turnover ratio in days.

Comment on the business's efficiency regarding inventory control.

WB p000

HOMEWORK QUESTION 2.5

(See Workbook, page xx)

For the years ended 30 June 2008 and 2009, using the information given, calculate:

- the equity ratio
- the return on equity ratio
- the return on assets ratio.

Comment on how these ratios affect the business.

HOMEWORK QUESTION 2.6

WB p000

(See Workbook, page xx)

The following information is given for the year ended 30 June:

Account	$
Customs duty	2 000
Freight inwards	4 000
Inventories—start of the year	20 000
Inventories—end of the year	15 000
Purchases	160 000
Purchases returns	1 000
Sales	300 000
Sales returns	5 000

Required

1 Reconstruct the first section of a profit and loss statement, calculating the gross profit.

2 Prepare ratios for:
(a) Gross profit
(b) Inventory turnover and also in days.