

## Ratios and performance

### Questions

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1. Profit and loss account for Kingman Book Store:

	Sept (\$)	Oct(\$)	Nov (\$)	Dec (\$)
Sales revenue	15,000		10,500	16,000
Cost of goods sold	7,200	5,980		7,520
Gross profit		5,520	4,725	8,480
Gross profit ratio		48%		

- a. Define the term 'gross profit ratio'. (2 marks)
- b. Calculate the missing figures in the above table and comment on the performance of Kingman Book Store during the given time period. (6 marks)

## Answers

	Answer	Marks																									
1(a)	<p>Define the term 'gross profit ratio'.</p> <ul style="list-style-type: none"> <li>The gross profit ratio calculates the gross profit as a proportion of sales revenue (1)</li> <li>Illustration of the formula:  <math display="block">\text{gross profit ratio} = (\text{gross profit} / \text{sales revenue}) \times 100</math>                     or use of a numerical example (1)</li> </ul>	2																									
1(b)	<p>Calculate the missing figures in the above table and comment on the performance of Kingman Book Store during the given time period.</p> <p>Profit and loss account for Kingman Book Store:</p> <table border="1"> <thead> <tr> <th></th> <th>Sept (\$)</th> <th>Oct(\$)</th> <th>Nov (\$)</th> <th>Dec (\$)</th> </tr> </thead> <tbody> <tr> <td>Sales revenue</td> <td>15,000</td> <td>11,500</td> <td>10,500</td> <td>16,000</td> </tr> <tr> <td>Cost of goods sold</td> <td>7,200</td> <td>5,980</td> <td>5,775</td> <td>7,520</td> </tr> <tr> <td>Gross profit</td> <td>7,800</td> <td>5,520</td> <td>4,725</td> <td>8,480</td> </tr> <tr> <td>Gross profit ratio</td> <td>52%</td> <td>48%</td> <td>45%</td> <td>53%</td> </tr> </tbody> </table> <p>Valid points for the commentary could include:</p> <ul style="list-style-type: none"> <li>Sales revenues have fluctuated over the period but risen by 6.67% during the four months (1)</li> <li>Cost of goods sold has increased by 4.1%, i.e. a smaller proportion than the increase in sales (1)</li> <li>Thus, gross profit has increased by 8.7% (1)</li> <li>There has been an insignificant change in the gross profit ratio (1)</li> <li>Overall, the financial performance of the firm has been quite steady (1)</li> </ul> <p>Award up to 3 marks for the calculations; apply the own figure rule where appropriate. Award up to 3 marks for the commentary.</p>		Sept (\$)	Oct(\$)	Nov (\$)	Dec (\$)	Sales revenue	15,000	11,500	10,500	16,000	Cost of goods sold	7,200	5,980	5,775	7,520	Gross profit	7,800	5,520	4,725	8,480	Gross profit ratio	52%	48%	45%	53%	6
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## Questions

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2. Study the data in the table below for two firms in direct competition and answer the questions that follow:

<b>Business</b>	<b>Gross profit ratio</b>	<b>Net profit ratio</b>
Zawada Ltd.	40%	20%
Chan Corp.	45%	23%

- a. Define the term 'net profit ratio'. (2 marks)
- b. Using the financial information provided, assess whether Zawada Ltd. or Chan Corp. has performed better. (6 marks)
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## Answers

	Answer	Marks									
2(a)	<p><b>Define the term 'net profit ratio'.</b></p> <ul style="list-style-type: none"> <li>The net profit ratio calculates the net profit of a firm as a proportion of its sales revenue (1)</li> <li>Illustration of the formula: net profit ratio = (net profit / sales revenue) x 100 or use of a numerical example (1)</li> <li>The difference between a firm's gross and net profit ratios indicates its ability to control expenses (1)</li> </ul>	2									
2(b)	<p><b>Using the financial information provided, assess whether Zawada Ltd. or Chan Corp. has performed better.</b></p> <table border="1" data-bbox="496 629 1163 759"> <thead> <tr> <th>Business</th> <th>Gross profit ratio</th> <th>Net profit ratio</th> </tr> </thead> <tbody> <tr> <td>Zawada Ltd.</td> <td>40%</td> <td>20%</td> </tr> <tr> <td>Chan Corp.</td> <td>45%</td> <td>23%</td> </tr> </tbody> </table> <p>Valid explanation points could include:</p> <ul style="list-style-type: none"> <li>Chan Corp. has a higher gross profit ratio, i.e. it enjoys larger profit margins (2)</li> <li>Chan Corp. also has a higher net profit ratio, showing better financial performance (2)</li> <li>Zawada Ltd. has better overhead control as expenses reduce gross profit by 20% at Zawada Ltd., compared to 22% at Chan Corp. (2)</li> <li>There is limited data given, so a true/fair assessment might not be possible, e.g. other data such as sales revenue and capital employed would be useful (2)</li> </ul>	Business	Gross profit ratio	Net profit ratio	Zawada Ltd.	40%	20%	Chan Corp.	45%	23%	6
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## Questions

3. Study the financial statements for Renaissance Getaway Tours and answer the questions that follow.

Working capital is the difference between current assets and current liabilities:

	2012 (\$)	2011 (\$)
Buildings	250,000	228,000
Vehicles	85,000	95,000
.		
Debtors	8,000	7,000
Cash	6,000	10,000
	14,000	17,000
.		
Creditors	4,600	5,200
Overdraft	6,300	3,300
.		
Share capital	150,000	150,000
Retained profit	82,000	55,500
Mortgage	106,100	126,000

- a. Define the term 'capital employed'. (2 marks)
- b. Assume that the net profit for Renaissance Getaway Tours is \$25,000 in 2012 and \$22,000 in 2011. Calculate the return on capital employed for both years and comment on your findings. (4 marks)

## Answers

	Answer	Marks
3(a)	<p><b>Define the term return on 'capital employed'.</b></p> <ul style="list-style-type: none"><li>• Capital employed is the amount of money invested in the business. (1)</li><li>• It is the sum of all internal and external sources of finance. (1)</li><li>• The capital employed figure can be seen in a firm's balance sheet. (1)</li></ul>	<b>2</b>
3(b)	<p><b>Assume that the net profit for Renaissance Getaway Tours is \$25,000 in 2012 and \$22,000 in 2011. Calculate the return on capital employed for both years and comment on your findings.</b></p> <ul style="list-style-type: none"><li>• ROCE for 2011: <math>\\$25,000 / \\$338,100 = 7.39\%</math> (1)</li><li>• ROCE for 2012: <math>\\$22,000 / \\$331,500 = 6.64\%</math> (1)</li></ul> <p>Valid points could include:</p> <ul style="list-style-type: none"><li>• Explaining what the ratios actually show, e.g. for each \$100 of capital employed by the firm in 2011, \$7.39 was generated as net profit (1)</li><li>• The financial performance based on the ROCE ratio was better in 2011 than 2012 (1)</li><li>• However, the firm should compare these ratios to the expected returns from other projects and/or bank savings rates to gauge the level of return (1)</li></ul> <p>Award up to 2 marks for the calculations and up to 2 marks for the commentary.</p>	<b>4</b>

## Questions

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4. The manager at Vipalas Glassware has calculated that the firm's current ratio for the past three years is as follows:

2010	2011	2012
2.45:1	1.95:1	1.1:1

- a. Define the term 'current ratio'. (2 marks)
- b. Using the information provided, analyse the financial position of Vipalas Glassware. (4 marks)
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## Answers

	Answer	Marks						
4(a)	<p><b>Define the term 'current ratio'.</b></p> <ul style="list-style-type: none"> <li>The ratio looks at how solvent (or liquid) a business is in the current year (1) i.e. the extent to which the business can cover its current liabilities with its current assets (1)</li> <li>Illustration of the formula: Current ratio = Current assets / Current liabilities (1)</li> <li>or for use of a numerical example (1)</li> </ul>	<b>2</b>						
4(b)	<p><b>Using the information provided, analyse the financial position of Vipalas Glassware.</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>2010</th> <th>2011</th> <th>2012</th> </tr> </thead> <tbody> <tr> <td>2.45:1</td> <td>1.95:1</td> <td>1.1:1</td> </tr> </tbody> </table> <p>Valid points could include an analysis of:</p> <ul style="list-style-type: none"> <li>The current ratio having deteriorated over time (2)</li> <li>What the figures reveal, e.g. in 2011 the company had \$1.95 of current assets for each \$1 of current liabilities (2)</li> <li>The liquidity position – i.e. sufficient liquidity, albeit not ideal in 2012 (2)</li> <li>Other factors that might need to be considered before judging the financial position of the firm, e.g. gross profit and ROCE ratios (2)</li> </ul>	2010	2011	2012	2.45:1	1.95:1	1.1:1	<b>4</b>
2010	2011	2012						
2.45:1	1.95:1	1.1:1						



## Questions

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5. Study the information below for three rival businesses and answer the questions that follow:

	Arsenal (\$)	Bolton (\$)	Chelsea (\$)
<b>Current Assets</b>			
Stocks	25,000	10,000	40,000
Debtors	3,000	5,000	20,000
Cash	30,000	20,000	15,000
<b>Current Liabilities</b>			
Creditors	20,000	25,000	30,000
Overdraft	10,000	10,000	12,000

- a. Distinguish between the acid test and current ratios. (2 marks)
- b. Calculate the current ratio and acid test ratio for Arsenal, Bolton and Chelsea. Comment on the relative financial performance of these businesses. (6 marks)

## Answers

	Answer	Marks																																																				
5(a)	<p><b>Distinguish between the acid test and current ratios.</b></p> <ul style="list-style-type: none"> <li>The acid test ratio ignores stock (inventory) from the calculation of short term liquidity (1)</li> <li>Illustration of the formulae (1)</li> <li>or for use of a numerical example (1)</li> </ul>	2																																																				
5(b)	<p><b>Calculate the current ratio and acid test ratio for Arsenal, Bolton and Chelsea. Comment on the relative financial performance of these businesses.</b></p> <table border="1" data-bbox="384 562 1206 1088"> <thead> <tr> <th></th> <th>Arsenal (\$)</th> <th>Bolton (\$)</th> <th>Chelsea (\$)</th> </tr> </thead> <tbody> <tr> <td colspan="4"><b>Current Assets</b></td> </tr> <tr> <td>Stocks</td> <td>25,000</td> <td>10,000</td> <td>40,000</td> </tr> <tr> <td>Debtors</td> <td>3,000</td> <td>5,000</td> <td>20,000</td> </tr> <tr> <td>Cash</td> <td>30,000</td> <td>20,000</td> <td>15,000</td> </tr> <tr> <td></td> <td><b>58,000</b></td> <td><b>35,000</b></td> <td><b>75,000</b></td> </tr> <tr> <td colspan="4"><b>Current Liabilities</b></td> </tr> <tr> <td>Creditors</td> <td>20,000</td> <td>25,000</td> <td>30,000</td> </tr> <tr> <td>Overdraft</td> <td>10,000</td> <td>10,000</td> <td>12,000</td> </tr> <tr> <td></td> <td><b>30,000</b></td> <td><b>35,000</b></td> <td><b>42,000</b></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td><b>Current ratio</b></td> <td><b>1.93:1</b></td> <td><b>1:1</b></td> <td><b>1.78:1</b></td> </tr> <tr> <td><b>Acid test ratio</b></td> <td><b>1.1:1</b></td> <td><b>0.7:1</b></td> <td><b>0.83:1</b></td> </tr> </tbody> </table> <p>Valid points for the commentary could include:</p> <ul style="list-style-type: none"> <li>Chelsea has a high degree of risk with its high value of stocks and debtors (1)</li> <li>Most of Chelsea's current assets come from stocks – a problem if it is difficult to offload stocks in the industry (1)</li> <li>Chelsea has the least cash (the most liquid asset) as a proportion of current assets (1)</li> <li>Arsenal has the lowest amount owed to its suppliers (creditors), suggesting that it has better financial control (1)</li> <li>All three firms have a current ratio of less than 2:1 suggesting possible liquidity problems (1), albeit not so problematic for Arsenal compared to Bolton (1)</li> <li>Bolton and Chelsea both have an acid test of less than 1:1, implying that they have huge/potential liquidity issues (1)</li> </ul> <p>Award up to 3 marks for the calculation of current and acid test ratios. Award up to 3 marks for the commentary.</p>		Arsenal (\$)	Bolton (\$)	Chelsea (\$)	<b>Current Assets</b>				Stocks	25,000	10,000	40,000	Debtors	3,000	5,000	20,000	Cash	30,000	20,000	15,000		<b>58,000</b>	<b>35,000</b>	<b>75,000</b>	<b>Current Liabilities</b>				Creditors	20,000	25,000	30,000	Overdraft	10,000	10,000	12,000		<b>30,000</b>	<b>35,000</b>	<b>42,000</b>					<b>Current ratio</b>	<b>1.93:1</b>	<b>1:1</b>	<b>1.78:1</b>	<b>Acid test ratio</b>	<b>1.1:1</b>	<b>0.7:1</b>	<b>0.83:1</b>	6
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## Questions

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6. Compare the data in the table below for three competitors and answer the questions that follow:

	<b>Alpha</b>	<b>Beta</b>	<b>Gamma</b>
Sales revenue	100,000	120,000	150,000
Gross profit	58,000	65,000	72,000
Net profit	38,000	40,000	52,000
Capital employed	80,000	100,000	200,000
Current Assets	20,000	20,000	45,000
Current Liabilities	10,000	12,000	22,000
Stocks	10,000	8,000	20,000
<b>Gross profit ratio</b>			
<b>Net profit ratio</b>			
<b>Return on capital employed</b>			
<b>Current ratio</b>			
<b>Acid test ratio</b>			

a. Complete the missing calculations in the table above. (5 marks)

b. Using the financial data, assess which firm has performed best on financial grounds. (6 marks)

## Answers

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6(a)	<p>Complete the missing calculations in the table above.</p> <table border="1" data-bbox="347 271 1241 819"> <thead> <tr> <th></th> <th>Alpha</th> <th>Beta</th> <th>Gamma</th> </tr> </thead> <tbody> <tr> <td>Sales revenue</td> <td>100,000</td> <td>120,000</td> <td>150,000</td> </tr> <tr> <td>Gross profit</td> <td>58,000</td> <td>65,000</td> <td>72,000</td> </tr> <tr> <td>Net profit</td> <td>38,000</td> <td>40,000</td> <td>52,000</td> </tr> <tr> <td>Capital employed</td> <td>80,000</td> <td>100,000</td> <td>200,000</td> </tr> <tr> <td>Current Assets</td> <td>20,000</td> <td>20,000</td> <td>45,000</td> </tr> <tr> <td>Current Liabilities</td> <td>10,000</td> <td>12,000</td> <td>22,000</td> </tr> <tr> <td>Stocks</td> <td>10,000</td> <td>8,000</td> <td>20,000</td> </tr> <tr> <td><b>Gross profit ratio</b></td> <td><b>58%</b></td> <td><b>54.17%</b></td> <td><b>48%</b></td> </tr> <tr> <td><b>Net profit ratio</b></td> <td><b>38%</b></td> <td><b>33.3%</b></td> <td><b>34.6%</b></td> </tr> <tr> <td><b>Return on capital employed</b></td> <td><b>47.5%</b></td> <td><b>40%</b></td> <td><b>26%</b></td> </tr> <tr> <td><b>Current ratio</b></td> <td><b>2:1</b></td> <td><b>1.67:1</b></td> <td><b>2.04:1</b></td> </tr> <tr> <td><b>Acid test ratio</b></td> <td><b>1:1</b></td> <td><b>1:1</b></td> <td><b>1.13:1</b></td> </tr> </tbody> </table> <p>Deduct 1 mark for each error, but apply the own figure rule (error carried forward) as appropriate.</p>		Alpha	Beta	Gamma	Sales revenue	100,000	120,000	150,000	Gross profit	58,000	65,000	72,000	Net profit	38,000	40,000	52,000	Capital employed	80,000	100,000	200,000	Current Assets	20,000	20,000	45,000	Current Liabilities	10,000	12,000	22,000	Stocks	10,000	8,000	20,000	<b>Gross profit ratio</b>	<b>58%</b>	<b>54.17%</b>	<b>48%</b>	<b>Net profit ratio</b>	<b>38%</b>	<b>33.3%</b>	<b>34.6%</b>	<b>Return on capital employed</b>	<b>47.5%</b>	<b>40%</b>	<b>26%</b>	<b>Current ratio</b>	<b>2:1</b>	<b>1.67:1</b>	<b>2.04:1</b>	<b>Acid test ratio</b>	<b>1:1</b>	<b>1:1</b>	<b>1.13:1</b>	5
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6(b)	<p><b>Using the financial data, assess which firm has performed best on financial grounds.</b></p> <p>Valid points could include:</p> <ul style="list-style-type: none"> <li>• Gamma has better sales than its rivals, by between 20-50% (1)</li> <li>• Gamma is also the best performer when comparing gross profit (1) and/or net profit (1)</li> <li>• However, both Alpha and Beta perform better when using the gross profit ratio (1) which suggests they have better control over their cost of goods sold (1)</li> <li>• Alpha's net profit ratio is the best at 38% (1), suggesting that it has good overhead control (1)</li> <li>• Gamma is at least twice the size of its rivals (as measured by capital employed), yet its profit is not proportionately higher (1); both Alpha and Beta have a significantly larger ROCE (1)</li> <li>• Beta's liquidity as measured by the current ratio is not as safe as its rivals who have a ratio of at least 2:1 (1)</li> <li>• All three firms have adequate liquidity as measured by the acid test (1)</li> <li>• Based on profitability, it seems that Alpha has performed best (1)</li> <li>• Based on liquidity, it seems that Gamma has performed the best (1)</li> </ul> <p>Award 1-2 marks for a vague/undeveloped answer that lacks substance. Award 3-4 marks for answers with some application/use of the data. Award 5-6 marks for a balanced and developed answer that answers the question.</p>	6																																																				