

# Chapter 3 Introduction to Accounting

## Section 5 Basic Ratio Analysis



1. D	2. A	3. D	4. B	5. C	6. B	7. B	8. C	9. D	10. C
11. A	12. C	13. A	14. C	15. D	16. B	17. B	18. B	19. C	20. D
21. D	22. C	23. C	24. B	25. C	26. C	27. B	28. C	29. A	30. C
31. D	32. C	33. C	34. D	35. B	36. C	37. A	38. B	39. A	40. C
41. B	42. A	43. D	44. D	45. C	46. A	47. D	48. A		

1. **D**

Gross profit margin

$$= \frac{\text{Gross profit}}{\text{Sales}} \times 100\%$$

$$= \frac{300,000}{550,000} \times 100\%$$

$$= 54.55\%$$

2. **A**

Net profit margin

$$= \frac{\text{Net profit}}{\text{Sales}} \times 100\%$$

$$= \frac{100,000}{550,000} \times 100\%$$

$$= 18.18\%$$

3. **D**

Cost of goods sold

= Opening inventory + Purchases + Carriage inwards – Closing inventory

$$= \$12,000 + \$60,000 + \$2,500 - \$5,000$$

$$= \$69,500$$

Sales  $\times$  (1 – Gross profit margin) = Cost of goods sold

$$\text{Sales} \times (1 - 20\%) = \$69,500$$

$$\text{Sales} = \$86,875$$

4. **B**

Return on capital employed means the proportional amount of profits that can be generated from the investments contributed by shareholders in the company. The higher the ratio, the greater the profits generated by employing the same amount of capital.

5. **C**

Return on capital employed for 20X7

$$= \frac{\text{Net profit}}{\text{Average capital employed}} \times 100\%$$

$$= \frac{40,000}{(100,000 + 130,000) \div 2} \times 100\%$$

$$= 34.78\%$$

6. **B**  
 Closing balance of capital amount for 20X8  
 = Opening balance of capital account + Net profit – Drawings  
 = \$130,000 + \$30,000 – \$20,000  
 = \$140,000

Return on capital employed for 20X8  
 =  $\frac{\text{Net profit}}{\text{Average capital employed}} \times 100\%$   
 =  $\frac{30,000}{(130,000 + 140,000) \div 2} \times 100\%$   
 = 22.22%

7. **B**  
 Current assets for 20X7  
 = Inventory + Accounts receivable + Bank + Cash in hand  
 = \$10,000 + \$50,000 + \$10,000 + \$3,000  
 = \$73,000

8. **C**  
 The working capital ratio for 20X7  
 =  $\frac{\text{Current assets}}{\text{Current liabilities}} : 1$   
 =  $\frac{\$73,000}{\$20,000} : 1$   
 = 3.65 : 1

9. **D**  
 The working capital ratio for 20X8  
 =  $\frac{\text{Current assets}}{\text{Current liabilities}} : 1$   
 =  $\frac{\$50,000 + \$60,000 + \$2,000 + \$5,000}{\$30,000} : 1$   
 = 3.90 : 1

10. **C**  
 A working capital ratio of 3.90 : 1 is considered as too high, which implies that the company did not fully utilise its current assets to generate profits. The company holds excess liquid assets and it may have to liquidate some of the assets to put into investment.

A is incorrect. The company has already held too many inventories in hand.

B is incorrect. A high current ratio indicates the company has no difficulties in meeting short-term debt obligations.

D is incorrect. One of the purposes of offering cash discounts to debtors is to encourage early payment so as to increase cash inflows to meet the short-term debt obligations. Given the high current ratio, the company does not need to urge debtors to repay debts earlier by offering more cash discounts.

11. **A**  
Quick assets are more liquid than current assets. Inventory is included under the category of current assets but not quick assets, while the other three are included in both categories.
12. **C**  
A low quick ratio indicates that there may not be enough quick assets to meet immediate debts.  
A and B are incorrect. They describe the situation when the quick ratio is high.  
D is incorrect. It will further reduce the quick ratio.
13. **A**  
Acid test ratio indicates the liquidity of the company.
14. **C**  
Current ratio (working capital ratio) for Jenny's business  

$$= \frac{\text{Current assets}}{\text{Current liabilities}} : 1$$

$$= \frac{\$64,000}{\$10,000} : 1$$

$$= 6.40 : 1$$
15. **D**  
Current ratio (working capital ratio) for Judy's business  

$$= \frac{\text{Current assets}}{\text{Current liabilities}} : 1$$

$$= \frac{\$84,000}{\$21,000} : 1$$

$$= 4.00 : 1$$
16. **B**  
Acid test ratio for Jenny's business  

$$= \frac{\text{Current assets} - \text{Inventories}}{\text{Current liabilities}} : 1$$

$$= \frac{\$64,000 - \$10,000}{\$10,000} : 1$$

$$= 5.40 : 1$$
17. **B**  
Acid test ratio for Judy's business  

$$= \frac{\text{Current assets} - \text{Inventories}}{\text{Current liabilities}} : 1$$

$$= \frac{\$84,000 - \$40,000}{\$20,000 + \$1,000} : 1$$

$$= 2.10 : 1$$

18. **B**  
Return on capital employed for Jenny's business

$$= \frac{\text{Net profit}}{\text{Average capital employed}} \times 100\%$$
$$= \frac{50,000}{(250,000 + 254,000) \div 2} \times 100\%$$
$$= 19.84\%$$

19. **C**  
Return on capital employed for Judy's business

$$= \frac{\text{Net profit}}{\text{Average capital employed}} \times 100\%$$
$$= \frac{55,000}{(363,000 + 400,000) \div 2} \times 100\%$$
$$= 14.42\%$$

20. **D**  
Gross profit ratio for Jenny's business

$$= \frac{\text{Gross profit}}{\text{Sales}} \times 100\%$$
$$= \frac{60,000}{100,000} \times 100\%$$
$$= 60.00\%$$

21. **D**  
Gross profit ratio for Judy's business

$$= \frac{\text{Gross profit}}{\text{Sales}} \times 100\%$$
$$= \frac{60,000}{90,000} \times 100\%$$
$$= 66.67\%$$

22. **C**  
Net profit ratio for Jenny's business

$$= \frac{\text{Net profit}}{\text{Sales}} \times 100\%$$
$$= \frac{50,000}{100,000} \times 100\%$$
$$= 50\%$$

23. **C**

Net profit ratio for Judy's business

$$\begin{aligned}
 &= \frac{\text{Net profit}}{\text{Sales}} \times 100\% \\
 &= \frac{55,000}{90,000} \times 100\% \\
 &= 61.11\%
 \end{aligned}$$

24. **B**

(1) is incorrect. Despite higher gross profit and net profit ratios, the return on capital employed of Judy's business is lower than Jenny's business. This implies that Judy's business is less able to use its capital to generate profits.

(2) is correct. Judy's business has a lower quick ratio, which indicates that it is less able to meet its immediate debts.

25. **C**

Henry's working capital at the year end

$$\begin{aligned}
 &= \text{Accounts receivable} + \text{Cash} + \text{Closing inventory} + \text{Rental deposit} - \text{Accounts payable} - \\
 &\quad \text{Bank overdraft} - \text{Mortgage loan} \\
 &= \$60,000 + \$6,000 + \$20,500 + \$2,500 - \$5,000 - \$3,500 - \$15,500 \\
 &= \$65,000
 \end{aligned}$$

Note:

1. Mortgage loan is regarded as a current liability because it is repayable next year.
2. Rental deposit is an asset of the firm because it is not part of the rental expenses but would rather be returned at the end of the lease term.

26. **C**

Henry's current ratio

$$\begin{aligned}
 &= \frac{\text{Current assets}}{\text{Current liabilities}} : 1 \\
 &= \frac{\$60,000 + \$6,000 + \$20,500 + \$2,500}{\$5,000 + \$3,500 + \$15,500} : 1 \\
 &= 3.71 : 1
 \end{aligned}$$

27. **B**

Henry's liquid ratio

$$\begin{aligned}
 &= \frac{\text{Current assets} - \text{Inventories}}{\text{Current liabilities}} : 1 \\
 &= \frac{\$60,000 + \$6,000 + \$2,500}{\$5,000 + \$3,500 + \$15,500} : 1 \\
 &= 2.85 : 1
 \end{aligned}$$

28. **C**  
 Capital balance at the year end  
 = Opening balance + Introduction of capital during 20X7 + Net profit for the year – Drawings  
 = \$104,000 + \$23,500 + \$20,500 – \$8,000  
 = \$140,000

Henry's return on capital employed  
 =  $\frac{\text{Net profit}}{\text{Average capital employed}} \times 100\%$   
 =  $\frac{\$20,500}{(\$104,000 + \$140,000) \div 2} \times 100\%$   
 = 16.80%

29. **A**

	\$
Opening inventory	4,000
Add: Carriage inwards	1,000
Purchases	<u>25,000</u>
	30,000
Less: Closing inventory (\$4,000 × 2)	8,000
Returns outwards	<u>750</u>
Cost of good sold	<u><u>21,250</u></u>

30. **C**

Gross profit  
 = (Sales – Returns inwards) – Cost of goods sold  
 = (\$40,000 – \$550) – \$21,250  
 = \$18,200

The gross profit margin of Candy Limited

=  $\frac{\text{Gross profit}}{\text{Net sales}} \times 100\%$   
 =  $\frac{\$18,200}{\$40,000 - \$550} \times 100\%$   
 = 46.13%

31. **D**

Net profit  
 = Gross profit + Rental income – Carriage outwards – Sundry expenses  
 = (\$40,000 – \$550) – \$21,250 + \$3,000 – \$2,300 – \$9,000  
 = \$9,900

The net profit margin of Candy Limited

=  $\frac{\text{Net profit}}{\text{Net sales}} \times 100\%$   
 =  $\frac{\$9,900}{\$40,000 - \$550} \times 100\%$   
 = 25.10%



32. **C**

$$\frac{\text{Current assets}}{\text{Current liabilities}} = \frac{4}{1}$$

$$\text{Current assets} = \$80,000 \times 4$$

$$\text{Current assets} = \$320,000$$

$$\frac{\text{Current assets} - \text{Inventory}}{\text{Current liabilities}} = \frac{2}{1}$$

$$\frac{\$320,000 - \text{Inventory}}{\$80,000} = \frac{2}{1}$$

$$\text{Inventory} = \$160,000$$

33. **C**

$$\frac{\$120,000 - \$120,000 \times \frac{1}{2}}{\text{Current liabilities}} = \frac{2}{1}$$

$$\text{Current liabilities} = \$30,000$$

The working capital (Net current assets)

$$= \$120,000 - \$30,000$$

$$= \$90,000$$

34. **D**

This is because the amount of sales is not shown in the statement of financial position, without which the net profit ratio cannot be calculated.

A is incorrect. Return on capital employed can be found. The net profit earned for the year as well as the average capital employed can be found under the category of capital in the statement of financial position. The opening balance and closing balance of the capital account are also shown.

B and C are incorrect. Both quick ratio and current ratio can be deduced. Statement of financial position shows the total amount of current assets and current liabilities. The value of closing inventory is also shown.

35. **B**

(1) is incorrect. Current ratio cannot be found with only an income statement. This is because income statement does not provide any information about the total amount of current assets and current liabilities.

(2) is correct. Gross profit ratio can be calculated with an income statement. This is because the gross profit earned and the amount of sales are known.

(3) is incorrect. With only an income statement, return on capital employed cannot be deduced. This is because it does not provide information about the capital of the business.

36. **C**

(1) is incorrect while (2) is correct. Despite having a higher current ratio than the industry average, Aliens Company has a lower acid test ratio (quick ratio). This indicates that it has a poorer liquidity and is less able to meet its immediate debts.

(3) is correct. The significant difference between the current ratio (3.2 : 1) and acid test ratio (0.8 : 1) reflects that Aliens Company has been tied up with excessive inventories.

37. **A**  
 (1) is incorrect. Both current ratio and quick ratio have no implications on the actual amount of current assets and liabilities that a company has, which depends on its size.  
 (2) is incorrect. BeBe Company has a higher quick ratio while Aliens Company has a higher current ratio. Thus, it is uncertain to determine which company has a higher liquidity.  
 (3) is correct. The difference between the quick ratio and current ratio of BeBe Company is relatively narrower than that of Aliens Company. This implies that BeBe Company is tied up with a relatively smaller proportion of funds in inventory.
38. **B**  
 Cost of goods sold  
 = Sales  $\times$  (1 – Gross profit ratio)  
 = \$2,000,000  $\times$  (1 – 60%)  
 = \$800,000
39. **A**  
 Honey Company's net profit for the year  
 = Sales  $\times$  Net profit ratio  
 = \$2,000,000  $\times$  20%  
 = \$400,000
40. **C**  
 Honey Company's gross profit for the year  
 = Sales – Cost of goods sold (**OR** Sales  $\times$  Gross profit ratio)  
 = \$2,000,000 – \$800,000 (**OR** \$2,000,000  $\times$  60%)  
 = \$1,200,000
41. **B**  
 The amount of operating expenses of Honey Company for the year  
 = Gross profit – Net profit  
 = \$1,200,000 – \$400,000  
 = \$800,000
42. **A**  
 (1) is correct. A relatively low selling price narrows the disparity between the price and the cost, thus the gross profit per unit sold. Thus, the gross profit margin decreases.  
 (2) is correct. A relatively high production cost increases the cost of goods sold. This leads to a lower gross profit earned and thus a lower gross profit margin.  
 (3) is incorrect. Ineffective control on operating expenses causes relatively high operating expenses only. This affects net profit but not gross profit.
43. **D**  
 (1) and (2) are correct. Given that a relatively low selling price and high production cost decrease the gross profit (refer to Q42), the amount of net profit would decrease as well. As a result, the net profit margin decreases. In fact, all items that affect the gross profit affect the net profit as well.  
 (3) is correct. An ineffective control on operating expenses increases the expenses incurred, lowering the amount of net profit. Thus, the net profit margin of Aloha Company is lower than the industry average.



44. **D**  
 (1) is incorrect. This would only affect the amounts of accounts payable and the furniture account, both of which will not change the amounts of gross profit and sales.  
 (2) is correct. This would overstate the value of goods purchased, which in turn understates the gross profit.  
 (3) is correct. This would decrease the value of closing inventory, which in turn decreases the gross profit.

45. **C**  
 Original cost of goods sold =  $\$60,000 \times (1 - 40\%) = \$36,000$   
 New cost of good sold =  $\$36,000 - \$320 + \$3,000 = \$38,680$

46. **A**  
 (1) is correct. The difference between current ratio and quick ratio is the inclusion of inventory in current assets. If there is no inventory in hand, there will be no difference between current ratio and quick ratio.  
 (2) is incorrect. That would not be a definite case.  
 Consider the current ratio after paying the obligation:  
 $(\text{Current assets} - \$x) \div (\text{Current liabilities} - \$x)$ , where  $\$x$  equals amount of payment  
 Keeping the value of current assets and current liabilities unchanged, change of value of  $\$x$  may produce different values of the current ratio.  
 (3) is incorrect. That would not be a definite case. It is possible that the value of total revenue will be more than that of total expenses.

47. **D**  
 By Quick ratio,  
 $(\text{Current assets} - \$60,000) \div \$120,000 = 1.5$   
 Current assets =  $\$240,000$   
 Current ratio =  $(\$240,000 \div \$120,000) : 1 = 2 : 1$   
 Quick assets =  $\$240,000 - \$60,000 = \$180,000$

48. **A**

	\$	\$
Sales		86,000
Less: Returns inwards		<u>3,300</u>
		82,700
Less: Cost of goods sold		
Opening inventory	34,000	
Net purchases (balancing figure)	56,660	
Carriage inwards	<u>4,500</u>	
	95,160	
Less: Closing inventory	<u>29,000</u>	66,160
Gross profit ( $\$82,700 \times 20\%$ )		<u><u>16,540</u></u>