**CHAPTER 13**

**Answers to EOC Questions, Mini-Exercises, Multiple Choice Questions,**

**and Assigned Exercises and Problems.**

ANSWERS TO QUESTIONS

1. Primary items on the financial statements about which creditors usually are concerned include: (a) income—profit potential of the business, (b) cash flows—ability of the business to generate cash, and (c) assets and debts—financial position.

2. The notes to the financial statements are particularly important to decision makers because they explain, usually in narrative fashion, circumstances and special events that cannot be communicated adequately in the body of the financial statements. The notes call attention to such items as pending problems, contingent liabilities, and circumstances surrounding certain judgments that were made in measuring and reporting. They are useful in interpreting the amounts given in the financial statements and in making projections of the future performance of the business.

3. The primary purpose of comparative financial statements is to provide the user with information on the **short-term trends** of the various financial factors reported in the financial statements. For example, the trends of such factors as sales, expenses, income, amount of debt, retained earnings, and earnings per share are particularly important in assessing the record of the company in the past and the present. These short-term trends should be used in predicting future performance of the business. Comparative statements usually report only two consecutive periods which often is too short to assess adequately certain trends.

4. Statement users are interested especially in financial summaries covering several years because the **long-term trends** of the business are revealed. Statement users must make projections of the future performance of the business in their decisions to either invest or disinvest. Long-term financial summaries provide particularly useful information in making these projections. Financial data covering only one or two periods have limited usefulness for this particular type of decision.

 The primary limitation of unusually long-term summaries is that early years may not be useful because of changes in the business, industry, and environment.

 5. Ratio analysis is a technique for computing and pinpointing certain significant relationships in the financial statements. A ratio or percent expresses a proportionate relationship between two different amounts reported on the financial statements. A ratio is computed by dividing one amount by another amount; the divisor is known as the base amount. For example, the profit margin ratio is computed by dividing net income by net sales. Ratio analysis is particularly useful because it may reveal critical relationships that are not readily apparent from absolute dollar amounts.

 6. Component percentages are representations, as ratios or percents, of the relationships between each of the several individual amounts that make up a single total. For example, on the balance sheet the component percentages for assets are computed by dividing the amount of each individual asset by the amount of total assets. The resulting ratios or percentages will sum to 100 percent. Component percentages are useful because they reveal relative relationships that are not readily apparent from absolute dollar amounts.

 7. Fundamentally, return on investment is income divided by investment. The two concepts of return on investment are:

 (a) Return on equity (net income divided by owners’ investment). This rate reflects the return earned for the owners after deducting the return to the creditors (interest expense is a deduction to derive income).

 (b) Return on assets (return on total assets, which includes both owners’ equity and creditors’ equity). This rate reflects the return earned on the total resources employed. The computation is net income plus after-tax interest expense divided by total assets.

 Usually both concepts are applied because each serves a somewhat different purpose. Return on equity reflects the viewpoint of the owners because it measures the net return on their investment only. Return on assets reflects the earnings performance of the company on total resources used (i.e., from both owners and creditors).

 8. Financial leverage percentage is measured as the difference between the rate of return on equity and the rate of return on assets. This difference is caused only by interest on debt. An excess of the rate of return on equity over the rate of return on assets is due to financial leverage; that is, the company earned a higher rate on total investment than the net-of-tax interest rate on all debt. This advantage accrues to the benefit of the stockholders (i.e., positive leverage).

9. Profit margin is the ratio between net income and net sales. It reflects performance in respect to the control of expenses to net sales but is deficient as a measure of profitability because it does not consider the amount of resources (i.e., investment) used to earn the income amount. Profitability is best measured as the ratio of income to investment.

10. The current ratio is computed by dividing total current assets by total current liabilities. In contrast, the quick ratio is computed by dividing quick assets (i.e., the sum of cash, short-term investments, and accounts receivable) by current liabilities. The current ratio tends to measure liquidity and to indicate the cushion of current assets over current liabilities. In contrast the quick ratio is a much more severe test of current liquidity because the assets used in computing the ratio are cash and those that are very near to cash.

11. A debt/equity ratio reflects the portion of total assets or resources used by a business that was provided by creditors versus owners. In some companies, the amount of debt is approximately 70 percent of the total assets which means that the company is highly leveraged, which is a favorable side of financing by debt. That is, a company earning, say, 20 percent on total assets, while at the same time paying interest of 8 percent on debt, would generate a difference which accrues to the benefit of the stockholders. On the other side, the interest on debt must be paid each period, regardless of whether income was earned, and at the maturity of the debt, the full principal must be paid. In contrast, resources provided by owners are much less risky to the business because dividends do not have to be paid and there is no fixed maturity amount to be paid on a specific date.

12. Market tests are intended to measure the “market worth” per share of stock. Market tests relate some amount to a share of stock (such as EPS or dividends paid per share). Each time the share price changes the measurement changes. The two commonly used market tests are: (a) price/earnings ratio (i.e., market price per share divided by EPS) and (b) dividend yield ratio (i.e., dividends per share divided by the market price per share).

13. The primary limitations associated with using ratios are:

 (a) no specification exists (which is generally agreed upon) of how each ratio should be computed and (b) evaluation of the results (i.e., whether a ratio at a given amount is good or bad) is subjective. The latter problem indicates a need to select one or more “standards” against which the computed ratio amount may be compared.

ANSWERS TO MULTIPLE CHOICE

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1. c)
 | 1. c)
 | 1. c)
 | 1. c)
 | 1. a)
 |
| 1. c)
 | 1. d)
 | 1. a)
 | 1. b)
 | 1. d)
 |

**MINI-EXERCISES**

**M13–1.**

|  |  |  |
| --- | --- | --- |
| Gross Profit ÷ $1,665,000 | = | 44% |
| Gross Profit | = | $732,600 |
|  |  |  |
| Revenue | $1,665,000 |  |
| Cost of Goods Sold | (X) |  |
| Gross Profit | $732,600 |  |
| Cost of Goods Sold | $932,400 |  |

**M13–2.**

 2015

|  |  |
| --- | --- |
| Sales | $31,198 \* |
| Cost of Goods Sold | ($9,107) |
| Gross Profit | $22,091 |

 \*Sales 2015: $29,600 x 1.054 = $31,198

 Gross Profit %: $22,091 ÷ $31,198 = 70.8%

**M13–3.**

$183,000 / [($1,100,000 + $1,250,000) ÷ 2] = 15.6%

**M13–4.**

 21% - 6% = 15%

**M13–5.**

 If the average sales volume remains the same, then the cost of goods sold will also remain the same. If the inventory decreases by 25%, the inventory turnover ratio will increase.

**M13–6.**

Current Assets X

+ Noncurrent Assets $480,000

Total Assets $1,400,000

Current Assets = $920,000

$920,000 ÷ Current Liabilities = 3.5

Current Liabilities = $262,857

**M13–7.**

|  |  |  |  |
| --- | --- | --- | --- |
| Current Ratio | = |  | Current Assets |
|  | Current Liabilities |
|  |  |  |  |
| Quick Ratio | = |  | Quick Assets |
|  | Current Liabilities |

 By the definitions of current ratio and quick ratio, one can see that the quick ratio must always be less than or equal to the current ratio. We know that a mistake has been made in this case because the quick ratio is greater than the current ratio and that is not possible.

**M13–8.**

 Market Price per Share $228 ÷ Earnings per Share $9.50 = P/E multiplier 24

 $9.50 x 1.13 = $10.74

 $10.74 x 24 = New Stock Price $257.64

**M13–9.**

 5% = $3.50 ÷ Market Price per Share

 $70.00 = Market Price per Share

**M13–10.**

 In most circumstances, a change from FIFO to LIFO will cause inventory to decrease and cost of goods sold to increase.

|  |  |
| --- | --- |
| Profit Margin | Will decrease |
| Fixed Asset Turnover | Will not be affected |
| Current Ratio | Will decrease |
| Quick Ratio | Will not be affected |

**EXERCISES**

**E13–1.**

1. Car manufacturer (high inventory; high property & equipment; lower inventory turnover)

2. Wholesale candy company (high inventory turnover)

3. Retail fur store (high gross profit; high inventory)

4. Advertising agency (low inventory; absence of gross profit)

**E13–6.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| **Lowe's Companies, Inc.** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Consolidated Statements of Earnings** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| (In millions, except per share and percentage data) | Feb 3, 2012 |  | % |  |  | Jan 28, 2011 |  |  | % |  |  | Jan 29, 2010 |  | % |  |
| Fiscal years ended on | Sales |  |  | Sales |  |  Sales |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Net sales** | **$** | **50,208** |  |  | **100.00** | **%** |  | **$** | **48,815** |  |  |  | **100.00** | **%** |  | **$** | **47,220** |  |  | **100.00** | **%** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Cost of sales |  | 32,858 |  |  | 65.44 |  |  |  | 31,663 |  |  |  | 64.86 |  |  |  | 30,757 |  |  | 65.14 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Gross margin** |  | **17,350** |  |  | **34.56** |  |  |  | **17,152** |  |  |  | **35.14** |  |  |  | **16,463** |  |  | **34.86** |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Expenses: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Selling, general and administrative |  | 12,593 |  |  | 25.08 |  |  |  | 12,006 |  |  |  | 24.60 |  |  |  | 11,737 |  |  | 24.85 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Depreciation |  | 1,480 |  |  | 2.95 |  |  |  | 1,586 |  |  |  | 3.25 |  |  |  | 1,614 |  |  | 3.42 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Interest - net |  | 371 |  |  | 0.74 |  |  |  | 332 |  |  |  | 0.68 |  |  |  | 287 |  |  | 0.61 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Total expenses** |  | **14,444** |  |  | **28.77** |  |  |  | **13,924** |  |  |  | **28.53** |  |  |  | **13,638** |  |  | **28.88** |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Pre-tax earnings** |  | **2,906** |  |  | **5.79** |  |  |  | **3,228** |  |  |  | **6.61** |  |  |  | **2,825** |  |  | **5.98** |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Income tax provision |  | 1,067 |  |  | 2.13 |  |  |  | 1,218 |  |  |  | 2.49 |  |  |  | 1,042 |  |  | 2.20 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Net earnings** | **$** | **1,839** |  |  | **3.66** | **%** |  | **$** | **2,010** |  |  |  | **4.12** | **%** |  | **$** | **1,783** |  |  | **3.78** | **%** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

There is a decline in net earnings as a percent of sales and gross margin from 2011 to 2012. The decline in profitability also appears to be related to cost control with expenses increasing as a percent of sales. Management should focus on reducing selling, general and administrative costs.

**E13–7.**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Current Assets(1) | Current Liabilities(2) | CurrentRatio(1 ÷ 2) |
| Start  |  |  |  | $120,000 |  |  | ($120,000 ÷ 1.5) |  | $80,000 |  |  | 1.50 |  |  |
| Transaction (1) |  | Inventory |  | + 40,000 |  |  | Accts. Pay. |  | + 40,000 |  |  |  |  |  |
|  Subtotal |  |  |  | 160,000 |  |  |  |  | 120,000 |  |  | 1.33 |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Transaction (2)\* |  | Cash |  | – 3,000 |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | $157,000 |  |  |  |  | $120,000 |  |  | 1.31 |  |  |

\*Debt and truck are noncurrent items.

**E13–9.**

Turnover:

|  |  |  |
| --- | --- | --- |
| Accounts receivable $75,312\* ÷ [($6,275 + $6,068) ÷ 2] | =  | 12.2 |
| Inventory ($83,608 x 0.48) ÷ [($7,379 + $6,721) ÷ 2] | =  |  5.7  |
|   \*$83,680 x 90% = $75,312 |  |  |

Days:

|  |  |  |
| --- | --- | --- |
|  Accounts receivable (365 days ÷ 12.2) | =  | 29.9 |
|  Inventory (365 days ÷ 5.7)  | =  | 64.0 |

**E13–10.**

 Cost of Goods Sold = 5.0 x $1,456,414,000

 Cost of Goods Sold = $7,282,070,000

 Net Sales = 7.5 x $1,218,874,000

 Net Sales = $9,141,555,000

 Less: CGS = 7,282,070,000

 Gross profit = $1,859,485,000