

Analysis for Financial Management 13th edition
Higgins Test Bank

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CORRECT ANSWERS ARE LOCATED IN THE 2ND HALF OF THIS DOC.

TRUE/FALSE - Write 'T' if the statement is true and 'F' if the statement is false.

- 1) An inventory turnover ratio of 10 means that, on average, items are held in inventory for 10 days.
 - ☐ true
 - ☐ false
- 2) All else equal, an increase in a company's asset turnover will decrease its ROE.
 - ☐ true
 - ☐ false
- 3) A company's return on assets will always equal or exceed its profit margin.
 - ☐ true
 - ☐ false
- 4) A company's price-to-earnings ratio is always equal to one minus its earnings yield.
 - ☐ true
 - ☐ false
- 5) Return on assets can be calculated as profit margin times asset turnover.
 - ☐ true
 - ☐ false
- 6) All else equal, a firm would prefer to have a lower gross margin.
 - ☐ true
 - ☐ false
- 7) The times-interest-earned ratio always equals or exceeds the times-burden-covered ratio.
 - ☐ true
 - ☐ false
- 8) If a firm increases its accounts payable period, all else equal, it increases its cash conversion cycle.
 - ☐ true
 - ☐ false
- 9) Across companies, ROA and financial leverage tend to be inversely related.
 - ☐ true
 - ☐ false

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10) One advantage of ROE is that it is a risk-adjusted measure of performance.

- ☐ true
- ☐ false

11) A firm's operating cycle is never longer than its cash conversion cycle.

- ☐ true
- ☐ false

MULTIPLE CHOICE - Choose the one alternative that best completes the statement or answers the question.

12) Which of these ratios, or levers of performance, are the determinants of ROE?

1. Profit margin
2. Financial leverage
3. Times interest earned
4. Asset turnover

- A) 1 and 4 only
- B) 2 and 4 only
- C) 1, 2, and 4 only
- D) 1, 2, and 3 only
- E) 1, 3, and 4 only
- F) 1, 2, 3 and 4

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13) Ratios that measure how efficiently a firm manages its assets and operations to generate net income are referred to as

- A) asset turnover and control ratios.
- B) financial leverage ratios.
- C) coverage ratios.
- D) profitability ratios.
- E) liquidity ratios.

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- 14) Which of the following ratios are measures of a firm's liquidity?
1. Fixed asset turnover ratio
 2. Current ratio
 3. Debt-equity ratio
 4. Acid test
- A) 1 and 3 only
 - B) 2 and 4 only
 - C) 3 and 4 only
 - D) 1, 2, and 3 only
 - E) 1, 3, and 4 only
- 15) Ptarmigan Travelers had sales of \$420,000 in 2020 and \$480,000 in 2021. The firm's current asset accounts remained constant. Given this information, which one of the following statements about the change in Ptarmigan's ratios between 2020 and 2021 must be true?
- A) The asset turnover ratio increased.
 - B) The collection period increased.
 - C) The inventory turnover ratio decreased.
 - D) The fixed-asset turnover ratio decreased.
 - E) None of the options are correct.
- 16) In comparison to industry averages, Okra Corporation has a low inventory turnover, a high current ratio, and an average quick ratio. Which of the following would be the most reasonable inference about Okra Corporation?
- A) Its current liabilities are too low.
 - B) Its cost of goods sold is too low.
 - C) Its cash and securities balance is too low.
 - D) Its inventory level is too high.
- 17) Which one of the following ratios identifies the amount of sales a firm generates for every \$1 in assets?
- A) Current ratio
 - B) Gross margin
 - C) Retention ratio
 - D) Asset turnover ratio
 - E) Return on assets

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- 18) A times-interest-earned ratio of 4.3 indicates that the firm
- A) pays 4.3 times its earnings in interest expense.
 - B) has EBIT equal to 4.3 times its interest expense.
 - C) has interest expense equal to 4.3% of EBIT.
 - D) has interest expense equal to 4.3% of net income.
- 19) At the end of 2021, Stacky Corporation had \$500,000 in liabilities and a debt-to-assets ratio of 0.5. For 2021, Stacky had an asset turnover of 3.0. What were annual sales for Stacky in 2021?
- A) \$333,333
 - B) \$1,200,000
 - C) \$1,800,000
 - D) \$3,000,000
- 20) Klamath Corporation has asset turnover of 3.5, a profit margin of 5.2%, and a current ratio of 0.5. What is Klamath Corporation's return on equity?
- A) 8.7%
 - B) 9.1%
 - C) 18.2%
 - D) Insufficient information is provided to answer the question.
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- 21) Assume you are a banker who has loaned money to a firm, but that firm is now facing increased competition and reduced cash flows. Which one of the following ratios would you most closely monitor to evaluate the firm's ability to repay its loan?
- A) Current ratio
 - B) Debt-to-equity ratio
 - C) Times-interest-earned ratio
 - D) Times-burden-covered ratio
- 22) Breakers Bay Incorporation has succeeded in increasing the amount of goods it sells while holding the amount of inventory on hand at a constant level. The firm's cost per unit and selling price per unit also remained constant. All else equal, how will this accomplishment be reflected in the firm's financial ratios?
- A) Decrease in the fixed-asset turnover ratio
 - B) Decrease in the times-interest-earned ratio
 - C) Increase in the inventory turnover ratio
 - D) Increase in days' sales in inventory
 - E) Decrease in the total asset turnover ratio

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- 23) Which one of the following statements is correct?
- A) If the debt-to-assets ratio is greater than 0.50, then the debt-to-equity ratio must be less than 1.0.
 - B) Long-term creditors would prefer the times-interest-earned ratio be 1.4 rather than 2.4.
 - C) The assets-to-equity ratio can be computed as 1 plus the debt-to-equity ratio.
 - D) To realize the best risk and reward profile, financial leverage should be maximized.
 - E) None of the options are correct.
- 24) On a common-size balance sheet, all accounts are expressed as a percentage of
- A) sales.
 - B) profits.
 - C) equity.
 - D) total assets.
 - E) None of the options are correct.
- 25) Primavera Holdings has a profit margin of 25%, an asset turnover of 0.5, and financial leverage (assets to equity) of 1.5. Primavera has \$20 billion in assets, half of which is in cash and marketable securities. Assume that Primavera earns a 3% after-tax return on cash and securities. What would Primavera's return on equity be if it paid out 90% of its cash and marketable securities as a dividend to shareholders?
- A) Negative
 - B) Between 0% and 20%
 - C) Between 20% and 40%
 - D) between 40% and 60%
 - E) Greater than 60%
- 26) Which one of the following statements does NOT describe a problem with using ROE as a performance measure?
- A) ROE measures return on accounting book value.
 - B) ROE is a forward-looking measure that ignores past performance.
 - C) ROE measures only return, not risk.
 - D) None of these describe problems with ROE.
 - E) All of these describe problems with ROE.

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- 27) Please refer to the income statement for VGA Associates below. Assuming that cost of goods sold are variable and operating expenses are fixed, what was VGA Associates' breakeven sales volume in 2021?

VGA Associates
Income statement for 2021

Sales	\$ 200,000
Cost of goods sold	150,000
Gross profit	50,000
Operating expenses	20,000
Operating income	30,000
Interest expense	5,000
Pre-tax income	25,000
Taxes	5,000
Net income	\$ 20,000

- A) \$20,000
B) \$80,000
C) \$150,000
D) \$180,000
E) None of the options are correct.

- 28) Please refer to the income statement for VGA Associates below. If VGA had a principal repayment of \$8,000 due in 2021, what was its times-burden-covered ratio in 2021?

VGA Associates
Income statement for 2021

Sales	\$ 200,000
Cost of goods sold	150,000
Gross profit	50,000
Operating expenses	20,000
Operating income	30,000
Interest expense	5,000
Pre-tax income	25,000
Taxes	5,000
Net income	\$ 20,000

- A) 0.67
B) 1.33
C) 2.31
D) 6.00
E) None of the options are correct.

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- 29) Ellsburly Corporation has a goal to reduce its cash conversion cycle. Which of the following actions, holding all else equal, is likely to accomplish this goal?
- A) Ellsburly changes the credit terms it offers to customers, allowing them to pay in 45 days instead of 30 days.
 - B) Ellsburly increases the efficiency of its production process, reducing by 10% the average time it takes to convert raw materials to finished products.
 - C) Ellsburly starts paying off all outstanding invoices to suppliers twice a month instead of once a month.
 - D) Ellsburly increases its cash/assets ratio from 12% to 15%.
- 30) What is the length of the cash conversion cycle for a firm with \$3 million in inventory, \$1.5 million in accounts payable, a collection period of 40 days, and an annual cost of goods sold of \$18 million?
- A) 34.0 days
 - B) 51.2 days
 - C) 70.4 days
 - D) 131.2 days
 - E) None of the options are correct.
- 31) The most popular yardstick of financial performance among investors and senior managers is the
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- A) profit margin.
 - B) return on equity.
 - C) return on assets.
 - D) times-burden-covered ratio.
 - E) earnings yield.
 - F) None of the options are correct.
- 32) Which of the following statements regarding common-size financial statements is true?
- A) Items on a common-size income statement are presented as a percentage of total assets.
 - B) Items on a common-size balance sheet are presented as a percentage of net sales.
 - C) On a common-size income statement, the sum of sales, cost of goods sold, and all expenses is 100%.
 - D) On a common-size balance sheet, the sum of all items under liabilities and equity is 100%.
 - E) None of the options are correct.

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SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

33) Answer the questions below based on the following information. The tax rate is 35%, and all dollars are in millions. Assume that the companies have no liabilities other than the debt shown below.

	Suunto Incorporation	Runrun Corporation
Earnings before interest and taxes	\$ 280	\$ 294
Debt (at 10% interest)	\$ 140	\$ 840
Equity	\$ 560	\$ 210

- Calculate each company's ROE, ROA, and ROIC.
- Why is Runrun's ROE higher than Suunto's? Does this mean Runrun is a better company? Why or why not?
- Why is Suunto's ROA higher than Runrun's? What does this tell you about the two companies?
- How do the two companies' ROICs compare? What does this suggest about the two companies?

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34) Please refer to the financial statements for Roxbury Corporation. Estimate the length of Roxbury's cash conversion cycle in 2021.

Roxbury Corporation
2020 and 2021, (\$ millions)

INCOME STATEMENT			BALANCE SHEET	
	2020	2021	2020	2021
Net sales	\$ 47,616	\$ 52,378	Cash & securities	\$ 951
Cost of goods sold	40,718	44,790	Accounts receivable	1,046
GS&A expense	6,171	6,788	Inventories	6,666
EBIT	727	800	Net fixed assets	7,333
Interest expense	215	255	Total assets	5,236
Earnings before tax	512	545	Bank loan	2,048
Tax	154	164	Accounts payable	2,253
Net income	\$ 358	\$ 382	Long-term debt	14,901
			Total liabilities	16,392
			Common stock	392
			Retained earnings	547
			Total equity	8,161
			Total liabilities & equity	2,148
				2,551
				9,959
				11,259
				1,293
				3,649
				3,840
				4,942
				5,133
				\$
				\$
				14,901
				16,392

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SECTION BREAK. Answer all the part questions.

35) [The following information applies to the questions displayed below.]

Link, Incorporation

Selected financial data (\$ thousands)

	2020	2021
Income statement and related items		
Sales	\$ 160,835	\$ 274,219
Cost of goods sold	141,829	209,628
Net income	(91,432)	(257,981)
Cash flow from operations	(35,831)	(12,538)
Balance sheet items		
Cash	\$ 236,307	\$ 164,952
Marketable securities	209,670	22,638
Accounts receivable	12,645	21,655
Inventory	3,971	40,556
Total current assets	462,593	249,801
Accounts payable	17,735	13,962
Accrued liabilities	27,184	76,596
Total current liabilities	44,919	90,558

- 35.1) Please refer to the financial data for Link, Incorporation above. What is the current ratio for Link at the end of 2021?
- A) 2.31
 - B) 2.76
 - C) 10.21
 - D) 10.30
 - E) None of the options are correct.
- 35.2) Please refer to the financial data for Link, Incorporation above. Which of the following statements best describes how the Link's short-term liquidity changed from 2020 to 2021?
- A) Link's short-term liquidity has improved modestly.
 - B) Link's short-term liquidity has deteriorated very little, but from a low initial base.
 - C) Link's short-term liquidity has improved considerably, but from a low initial base.
 - D) Link's short-term liquidity has deteriorated considerably, but from a high initial base.
 - E) None of the options are correct.

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- 35.3) Please refer to the financial data for Link, Incorporation above. What is Link's collection period in days, based on sales, for 2021?
- A) 24.3
 - B) 28.8
 - C) 35.7
 - D) 219.6
- 35.4) Please refer to the financial data for Link, Incorporation above. What is Link's inventory turnover for 2021?
- A) 5.2
 - B) 24.3
 - C) 28.8
 - D) 35.7
 - E) None of the options are correct.
- 35.5) Please refer to the financial data for Link, Incorporation above. What is Link's payables period in days, based on cost of goods sold, for 2021?
- A) 5.2
 - B) 24.3
 - C) 28.8
 - D) 35.7
- 35.6) Please refer to the financial data for Link, Incorporation above. What is Link's days' sales in cash for 2021?
- A) 24.3
 - B) 28.8
 - C) 219.6
 - D) 249.7
 - E) None of the options are correct.
- 35.7) Please refer to the financial data for Link, Incorporation above. What is Link's gross margin for 2021?
- A) -94%
 - B) 13%
 - C) 26%
 - D) 31%
 - E) None of the options are correct.

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- 35.8) Please refer to the financial data for Link, Incorporation above. What is Link's profit margin for 2021?
- A) -94%.
 - B) -57%.
 - C) 13%.
 - D) 31%.
 - E) None of the options are correct.

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36) [The following information applies to the questions displayed below.]

Financial statements for Limited Brands, Incorporation follow (fiscal years ending January):

Limited Brands, Incorporation

Balance Sheets (\$ Millions)

	2007	2006	2005
Total Assets	7,093.000	6,346.000	6,089.000
Liabilities			
Long-Term Debt Due in One Year	8.000	7.000	0.000
Payables and Accrued Expenses	1,701.000	1,568.000	1,451.000
Total Current Liabilities	1,709.000	1,575.000	1,451.000
Long-Term Debt	1,665.000	1,669.000	1,646.000
Deferred Taxes	173.000	146.000	177.000
Minority Interest	71.000	33.000	33.000
Other Liabilities	520.000	452.000	447.000
Total Liabilities	4,138.000	3,875.000	3,754.000
Total Equity	2,955.000	2,471.000	2,335.000
Total Liabilities & Equity	7,093.000	6,346.000	6,089.000
Common Shares Outstanding	398.000	395.000	407.000

Income Statements (\$ Millions)

	2007	2006
Sales	10,671.000	9,669.000
Cost of Goods Sold	6,342.000	5,920.000
Gross Profit	4,329.000	3,749.000
Selling, General, & Administrative Expenses	2,837.000	2,502.500
Operating Income Before Depreciation	1,492.000	1,246.500
Depreciation, Depletion, & Amortization	316.000	299.000
Operating Profit	1,176.000	947.500
Interest Expense	102.000	94.000
Non-Operating Income/Expense	23.000	25.000
Special Items	0.000	78.500
Pre-tax Income	1,097.000	957.000
Total Income Taxes	422.000	291.000
Adjusted Available for Common	675.000	666.000

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Extraordinary Items	1.000	17.000
Adjusted Net Income	676.000	683.000
Dividends per share	\$ 0.60	\$ 0.61

36.1) Please refer to Limited Brands, Incorporated's financial statements above. Use the company's operating profit as an approximation of its EBIT, and assume a 40% tax rate for your calculations. For 2006 and 2007, calculate:

- Debt-to-equity ratio
- Times-interest-earned ratio
- Times burden covered

36.2) Please refer to Limited Brands, Incorporated's financial statements above. Use the company's operating profit as an approximation of its EBIT, and assume a 40% tax rate for your calculations. What percentage decline in EBIT could Limited Brands have sustained in 2006 and 2007 before failing to cover:

- Interest and principal repayment requirements?
- Interest, principal, and common dividend payments?

36.3) Please refer to Limited Brands, Incorporated's financial statements above. Prepare common-size financial statements for Limited Brands, Incorporated for 2006–2007.

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Answer Key

Test name: Chapter 02

1) FALSE

2) FALSE

3) FALSE

4) FALSE

5) TRUE

6) FALSE

7) TRUE

8) FALSE

9) TRUE

10) FALSE

11) FALSE

12) C

13) A

14) B

15) E

16) D

17) D

18) B

19) D

Liabilities ÷ Assets = 0.5 = \$500,000 ÷ Assets

So Assets = \$1,000,000

Then, Sales ÷ \$1,000,000 = 3

So sales = \$3,000,000

20) D

21) D

The times-burden-covered ratio is the best answer, as it indicates how well the firm's cash flows cover both debt principal and interest payments. The times-interest-earned ratio applies most appropriately when we are confident the firm can roll over existing debt; this is not the case here.

22) C

23) C

24) D

25) D

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Currently, equity = \$13.33 billion ($20 \div 13.33 = 1.5$) and net income = \$2.5 billion ($2.5 \div 10 = 25\%$).

Paying a \$9 billion dividend would reduce equity to \$4.33 billion. Net income would fall by $3\% \times \$9 \text{ billion} = \0.27 billion , to \$2.23 billion.

ROE would then be $2.23 \div 4.33 = 51.5\%$

26) B

27) B

Gross margin = $50,000 \div 200,000 = 25\%$.

Breakeven sales volume = Operating expenses $\div$ Gross margin = $\$20,000 \div 0.25 = \$80,000$.

28) E

$$\text{TBC} = \frac{\text{EBIT}}{\left(\frac{\text{Interest expenses} + \text{Principal Repay}}{1-t} \right)}$$

$$\text{TBC} = \frac{30000}{\left(\frac{5000 + 8000}{1 - 0.2} \right)} = 200$$

29) B

A would increase the cash conversion cycle, because accounts receivable would increase.

B would reduce the cash conversion cycle, because inventory would decrease.

C would increase the cash conversion cycle, because accounts payable would decrease.

D would not affect the cash conversion cycle.

30) C

Cash conversion cycle = Days inventory outstanding + Collection period - Payables period

$$= \frac{\text{Inventory}}{\left(\frac{\text{COGS}}{365} \right)} + \frac{\text{Receivables}}{\left(\frac{\text{Sales}}{365} \right)} - \frac{\text{Payables}}{\left(\frac{\text{COGS}}{365} \right)} = \frac{3}{\left(\frac{18}{365} \right)} + 40 - \frac{15}{\left(\frac{18}{365} \right)}$$

$$= 60.8 + 40 - 30.4 = 70.4 \text{ days}$$

31) B

32) D

33) Short Answer

	Suunto Incorporation	Runrun Corporation
Net income	\$ 172.9	\$ 136.5
ROE	31%	65%
ROA	25%	13%
ROIC	26%	18%

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34) Short Answer

Cash conversion cycle = Days inventory outstanding + Collection period - Payables period

$$= \frac{\text{Inventory}}{\left(\frac{\text{COGS}}{365}\right)} + \frac{\text{Accounts receivable}}{\left(\frac{\text{Sales}}{365}\right)} - \frac{\text{Accounts payable}}{\left(\frac{\text{COGS}}{365}\right)}$$

$$= \frac{5760}{\left(\frac{44,790}{365}\right)} + \frac{7333}{\left(\frac{52,378}{365}\right)} - \frac{8161}{\left(\frac{44,790}{365}\right)}$$

$$= 46.9 + 51.1 - 66.5 = 31.5 \text{ days}$$

35) Section Break

35.1) B

$$249,801 \div 90,558 = 2.76$$

35.2) D

35.3) B

$$\frac{21,655}{\left(\frac{274,219}{365}\right)} = 28.8$$

35.4) A

$$209,628 \div 40,556 = 5.2$$

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35.5) B

$$\frac{13,962}{\left(\frac{209,628}{365}\right)} = 24.3$$

35.6) D

$$\frac{(164,952 + 22,638)}{\left(\frac{274,219}{365}\right)} = 249.7$$

35.7) E

$$\frac{(274,219 - 209,628)}{274,219} = 23.6\%$$

35.8) A

$$-257,981 \div 274,219 = -94\%$$

36) Section Break

36.1) Short Answer

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	2007	2006
a. Debt-to-equity ratio	1.40	1.57
b. Times-interest-earned ratio	11.53	10.08
c. Times burden covered	10.35	10.08

(Note that principal payment in year t equals current portion of long-term debt in year t-1.)

36.2) Short Answer

- For 2006: Interest expense = \$94 Principal repayment = \$0 (long-term debt due in one year from 2005) EBIT = \$947.5, so it could have fallen $(947.5 - 94) \div 947.5 = 90.1\%$ before failing to cover interest and principal. For 2007: Interest expense = \$102 Principal repayment = \$7 (long-term debt due in one year from 2006) EBIT = \$1,176, so it could have fallen $(1,176 - 102 - 7 \div 0.6) \div 1,176 = 90.3\%$ before failing to cover interest and principal.
- For 2006: Interest expense = \$94 Principal repayment = \$0 (long-term debt due in one year from 2005) Common dividends = Shares outstanding $\times$ Dividends per share = $395 \times 0.61 = \$241.0$ EBIT = \$947.5, so it could have fallen $(947.5 - 94 - 241 \div 0.6) \div 947.5 = 47.7\%$ before failing to cover interest, principal, and dividends. For 2007: Interest expense = \$102 Principal repayment = \$7 (long-term debt due in one year from 2006) Common dividends = Shares outstanding $\times$ Dividends per share = $398 \times 0.60 = \$238.8$ EBIT = \$1,176, so it could have fallen $(1,176 - 102 - 245.8 \div 0.6) \div 1,176 = 56.5\%$ before failing to cover interest, principal, and dividends.

36.3) Short Answer

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BALANCE SHEETS (% of Assets)

	2007	2006	2005
TOTAL ASSETS	100.00%	100.00%	100.00%
LIABILITIES			
Long-Term Debt Due in One Year	0.11%	0.11%	0.00%
Payables and Accrued Expenses	23.98%	24.71%	23.83%
Total Current Liabilities	24.09%	24.82%	23.83%
Long-Term Debt	23.47%	26.30%	27.03%
Deferred Taxes	2.44%	2.30%	2.91%
Minority Interest	1.00%	0.52%	0.54%
Other Liabilities	7.33%	7.12%	7.34%
TOTAL LIABILITIES	58.34%	61.06%	61.65%
TOTAL EQUITY	41.66%	38.94%	38.35%
TOTAL LIABILITIES & EQUITY	100.00%	100.00%	100.00%

INCOME STATEMENTS (% of Sales)

	2007	2006
Sales	100.00%	100.00%
Cost of Goods Sold	59.43%	61.23%
Gross Profit	40.57%	38.77%
Selling, General, & Administrative Expenses	26.59%	25.88%
Operating Income Before Depreciation	13.98%	12.89%
Depreciation, Depletion, & Amortization	2.96%	3.09%
Operating Profit	11.02%	9.80%
Interest Expense	0.96%	0.97%
Non-Operating Income/Expense	0.22%	0.26%
Special Items	0.00%	0.81%
Pretax Income	10.28%	9.90%
Total Income Taxes	3.95%	3.01%
Adjusted Available for Common	6.33%	6.89%
Extraordinary Items	0.01%	0.18%
Adjusted Net Income	6.33%	7.06%