Problems

BASIC PROBLEMS

3-1 **Liquidity Ratios** You are evaluating the balance sheet for SophieLex's Corporation. From the balance sheet you find the following balances: cash and marketable securities = $400,000; accounts receivable = $1,200,000; inventory = $2,100,000; accrued wages and taxes = $500,000; accounts payable = $800,000; and notes payable = $600,000. Calculate SophieLex's current ratio, quick ratio, and cash ratio. *(LG3-1)*

3-2 **Liquidity Ratios** The top part of Ramakrishnan, Inc.'s, 2021 and 2020 balance sheets is listed below (*in millions of dollars*). Calculate Ramakrishnan, Inc.'s, current ratio, quick ratio, and cash ratio for 2021 and 2020. *(LG3-1)*

	2021	2020		2021	2020
Current assets			Current liabilities		
Cash and marketable securities	$ 34	$ 25	Accrued wages and taxes	$ 32	$ 31
Accounts receivable	143	128	Accounts payable	87	76
Inventory	206	187	Notes payable	76	68
Total	$383	$340	Total	$195	$175

3-3 **Asset Management Ratios** Tater and Pepper Corp. reported sales for 2021 of $23 million. Tater and Pepper listed $5.6 million of inventory on its balance sheet. Using a 365-day year, how many days did Tater and Pepper's inventory stay on the premises? How many times per year did Tater and Pepper's inventory turn over? *(LG3-2)*

3-4 **Asset Management Ratios** Mr. Husker's Tuxedos Corp. ended the year 2021 with an average collection period of 32 days. The firm's credit sales for 2021 were $56.1 million. What is the year-end 2021 balance in accounts receivable for Mr. Husker's Tuxedos? *(LG3-2)*

3-5 **Debt Management Ratios** Tiggie's Dog Toys, Inc., reported a debt-to-equity ratio of 1.75 times at the end of 2021. If the firm's total debt at year-end was $25 million, how much equity does Tiggie's have on its balance sheet? *(LG3-3)*

3-6 **Debt Management Ratios** You are considering a stock investment in one of two firms (LotsofDebt, Inc., and LotsofEquity, Inc.), both of which operate in the same industry. LotsofDebt, Inc., finances its $30 million in assets with $29 million in debt and $1 million in equity. LotsofEquity, Inc., finances its $30 million in assets with $1 million in debt and $29 million in equity. Calculate the debt ratio, equity multiplier, and debt-to-equity ratio for the two firms. *(LG3-3)*

3-7 **Profitability Ratios** Maggie's Skunk Removal Corp.'s 2021 income statement listed net sales of $12.5 million, gross profit of $6.9 million, EBIT of $5.6 million, net income available to common stockholders of $3.2 million, and common stock dividends of $1.2 million. The 2021 year-end balance sheet listed total assets of $52.5 million and common stockholders' equity of $21 million with 2 *million shares outstanding.* Calculate the gross profit margin, operating profit margin, profit margin, basic earnings power, ROA, ROE, and dividend payout. *(LG3-4)*

3-8 **Profitability Ratios** In 2021, Jake's Jamming Music, Inc., announced an ROA of 8.56 percent, ROE of 14.5 percent, and profit margin of 20.5 percent. The firm had total assets of $9.5 million at year-end 2021. Calculate the 2021 values of net income available to common stockholders, common stockholders' equity, and net sales for Jake's Jamming Music, Inc. *(LG3-4)*

3-9 **Market Value Ratios** You are considering an investment in Roxie's Bed & Breakfast Corp. During the last year, the firm's income statement listed an addition to retained earnings of $4.8 million and common stock dividends of $2.2 million. Roxie's year-end balance sheet shows common stockholders' equity of $35 million with 10 million shares of common stock outstanding. The common stock's market price per share was $9.00. What is Roxie's Bed & Breakfast's book value per share and earnings per share? Calculate the market-to-book ratio and PE ratio. *(LG3-5)*

3-10 **Market Value Ratios** Dudley Hill Golf Club's market-to-book ratio is currently 2.5 times and the PE ratio is 6.75 times. If Dudley Hill Golf Club's common stock is currently selling at $22.50 per share, what is the book value per share and earnings per share? *(LG3-5)*

3-11 **DuPont Analysis** If Silas 4-Wheeler, Inc., has an ROE of 18 percent, equity multiplier of 2, and a profit margin of 18.75 percent, what is the total asset turnover and the capital intensity? *(LG3-6)*

3-12 **DuPont Analysis** Last year, Hassan's Madhatter, Inc., had an ROA of 7.5 percent, a profit margin of 12 percent, and sales of $25 million. Calculate Hassan's Madhatter's total assets. *(LG3-6)*

3-13 **Internal Growth Rate** Last year, Lakesha's Lounge Furniture Corporation had an ROA of 7.5 percent and a dividend payout ratio of 25 percent. What is the internal growth rate? *(LG3-6)*

3-14 **Sustainable Growth Rate** Last year Lakesha's Lounge Furniture Corporation had an ROE of 17.5 percent and a dividend payout ratio of 20 percent. What is the sustainable growth rate? *(LG3-6)*

Page 86

INTERMEDIATE PROBLEMS

3-15 **Liquidity Ratios** Brenda's Bar and Grill has current liabilities of $15 million. Cash makes up 10 percent of the current assets and accounts receivable makes up another 40 percent of current assets. Brenda's current ratio is 2.1 times. Calculate the value of inventory listed on the firm's balance sheet. *(LG3-1)*

3-16 **Liquidity and Asset Management Ratios** Mandesa, Inc., has current liabilities of $8 million, current ratio of 2 times, inventory turnover of 12 times, average collection period of 30 days, and credit sales of $64 million. Calculate the value of cash and marketable securities. *(LG3-1, LG3-2)*

3-17 **Asset Management and Profitability Ratios** You have the following information on Els' Putters, Inc.: Sales to working capital is 4.6 times, profit margin is 20 percent, net income available to common stockholders is $5 million, and current liabilities are $6 million. What is the firm's balance of current assets? *(LG3-2, LG3-4)*

3-18 **Asset Management and Debt Management Ratios** Use the following information to complete the balance sheet below. Sales are $8.8 million, capital intensity ratio is 2.10 times, debt ratio is 55 percent, and fixed asset turnover is 1.2 times. *(LG3-2, LG3-3)*

Page 87

3-18 **Asset Management and Debt Management Ratios** Use the following information to complete the balance sheet below. Sales are $8.8 million, capital intensity ratio is 2.10 times, debt ratio is 55 percent, and fixed asset turnover is 1.2 times. (LG3-2, LG3-3)

Assets		Liabilities and Equity	
Current assets	$	Total liabilities	$
Fixed assets		Total equity	
Total assets	$	Total liabilities and equity	$

3-19 **Debt Management Ratios** Tiggie's Dog Toys, Inc., reported a debt-to-equity ratio of 1.75 times at the end of 2021. If the firm's total assets at year-end were $25 million, how much of their assets are financed with debt and how much with equity? (LG3-3)

3-20 **Debt Management Ratios** Calculate the times interest earned ratio for LaTonya's Flop Shops, Inc., using the following information. Sales are $1.5 million, cost of goods sold is $600,000, depreciation expense is $150,000, other operating expenses is $300,000, addition to retained earnings is $176,625, dividends per share is $1, tax rate is 21 percent, and number of shares of common stock outstanding is 90,000. LaTonya's Flop Shops has no preferred stock outstanding. (LG3-3)

3-21 **Profitability and Asset Management Ratios** You are thinking of investing in Nikki T's, Inc. You have only the following information on the firm at year-end 2021: Net income is $250,000, total debt is $2.5 million, and debt ratio is 55 percent. What is Nikki T's ROE for 2021? (LG3-2, LG3-4)

3-22 **Profitability Ratios** Rick's Travel Service has asked you to help piece together financial information on the firm for the most current year. Managers give you the following information: Sales are $8.2 million, total debt is $2.1 million, debt ratio is 40 percent, and ROE is 18 percent. Using this information, calculate Rick's ROA. (LG3-4)

3-23 **Market Value Ratios** Leonatti Labs' year-end price on its common stock is $35. The firm has total assets of $50 million, debt ratio of 65 percent, no preferred stock, and 3 million shares of common stock outstanding. Calculate the market-to-book ratio for Leonatti Labs. (LG3-5)

3-24 **Market Value Ratios** Leonatti Labs' year-end price on its common stock is $15. The firm has a profit margin of 8 percent, total assets of $42 million, a total asset turnover of 0.75, no preferred stock, and 3 million shares of common stock outstanding. Calculate the PE ratio for Leonatti Labs. (LG3-5)

3-25 **DuPont Analysis** Last year, Stumble-on-Inn, Inc., reported an ROE of 18 percent. The firm's debt ratio was 55 percent, sales were $15 million, and the capital intensity was 1.25 times. Calculate the net income for Stumble-on-Inn last year. (LG3-6)

3-26 **DuPont Analysis** You are considering investing in Nuran Security Services. You have been able to locate the following information on the firm: Total assets are $24 million, accounts receivable are $3.3 million, ACP is 25 days, net income is $3.5 million, and debt-to-equity is 1.2 times. Calculate the ROE for the firm. (LG3-6)

3-27 **Internal Growth Rate** Dogs R Us reported a profit margin of 10.5 percent, total asset turnover of 0.75 times, debt-to-equity of 0.80 times, net income of $500,000, and dividends paid to common stockholders of $200,000. The firm has no preferred stock outstanding. What is Dogs R Us's internal growth rate? (LG3-6)

3-28 **Sustainable Growth Rate** You have located the following information on Webb's Heating & Air Conditioning: Debt ratio is 54 percent, capital intensity is 1.10 times, profit margin is 12.5 percent, and the dividend payout is 25 percent. Calculate the sustainable growth rate for Webb. (LG3-6)

Page 88

Use the following financial statements for Lake of Egypt Marina, Inc., to answer Problems 3-29 through 3-33.

LAKE OF EGYPT MARINA, INC.
Balance Sheet as of December 31, 2021 and 2020
(in millions of dollars)

	2021	2020		2021	2020
Assets			**Liabilities and Equity**		
Current assets			Current liabilities		
Cash and marketable securities	$ 75	$ 65	Accrued wages and taxes	$ 40	$ 43
Accounts receivable	115	110	Accounts payable	90	80
Inventory	200	190	Notes payable	80	70
Total	$390	$365	Total	$210	$193
Fixed assets			Long-term debt	$300	$280
Gross plant and equipment	$580	$471	Stockholders' equity		
Less: Depreciation	110	100	Preferred stock (5 million shares)	$ 5	$ 5
Net plant and equipment	$470	$371	Common stock and paid-in surplus (65 million shares)	65	65
Other long-term assets	50	49	Retained earnings	330	242
Total	$520	$420	Total	$400	$312
Total assets	$910	$785	Total liabilities and equity	$910	$785

LAKE OF EGYPT MARINA, INC. Income Statement for Years Ending December 31, 2021 and 2020 (in millions of dollars)	2021	2020
Net sales (all credit)	$ 515	$ 432
Less: Cost of goods sold	230	175
Gross profits	$ 285	$ 257
Less: Other operating expenses	30	25
Earnings before interest, taxes, depreciation, and amortization (EBITDA)	$ 255	$ 232
Less: Depreciation	22	20
Earnings before interest and taxes (EBIT)	$ 233	$ 212
Less: Interest	33	30
Earnings before taxes (EBT)	$ 200	$ 182
Less: Taxes	42	55
Net income	$ 158	$ 127
Less: Preferred stock dividends	$ 5	$ 5
Net income available to common stockholders	$ 153	$ 122
Less: Common stock dividends	65	65
Addition to retained earnings	$ 88	$ 57
Per (common) share data:		
Earnings per share (EPS)	$ 2.354	$ 1.877
Dividends per share (DPS)	$ 1.000	$ 1.000
Book value per share (BVPS)	$ 6.077	$ 4.723
Market value (price) per share (MVPS)	$14.750	$12.550

3-29 **Spreading the Financial Statements** Spread the balance sheets and income statements of Lake of Egypt Marina, Inc., for 2021 and 2020. *(LG3-6)*

3-30 **Calculating Ratios** Calculate the following ratios for Lake of Egypt Marina, Inc., as of year-end 2021. *(LG3-1 through LG3-5)*

3-30 **Calculating Ratios** Calculate the following ratios for Lake of Egypt Marina, Inc., as of year-end 2021. (*LG3-1 through* *LG3-5)*

Lake of Egypt Marina, Inc.	Industry
a. Current ratio	2.00 times
b. Quick ratio	1.20 times
c. Cash ratio	0.42 times
d. Inventory turnover	3.60 times
e. Days' sales in inventory	101.39 days
f. Average collection period	32.50 days
g. Average payment period	45.00 days
h. Fixed asset turnover	1.25 times
i. Sales to working capital	4.25 times
j. Total asset turnover	0.85 times
k. Capital intensity	1.18 times
l. Debt ratio	62.50%
m. Debt-to-equity	1.67 times
n. Equity multiplier (total equity)	2.67 times
o. Times interest earned	8.50 times
p. Cash coverage	8.75 times
q. Profit margin	30.75%
r. Gross profit margin	56.45%
s. Operating profit margin	46.78%
t. Basic earnings power	32.50%
u. ROA	19.75%
v. ROE	51.35%
w. Dividend payout	35.00%
x. Market-to-book ratio	2.55 times
y. PE ratio	15.60 times