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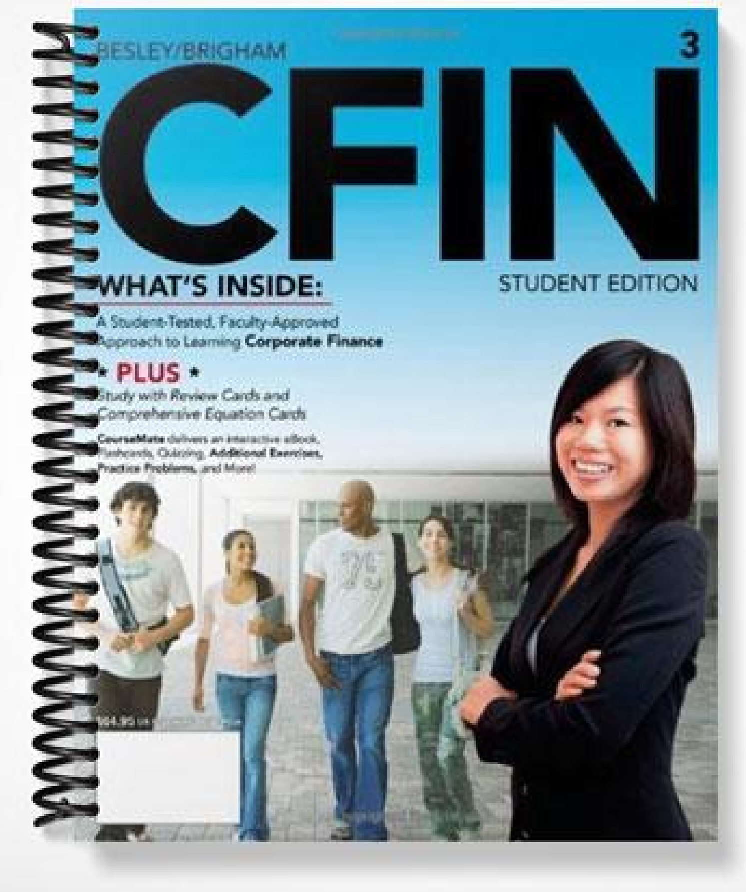
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CHAPTER 2—ANALYSIS OF FINANCIAL STATEMENTS

TRUE/FALSE

1. The income statement measures the flow of funds into (i.e. revenue) and out of (i.e. expenses) the firm over a certain time period. It is always based on accounting data.

   ANS: T DIF: Easy TOP: Income statement

2. The balance sheet is a financial statement measuring the flow of funds into and out of various accounts over time while the income statement measures the progress of the firm at a point in time.

   ANS: F DIF: Easy TOP: Financial statements

3. An increase in an asset account is a source of cash, whereas an increase in a liability account is a use of cash.

   ANS: F DIF: Easy TOP: Sources and uses of cash

4. Depreciation, as shown on the income statement, is regarded as a use of cash because it is an expense.

   ANS: F DIF: Easy TOP: Sources and uses of cash

5. When a firm pays off a loan using cash, the source of funds is the decrease in the asset account, cash, while the use of funds involves a decrease in a liability account, debt.

   ANS: T DIF: Easy TOP: Sources and uses

6. Non-cash assets are expected to produce cash over time but the amount of cash they eventually produce could be higher or lower than the values at which the assets are carried on the books.

   ANS: T DIF: Easy TOP: Non-cash assets

7. Taxes, payment patterns, and reporting considerations, as well as credit sales and non-cash costs, are reasons why operating cash flows can differ from accounting profits.

   ANS: T DIF: Easy TOP: Operating cash flows

8. Ratio analysis involves a comparison of the relationships between financial statement accounts so as to analyze the financial position and strength of a firm.

   ANS: T DIF: Easy TOP: Ratio analysis

9. The current ratio and inventory turnover ratio measure the liquidity of a firm. The current ratio measures the relation of a firm's current assets to its current liabilities and the inventory turnover ratio measures how rapidly a firm turns its inventory back into a "quick" asset or cash.

   ANS: F DIF: Easy TOP: Liquidity ratios

10. If a firm has high current and quick ratios, this always is a good indication that a firm is managing its liquidity position well.

    ANS: F DIF: Easy TOP: Current ratio

11. A decline in the inventory turnover ratio suggests that the firm's liquidity position is improving.

    ANS: F DIF: Easy TOP: Inventory turnover ratio

12. The degree to which the managers of a firm attempt to magnify the returns to owners' capital through the use of financial leverage is captured in debt management ratios.

    ANS: T DIF: Easy TOP: Debt management ratios

13. Profitability ratios show the combined effects of liquidity, asset management, and debt management on operations.

    ANS: T DIF: Easy TOP: Profitability ratios

14. Determining whether a firm's financial position is improving or deteriorating requires analysis of more than one set of financial statements. Trend analysis is one method of measuring a firm's performance over time.

    ANS: T DIF: Easy TOP: Trend analysis

15. The information contained in the annual report is used by investors to form expectations about future earnings and dividends.

    ANS: T DIF: Easy TOP: Annual report

16. The balance sheet presents a summary of the firm's revenues and expenses over an accounting period.

    ANS: F DIF: Easy TOP: Financial statements

17. On the balance sheet, total assets must equal total liabilities plus stockholders equity.

    ANS: T DIF: Easy TOP: Balance sheet

18. One of the biggest noncash items on the income statement is depreciation which needs to be subtracted from net income to determine cash flows for the firm.

    ANS: F DIF: Easy TOP: Cash flows

19. A firm's net income reported on its income statement must equal the operating cash flows on the statement of cash flows.

    ANS: F DIF: Easy TOP: Accounting profit and cash flows

20. A statement reporting the impact of a firm's operating, investing, and financing activities on cash flows over an accounting is the statement of cash flows.

    ANS: T DIF: Easy TOP: Statement of cash flows

21. When a firm conducts a seasoned equity offering, it increases an equity account which is an example of a source of funds.

    ANS: T DIF: Easy TOP: Sources and uses of cash

22. When a firm conducts a stock repurchase, it increases an equity account which is an example of a source of funds.

    ANS: F DIF: Easy TOP: Sources and uses of cash

23. A liquid asset is an asset that can be easily converted into cash without a significant loss of its original value.

    ANS: T DIF: Easy TOP: Liquidity ratios

24. Genzyme Corporation has seen its days sales outstanding (DSO) decline from 38 days last year to 22 days this implying that more of the firm's suppliers are being paid on time.

    ANS: F DIF: Easy TOP: Days sales outstanding (DSO)

25. Funds supplied by common stockholders mainly includes capital stock, paid-in capital, and retained earnings, while total equity is comprised of common equity plus preferred stock.

    ANS: T DIF: Medium TOP: Total equity

26. Retained earnings is the cash that has been generated by the firm through its operations which has not been paid out to stockholders as dividends. Retained earnings are kept in cash or near cash accounts and thus, these cash accounts, when added together, will always be equal to the total retained earnings of the firm.

    ANS: F DIF: Medium TOP: Retained earnings

27. The financial position of companies whose business is seasonal can be dramatically different depending upon the time of year chosen to construct financial statements. This time sensitivity is especially true with respect to the firm's balance sheet.

    ANS: T DIF: Medium TOP: Balance sheet changes

28. In order to accurately estimate cash flow from operations, depreciation must be added back to net income. The reason for this is that even though depreciation is deducted from revenue it is really a non-cash charge.

    ANS: T DIF: Medium TOP: Cash flows

29. In accounting, emphasis is placed on determining net income. In finance, the primary emphasis also is on net income because that is what investors use to value the firm. However, a secondary consideration is cash flow because that's what is used to run the business.

    ANS: F DIF: Medium TOP: Cash flow and net income

30. Current cash flow from existing assets is highly relevant to the investor. However, the value of the firm depends primarily upon its growth opportunities. As a result, profit projections from those opportunities are the only relevant future flows with which investors are concerned.

    ANS: F DIF: Medium TOP: Future cash flows

31. If the current ratio of Firm A is greater than the current ratio of Firm B, we cannot be sure that the quick ratio of Firm A is greater than that of Firm B. However, if the quick ratio of Firm A exceeds that of Firm B, we *can* be assured that Firm A's current ratio also exceeds B's current ratio.

    ANS: F DIF: Medium TOP: Liquidity ratios

32. The inventory turnover and current ratios are related. The combination of a high current ratio and a low inventory turnover ratio relative to the industry norm might indicate that the firm is maintaining too high an inventory level or that part of the inventory is obsolete or damaged.

    ANS: T DIF: Medium TOP: Inventory turnover ratio

33. We can use the fixed asset turnover ratio to legitimately compare firms in different industries as long as all the firms being compared are using the same proportion of fixed assets to total assets.

    ANS: F DIF: Medium TOP: Fixed asset turnover

34. Suppose two firms with the same amount of assets pay the same interest rate on their debt and earn the same rate of return on their assets, and that ROA is positive. However, one firm has a higher debt ratio. Under these conditions, the firm with the *higher* debt ratio will also have a higher rate of return on common equity.

    ANS: T DIF: Medium TOP: ROA and ROE

35. Suppose a firm wants to maintain a specific TIE ratio. If the firm knows the level of its debt, the interest rate it will pay on that debt and the applicable tax rate, the firm can then calculate the earnings level required to maintain its target TIE ratio.

    ANS: T DIF: Medium TOP: TIE ratio

36. The fixed charge coverage ratio recognizes that firms often lease equipment under contract and thus, some firms must meet more than just their scheduled interest payments out of earnings. Therefore, the fixed charge coverage is more inclusive than the TIE ratio.

    ANS: T DIF: Medium TOP: Fixed charge coverage ratio

37. If sales decrease and financial leverage increases, we can say with certainty that the profit margin on sales will decrease.

    ANS: F DIF: Medium TOP: Profit margin and leverage

38. Selling new stock is an equity transaction; it does not affect any asset or liability account and therefore, does not appear on the statement of cash flows.

    ANS: F DIF: Medium TOP: Financing activities

MULTIPLE CHOICE

1. Other things held constant, which of the following will **not** affect the quick ratio? (Assume that current assets equal current liabilities.)
    a. Fixed assets are sold for cash.
    b. Cash is used to purchase inventories.
    c. Cash is used to pay off accounts payable.
    d. Accounts receivable are collected.
    e. Long-term debt is issued to payoff a short-term bank loan.

    ANS: D
    The quick ratio is calculated as follows:

    $$\frac{Current\ Assets - Inventories}{Current\ Liabilities}$$

    The only action that doesn't affect the quick ratio is statement d. While this action decreases receivables (a current asset), it increases cash (also a current asset). The net effect is no change in the quick ratio.

    DIF: Easy OBJ: TYPE: Conceptual TOP: Quick ratio

2. Changes in balance sheet accounts are necessary for
   a. A typical ratio analysis.
   b. Pro forma balance sheet construction.
   c. Statement of cash flows construction.
   d. Profit and loss analysis.
   e. Pro forma income statement construction.

   ANS: C DIF: Easy OBJ: TYPE: Conceptual
   TOP: Statement of cash flows

3. All of the following represent cash outflows to the firm except
   a. Taxes.
   b. Interest payments.
   c. Dividends.
   d. Purchase of plant and equipment.
   e. Depreciation.

   ANS: E DIF: Easy OBJ: TYPE: Conceptual TOP: Cash flows

4. Other things held constant, if a firm holds cash balances in excess of their optimal level in a non-interest bearing account, this will tend to lower the firm's
   a. Profit margin.
   b. Total asset turnover.
   c. Return on equity.
   d. All of the above.
   e. Answers b and c above.

   ANS: E DIF: Easy OBJ: TYPE: Conceptual
   TOP: Excessive cash balances

5. Other things held constant, which of the following will <u>not</u> affect the current ratio, assuming an initial current ratio greater than 1.0?
   a. Fixed assets are sold for cash.
   b. Long-term debt is issued to pay off current liabilities.
   c. Accounts receivable are collected.
   d. Cash is used to pay off accounts payable.
   e. A bank loan is obtained, and the proceeds are credited to the firm's checking account.

   ANS: C DIF: Easy OBJ: TYPE: Conceptual TOP: Current ratio

6. The annual report contains all of the following financial statements except
   a. income statement.
   b. statement of changes in long-term financing.
   c. statement of cash flows.
   d. balance sheet.
   e. statement of retained earnings.

   ANS: B DIF: Easy OBJ: TYPE: Conceptual TOP: Annual report

7. Which of the following financial statements shows a firm's financing activities (how funds were generated) and investment activities (how funds were used) over a particular period of time?
   a. balance sheet
   b. income statement
   c. statement of retained earnings
   d. statement of cash flows
   e. proxy statement

   ANS: A DIF: Easy OBJ: TYPE: Conceptual
   TOP: Financial statements

8. Which of the following statements shows the portion of the firm's earnings that has been saved rather than paid out as dividends?
   a. balance sheet
   b. income statement
   c. statement of retained earnings
   d. statement of cash flows
   e. proxy statement

   ANS: C DIF: Easy OBJ: TYPE: Conceptual
   TOP: Financial statements

9. Which of the following financial statements includes information about a firm's assets, equity, and liabilities?
   a. Income statement
   b. Cash flow statement
   c. Balance sheet
   d. Statement of retained earnings
   e. All of the above

   ANS: C DIF: Easy OBJ: TYPE: Conceptual
   TOP: Financial statements

10. When constructing a Statement of Cash Flows, which of the following actions would be considered a *source* of funds?
    a. increase in the cash account
    b. decrease in accounts payable
    c. increase in inventory
    d. increase in long-term bonds
    e. increase in fixed assets

    ANS: B DIF: Easy OBJ: TYPE: Conceptual
    TOP: Financial statements

11. Which of the following groups probably would *not* be interested in the financial statement analysis of a firm?
    a. creditors
    b. management of the firm
    c. stockholders
    d. Internal Revenue Service
    e. All of the above would be interested in the financial statement analysis.

    ANS: D DIF: Easy OBJ: TYPE: Conceptual TOP: Ratio analysis

12. Which of the following ratios measures how effectively a firm is managing its assets?
    a. quick ratio
    b. times interest earned
    c. profit margin
    d. inventory turnover ratio
    e. price earnings ratio

    ANS: D DIF: Easy OBJ: TYPE: Conceptual
    TOP: Inventory turnover ratio

13. If your goal is determine how effectively a firm is managing its assets, which of the following sets of ratios would you examine?
    a. profit margin, current ratio, fixed charge coverage ratio
    b. quick ratio, debt ratio, time interest earned
    c. inventory turnover ratio, days sales outstanding, fixed asset turnover ratio
    d. total assets turnover ratio, price earnings ratio, return on total assets
    e. time interest earned, profit margin, fixed asset turnover ratio

    ANS: C DIF: Easy OBJ: TYPE: Conceptual
    TOP: Asset management ratios

14. Which of the following ratios measures the extent to which operating income can decline before the firm is unable to meet its annual interest costs
    a. fixed charge coverage ratio
    b. debt ratio
    c. times-interest-earned ratio
    d. return on equity
    e. profit margin

    ANS: C DIF: Easy OBJ: TYPE: Conceptual TOP: TIE ratio

15. An analysis of a firm's financial ratios over time that is used to determine the improvement or deterioration in its financial situation is called
    a. sensitivity analysis
    b. DuPont chart
    c. ratio analysis
    d. progress chart
    e. trend analysis

    ANS: E DIF: Easy OBJ: TYPE: Conceptual TOP: Trend analysis

16. Which of the following statements is most correct?
    a. An increase in a firm's debt ratio, with no changes in its sales and operating costs, could be expected to lower its profit margin on sales.
    b. An increase in DSO, other things held constant, would generally lead to an increase in the total asset turnover ratio.
    c. An increase on the DSO, other things held constant, would generally lead to an increase in the ROE.
    d. In a competitive economy, where all firms earn similar returns on equity, one would expect to find lower profit margins for airlines, which require a lot of fixed assets relative to sales, than for fresh fish markets.
    e. It is more important to adjust the Debt/Asset ratio than the inventory turnover ratio to account for seasonal fluctuations.

ANS: A
Statement a is true because, if a firm takes on more debt, its interest expense will rise, and this will lower its profit margin. Of course, there will be less equity than there would have been, hence the ROE might rise even though the profit margin fell.

DIF: Medium OBJ: TYPE: Conceptual TOP: Financial statement analysis

17. Which of the following statements is correct?
    a. The annual report contains four basic financial statements: the income statement; balance sheet; statement of cash flows; and statement of changes in long-term financing.
    b. Although the annual report is geared toward the average stockholder, it represents financial analysts' most complete source of financial information about the firm.
    c. The key importance of annual report information is that it is used by investors when they form their expectations about the firm's future earnings and dividends and the riskiness of those cash flows.
    d. The annual report provides no relevant information for use by financial analysts or by the investing public.
    e. None of the above statements is correct.

    ANS: C DIF: Medium OBJ: TYPE: Conceptual TOP: Annual report

18. A firm's current ratio has steadily increased over the past 5 years, from 1.9 five years ago to 3.8 today. What would a financial analyst be most justified in concluding?
    a. The firm's fixed assets turnover probably has improved.
    b. The firm's liquidity position probably has improved.
    c. The firm's stock price probably has increased.
    d. Each of the above is likely to have occurred.
    e. The analyst would be unable to draw any conclusions from this information.

    ANS: B DIF: Medium OBJ: TYPE: Conceptual TOP: Liquidity ratios

19. Which of the following actions will cause an increase in the quick ratio in the short run?
    a. $1,000 worth of inventory is sold, and an account receivable is created. The receivable exceeds the inventory by the amount of profit of the sale, which is added to retained earnings.
    b. A small subsidiary which was acquired for $100,000 two years ago and which was generating profits at the rate of 10 percent is sold for $100,000 cash. (Average company profits are 15 percent of assets.)
    c. Marketable securities are sold at cost.
    d. All of the above.
    e. Answers a and b above.

    ANS: E DIF: Medium OBJ: TYPE: Conceptual TOP: Quick ratio

20. Which of the following statements is correct?
    a. In the text, depreciation is regarded as a <u>use</u> of cash because it reduces fixed assets, which then must be replaced.
    b. If a company uses some of its cash to pay off short-term debt, then its current ratio will always decline, given the way ratio is calculated, other things held constant.
    c. During a recession, it is reasonable to think that most companies inventory turnover ratios will change while their fixed asset turnover ratio will remain fairly constant.
    d. During a recession, we can be confident that most companies' DSOs (or ACPs) will decline because their sales will probably decline.
    e. Each of the above statements is false.

ANS: E DIF: Medium OBJ: TYPE: Conceptual
TOP: Miscellaneous ratio behavior

21. As a short-term creditor concerned with a company's ability to meet its financial obligation to you, which one of the following combinations of ratios would you most likely prefer?

	Current ratio	TIE	Debt ratio
a.	0.5	0.5	0.33
b.	1.0	1.0	0.50
c.	1.5	1.5	0.50
d.	2.0	1.0	0.67
e.	2.5	0.5	0.71

ANS: C DIF: Medium OBJ: TYPE: Conceptual TOP: Ratio analysis

22. Which of the following statements about ratio analysis is *incorrect*?
    a. Classifying a large, well-diversified firm into a single industry often is difficult because many of the firm's divisions are involved with different products from different industries.
    b. As a rule of thumb, it is safe to conclude that any firm with a current ratio greater than 1.0 should be able to meet its current obligations—that is, pay bills that come due in the current period. [Current ratio = (Current assets) / (Current liabilities)]
    c. Sometimes firms attempt to use "window dressing" techniques to make their financial statements look better than they actually are in the current period.
    d. Computing the values of the ratios is fairly simple; the toughest and most important part of ratio analysis is interpretation of the values derived from the computations.
    e. General conclusions about a firm should not be made by examining one or a few ratios—ratio analysis should be comprehensive.

ANS: B DIF: Medium OBJ: TYPE: Conceptual TOP: Ratio analysis

23. Yesterday, Bicksler Corporation purchased (and received) raw materials on *credit* from its supplier. All else equal, if Bicksler's current ratio was 2.0 before the purchase, what effect did this transaction have on Bicksler's current ratio?
    a. increased
    b. decreased
    c. stayed the same
    d. There is not enough information to answer this question.
    e. None of the above is a correct answer.

ANS: B DIF: Medium OBJ: TYPE: Conceptual TOP: Current ratio

24. Bubbles Soap Corporation has a quick ratio of 1.0 and a current ratio of 2.0 implying that
    a. the value of current assets is equal to the value of inventory.
    b. the value of current assets is equal to the value of current liabilities.
    c. the value of current liabilities is equal to the value of inventory.
    d. All of the above.
    e. None of the above.

ANS: C DIF: Medium OBJ: TYPE: Conceptual
TOP: Current ratio and quick ratio

25. Which of the following statements is most correct?
    a. firms with relatively low debt ratios have higher expected returns when the business is good.
    b. firms with relatively low debt ratios are exposed to risk of loss when the business is poor.
    c. firms with relatively high debt ratios have higher expected returns when the business is bad.
    d. firms with relatively high debt ratios have higher expected returns when the business is good.
    e. none of the above.

    ANS: D DIF: Medium OBJ: TYPE: Conceptual
    TOP: Debt management ratios

26. All other things constant, an increase in a firm's profit margin would
    a. increase the additional funds needed for financing a growth in operations.
    b. decrease the additional funds needed for financing a growth in operations.
    c. have no effect on the additional funds needed for financing a growth in operations.
    d. decrease its taxes.
    e. none of the above.

    ANS: B DIF: Medium OBJ: TYPE: Conceptual TOP: Profit margin

27. Which of the following statements is correct?
    a. If Company A has a higher debt ratio that Company B, then we can be sure that A will have a lower times-interest-earned ratio than B.
    b. Suppose two companies have identical operations in terms of sales, cost of goods sold, interest rate on debt, and assets. However, Company A used more debt than Company B; that is, Company A has a higher debt ratio. Under these conditions, we would expect B's profit margin to be higher than A's.
    c. The ROE of any company which is earning positive profits and which has a positive net worth (or common equity) must exceed the company's ROA.
    d. Statements a, b, and c are all true.
    e. Statements a, b, and c are all false.

    ANS: B DIF: Tough OBJ: TYPE: Conceptual
    TOP: ROE and debt ratios

28. Pepsi Corporation's current ratio is 0.5, while Coke Company's current ratio is 1.5. Both firms want to "window dress" their coming end-of-year financial statements. As part of their window dressing strategy, each firm will double its current liabilities by adding short-term debt and placing the funds obtained in the cash account. Which of the statements below best describes the actual results of these transactions?
    a. The transactions will have no effect on the current ratios.
    b. The current ratios of both firms will be increased.
    c. The current ratios of both firms will be decreased.
    d. Only Pepsi Corporation's current ratio will be increased.
    e. Only Coke Company's current ratio will be increased.

    ANS: D
    Pepsi Corporation:
    Before: Current ratio = 50/100 = 0.50.
    After: Current ratio = 150/200 = 0.75.

Coke Company:
Before: Current ratio = 150/100 = 1.50.
After: Current ratio = 250/200 = 1.25.

DIF: Easy OBJ: TYPE: Problem TOP: Current ratio

29. The Charleston Company is a relatively small, privately owned firm. Last year the company had after-tax income of $15,000, and 10,000 shares were outstanding. The owners were trying to determine the market value for the stock, prior to taking the company public. A similar firm which is publicly traded had a price/earnings ratio of 5.0. Using only the information given, estimate the market value of one share of Charleston's stock.
a. $10.00
b. $7.50
c. $5.00
d. $2.50
e. $1.50

ANS: B
EPS = $15,000/10,000 = $1.50.
P/E = 5.0 = P/$1.50.
P = $7.50

DIF: Easy OBJ: TYPE: Problem TOP: Market price per share

30. If Boyd Corporation has sales of $2 million per year (all credit) and days sales outstanding of 35 days, what is its average amount of accounts receivable outstanding (assume a 360 day year)?
a. $194,444
b. $57,143
c. $5,556
d. $97,222
e. $285,714

ANS: A
A/R = (Sales/360)(DSO) = (($2,000,000)/(360))(35) = $194,444.

DIF: Easy OBJ: TYPE: Problem TOP: Accounts receivable

31. A firm has a profit margin of 15 percent on sales of $20,000,000. If the firm has debt of $7,500,000, total assets of $22,500,000, and an after-tax interest cost on total debt of 5 percent, what is the firm's ROA?
a. 8.4%
b. 10.9%
c. 12.0%
d. 13.3%
e. 15.1%

ANS: D
Net income = 0.15($20,000,000) = $3,000,000.
ROA = $3,000,000/$22,500,000 = 13.3%.

DIF: Easy OBJ: TYPE: Problem TOP: ROA

32. Collins Company had the following partial balance sheet and complete income statement information for last year:

Balance Sheet:	
Cash	$ 20
A/R	1,000
Inventories	2,000
Total current assets	$3,020
Net fixed assets	2,980
Total assets	$6,000

Income Statement:	
Sales	$10,000
Cost of goods sold	9,200
EBIT	$ 800
Interest (10%)	400
EBT	$ 400
Taxes (40%)	160
Net Income	$ 240

The industry average DSO is 30 (360-day basis). Collins plans to change its credit policy so as to cause its DSO to equal the industry average, and this change is expected to have no effect on either sales or cost of goods sold. If the cash generated from reducing receivables is used to retire debt (which was outstanding all last year and which has a 10% interest rate), what will Collins' debt ratio (Total debt/Total assets) be after the change in DSO is reflected in the balance sheet?

a. 33.33%
b. 45.28%
c. 52.75%
d. 60.00%
e. 65.71%

ANS: E

Current DSO = $\frac{\$1,000}{\$10,000/360}$ 36 days. Industry average DSO = 30 days.

Reduce receivables by$6\times\left(\frac{\$10,000}{360}\right) = \$166.67$
Debt = $400/0.10 = $4,000.

Debt to assets = $\frac{TD}{TA} = \frac{\$4,000-\$166.67}{\$6,000-\$166.67} = 65.71\%$

DIF: Medium OBJ: TYPE: Problem TOP: Financial statement analysis

33. A firm has total interest charges of $10,000 per year, sales of $1 million, a tax rate of 40 percent, and a net profit margin of 6 percent. What is the firm's times-interest-earned ratio?

a. 16 times
b. 10 times
c. 7 times
d. 11 times
e. 20 times

ANS: D

NI = $1,000,000(0.06) = $60,000.
EBT = $60,000/0.6 = $100,000.
EBIT = $100,000 + $10,000 = $110,000.
TIE = EBIT/I = $110,000/$10,000 = 11 times.

DIF: Medium OBJ: TYPE: Problem TOP: TIE ratio

34. Alumbat Corporation has $800,000 of debt outstanding, and it pays an interest rate of 10 percent annually on its bank loan. Alumbat's annual sales are $3,200,000; its average tax rate is 40 percent; and its net profit margin on sales is 6 percent. If the company does not maintain a TIE ratio of at least 4 times, its bank will refuse to renew its loan, and bankruptcy will result. What is Alumbat's current TIE ratio?
    a. 2.4
    b. 3.4
    c. 3.6
    d. 4.0
    e. 5.0

    ANS: E
    TIE = EBIT/I, so find EBIT and I.
    Interest = $800,000 × 0.1 = $80,000.
    Net income = $3,200,000 × 0.06 = $192,000.
    Taxable income = EBT = $192,000/(1 – T) = $192,000/0.6 = $320,000.
    EBIT = $320,000 + $80,000 = $400,000.
    TIE = $400,000/$80,000 = 5.0 times.

    DIF: Medium OBJ: TYPE: Problem TOP: TIE ratio

35. Determine the increase or decrease in cash for Rinky Supply Company for last year, given the following information. (Assume no other changes occurred during the past year.)

Decrease in marketable securities	=	$25
Increase in accounts receivables	=	$50
Increase in notes payable	=	$30
Decrease in accounts payable	=	$20
Increase in accrued wages and taxes	=	$15
Increase in inventories	=	$35
Retained earnings	=	$ 5

    a. -$50
    b. +$40
    c. -$30
    d. +$20
    e. -$10

    ANS: C
    Statement of cash flows:

<u>Cash Flows from Operations</u>

Retained earnings	$ 5
Additions (sources of cash):	
Increase in accrued wages and taxes	15
Subtractions (uses of cash):	

Increase in accounts receivable	(50)	
Increase in inventories	(35)	
Decrease in accounts payable	(20)	
Net Cash Flows from Operations		($85)
Cash Flows Associated with Financing Activities		
Decrease in marketable securities	$25	
Increase in notes payable	30	
Net Cash Flows from Financing		55
Net reduction in Cash		($30)

DIF: Medium OBJ: TYPE: Problem TOP: Change in cash flows

36. Cannon Company has enjoyed a rapid increase in sales in recent years, following a decision to sell on credit. However, the firm has noticed a recent increase in its collection period. Last year, total sales were $1 million, and $250,000 of these sales were on credit. During the year, the accounts receivable account averaged $41,664. It is expected that sales will increase in the forthcoming year by 50 percent, and, while credit sales should continue to be the same proportion of total sales, it is expected that the days sales outstanding will also increase by 50 percent. If the resulting increase in accounts receivable must be financed by external funds, how much external funding will Cannon need?
    a. $41,664
    b. $52,086
    c. $47,359
    d. $106,471
    e. $93,750

    ANS: B
    DSO = ($41,664/$250,000)/360 = 60 days.
    New A/R = (($250,000)(1.5)/(360))(60)(1.5) = $93,750.
    Hence, increase in receivables = $93,750 – $41,664 = $52,086.

    DIF: Medium OBJ: TYPE: Problem TOP: Receivables increase

37. The Meryl Corporation's common stock currently is selling at $100 per share, which represents a P/E ratio of 10. If the firm has 100 shares of common stock outstanding, a return on equity of 20 percent, and a debt ratio of 60 percent, what is its return on total assets (ROA)?
    a. 8.0%
    b. 10.0%
    c. 12.0%
    d. 16.7%
    e. 20.0%

    ANS: A
    P/E = 10 = $100/EPS
    EPS = $100/10 = $10.
    Earnings = NI = $10(100 shares) = $1,000.
    ROE = NI/Equity = $1,000/Equity = 20%
    Equity = $1,000/0.20 = $5,000.
    Debt ratio = 60%, so Equity ratio = 40% = Equity/TA
    TA = Equity/0.40 = $5,000/0.40 = $12,500.
    ROA = NI/TA = $1,000/$12,500 = 0.08 = 8%.

    DIF: Medium OBJ: TYPE: Problem TOP: ROA

38. Selzer Inc. sells all its merchandise on credit. It has a profit margin of 4 percent, days sales outstanding equal to 60 days, receivables of $150,000, total assets of $3 million, and a debt ratio of 0.64. What is the firm's return on equity (ROE)?
    a. 7.1%
    b. 33.3%
    c. 3.3%
    d. 71.0%
    e. 8.1%

    ANS: C
    (Sales per day)(DSO) = A/R
    (Sales/360)(60) = $150,000
    Sales = $900,000.

    Profit margin = Net profit after tax/Sales.
    Net profit = 0.4($900,000) = $36,000.
    Debt ratio = 0.64 = Total debt/$3,000,000.
    Total debt = $1,920,000.
    Total equity = $3,000,000 – $1,920,000 = $1,080,000.
    ROE = $36,000/$1,080,000 = 3.3%.

    DIF: Medium OBJ: TYPE: Problem TOP: ROE

39. You are given the following information about a firm: The growth rate equals 8 percent; return on assets (ROA) is 10 percent; the debt ratio is 20 percent; and the stock is selling at $36. What is the return on equity (ROE)?
    a. 14.0%
    b. 12.5%
    c. 15.0%
    d. 2.5%
    e. 13.5%

    ANS: B
    Debt ratio = TL/TA = 20%, so Equity = (1 - 0.20)TA = 0.80(TA).
    ROA = NI/TA = 10%.
    NI = 10%(TA) = 0.10(TA).
    ROE = NI/Equity = [0.10(TA)]/[0.80(TA)] = 0.10/0.80 = 0.125 = 12.5%.

    DIF: Medium OBJ: TYPE: Problem TOP: ROE

40. Assume Meyer Corporation is 100 percent equity financed. Calculate the return on equity, given the following information:

    (1) Earnings before taxes = $1,500;
    (2) Sales = $5,000;
    (3) Dividend payout ratio = 60%;
    (4) Total assets turnover = 2.0;
    (5) Applicable tax rate = 30%.

    a. 25%
    b. 30%
    c. 35%
    d. 42%
    e. 50%

ANS: D
NI = $1,500(1 - 0.3) = $1,050.
Total assets turnover = Sales/TA = 2.0.
TA = Sales/2.0 = $5,000/2.0 = $2,500 = Equity.
ROE = NI/Equity = $1,050/$2,500 = 42%.

DIF: Medium OBJ: TYPE: Problem TOP: ROE

41. The Amer Company has the following characteristics:

Sales:	$1,000
Total Assets:	$1,000
Total Debt/Total Assets:	35%
EBIT:	$ 200
Tax rate:	40%
Interest rate on total debt:	4.57%

What is Amer's ROE?
a. 11.04%
b. 12.31%
c. 16.99%
d. 28.31%
e. 30.77%

ANS: C
Calculate debt and equity:
Debt = D/A × TA = 0.35($1,000) = $350.
Equity = TA - Debt = $1,000 - $350 = $650.

Calculate net income and ROE:
Net income = (EBIT - I)(1 - T) = [$200 – 0.0457($350)](0.6) = $110.4.
ROE = $110.4/$650 = 16.99%.

DIF: Medium OBJ: TYPE: Problem TOP: ROE

42. Aurillo Equipment Company (AEC) projected that its ROE for next year would be just 6%. However, the financial staff has determined that the firm can increase its ROE by refinancing some high interest bonds currently outstanding. The firm's total debt will remain at $200,000 and the debt ratio will hold constant at 80%, but the interest rate on the refinanced debt will be 10%. The rate on the old debt is 14%. Refinancing will not affect sales which are projected to be $300,000. EBIT will be 11% of sales, and the firm's tax rate is 40%. If AEC refinances its high interest bonds, what will be its projected new ROE?
a. 3.0%
b. 8.2%
c. 10.0%
d. 15.6%
e. 18.7%

ANS: D
Relevant information: Old ROE = NI/Equity = 0.06 = 6%.
Sales = $300,000; EBIT = 0.11(Sales) = 0.11($300,000) = $33,000.
Debt = $200,000; D/A = 0.80 = 80%.
Tax rate = 40%.
Interest rate change: Old bonds 14%; new bonds 10%.

Calculate total assets and equity amounts:
Since debt = \$200,000, total assets = \$200,000/0.80 = \$250,000.
E/TA = 1 – D/A = 1 – 0.80 = 0.20.
Equity = E/TA × TA = 0.20 × \$250,000 = \$50,000.

Construct comparative Income Statements from EBIT, and calculate new ROE:

	Old	New
EBIT	\$33,000	\$33,000
Less: Interest	28,000	20,000
EBT	5,000	13,000
Less: Taxes (40%)	2,000	5,200
Net income	\$ 3,000	\$ 7,800

New ROE = NI/Equity = \$7,800/\$50,000 = 0.1560 = 15.6%.

DIF: Medium OBJ: TYPE: Problem TOP: ROE and refinancing

43. Savelots Stores' current financial statements are shown below:

Inventories	\$ 500	Accounts payable	\$ 100
Other current assets	400	Short-term notes payable	370
Fixed assets	370	Common equity	800
Total assets	\$1,270	Total liab. and equity	\$1,270

Sales	\$2,000
Operating costs	1,843
EBIT	157
Less: Interest	37
EBT	120
Less: Taxes (40%)	48
Net income	72

A recently released report indicates that Savelots' current ratio of 1.9 is in line with the industry average. However, its accounts payable, which have no interest cost and which are due entirely to purchases of inventories, amount to only 20% of inventory versus an industry average of 60%. Suppose Savelots took actions to increase its accounts payable to inventories ratio to the 60% industry average, but it (1) kept all of its assets at their present levels (that is, the asset side of the balance sheet remains constant) and (2) also held its current ratio constant at 1.9. Assume that Savelots' tax rate is 40%, that its cost of short-term debt is 10%, and that the change in payments will not affect operations. In addition, common equity would not change. With the changes, what would be Savelots' new ROE?
a. 10.5%
b. 7.8%
c. 9.0%
d. 13.2%
e. 12.0%

ANS: A
The firm is not using its "free" trade credit (that is, accounts payable (A/P)) to the same extent as other companies. Since it is financing part of its assets with 10% notes payable, its interest expense is higher than necessary.

Calculate the increase in payables:
Current (A/P)/Inventories ratio = 100/500 = 0.20.

Target A/P = 0.60(Inventories) = 0.60(500) = 300.
Increase in A/P = 300 - 100 = 200.

Because the current ratio and total assets remain constant, total liabilities and equity must be unchanged. The increase in accounts payable must be matched by an equal decrease in interest bearing notes payable. Notes payable decline by 200. Interest expense decreases by 200 × 0.10 = 20.

Construct comparative Income Statements:

	Old	New
Sales	$2,000	$2,000
Operating costs	1,843	1,843
EBIT	157	157
Less: Interest	37	17
EBT	120	140
Less: Taxes	48	56
Net income (NI)	$ 72	$ 84

ROE = NI/Equity = $72/$800 = 9%. $84/$800 = 10.5%.

New ROE = 10.5%.

DIF: Medium OBJ: TYPE: Problem TOP: ROE and financing

44. Harvey Supplies Inc. has a current ratio of 3.0, a quick ratio of 2.4, and an inventory turnover ratio of 6. Harvey's total assets are $1 million and its debt ratio is 0.20. The firm has no long-term debt. What is Harvey's sales figure if the total cost of goods sold is 75% of sales?
a. $960,000
b. $720,000
c. $1,620,000
d. $120,000
e. $540,000

ANS: A
Current liabilities: (0.2)($1,000,000) = $200,000.
Current assets: CA/$200,000 = 3.0; CA = $600,000.
Inventory: ($600,000 - I)/$200,000 = 2.4; I = $120,000.
Sales: (0.75)S/$120,000 = 6; S = $720,000/0.75 = $960,000.

DIF: Medium OBJ: TYPE: Problem TOP: Sales volume

45. Given the following information, calculate the market price per share of WAM Inc.

Earnings after interest and taxes = $200,000
Earnings per share = $2.00
Stockholders' equity = $2,000,000
Market/Book ratio = 0.20

a. $20.00
b. $8.00
c. $4.00
d. $2.00
e. $1.00

ANS: C
Number of shares = $200,000/$2.00 = 100,000.

Book value per share = \$2,000,000/100,000 = \$20.
Market value = 0.2(Book value) = 0.2(\$20) = \$4.00 per share.

DIF: Medium OBJ: TYPE: Problem TOP: Market price per share

46. On its December 31st balance sheet, LCG Company reported gross fixed assets of \$6,500,000 and net fixed assets of \$5,000,000. Depreciation for the year was \$500,000. Net fixed assets a year earlier on December 31st, had been \$4,700,000. What figure for "Cash Flows Associated with Long-Term Investments (Fixed Assets)" should LCG report on its Statement of Cash Flows for the current year?
    a. \$500,000
    b. \$600,000
    c. \$700,000
    d. \$800,000
    e. \$900,000

ANS: D
Funds = $NFA_1 - NFA_0$ + Depreciation
= \$5,000,000 – \$4,700,000 + \$500,000 = \$800,000.

Alternative long-form solution:

	Current Year	One Year Ago
Gross fixed assets	\$6,500,000	\$5,700,000
Accumulated depreciation	1,500,000	1,000,000
Net fixed assets	5,000,000	4,700,000

Accumulated $\text{assets}_{\text{Year ago}}$ = \$4,700,000 + (\$1,500,000 - \$500,000)
= \$5,700,000.

Funds used to purchase = $GFA_{\text{Current}} - GFA_{\text{Year ago}}$ fixed assets
= \$6,500,000 - \$5,700,000 = \$800,000.

DIF: Medium OBJ: TYPE: Problem TOP: Depreciation cash flows

47. Lombardi Trucking Company has the following data:

Assets:	\$10,000	Profit margin:	3.0%
Debt ratio:	60.0%	Interest rate:	10.0%
Tax rate:	40%	Total asset turnover:	2.0

What is Lombardi's TIE ratio?
    a. 0.95
    b. 1.75
    c. 2.10
    d. 2.67
    e. 3.45

ANS: D

TIE $= \frac{EBIT}{I} = ?$

TA Turnover = S/A = 2
S/\$10,000 = 2
S = \$20,000
Debt ratio $= \frac{TD}{TA} = 0.6; TD = 0.6(\$10{,}000)$

Debt = \$6,000
INT = \$6,000 (0.1) = \$600
PM = $\frac{NI}{S} = 3\%$
PM = $\frac{NI}{\$20,000} = 0.03$
NI = \$600
EBIT =$\frac{\$600}{(1-.04)} = \$1,000$

EBIT	\$1,600
Int.	600
EBT	\$1,000
Taxes (40%)	400
NI	\$ 600

TIE = \$1,600/\$600 = 2.67

DIF: Tough OBJ: TYPE: Problem TOP: TIE ratio

48. Retailers Inc. and Computer Corp. each have assets of \$10,000 and a return on common equity equal to 15%. Retailers has twice as much debt and twice as many sales relative to Computer Corp. Retailers' net income equals \$750, and its total asset turnover is equal to 3. What is Computer Corp.'s profit margin?
    a. 2.50%
    b. 5.00%
    c. 7.50%
    d. 10.00%
    e. 12.50%

ANS: C
D = Debt for Computer Corp.; S = Sales for Computer Corp.
2D = Debt for Retailers; 2S = Sales for Retailers

Retailers:
ROE =$\frac{NI}{CE}$
0.15 = $\frac{\$750}{\$10,000-2D}$

\$1,500 - 0.3D = \$750
D = \$2,500

Computer Corp.:
0.15 = $\frac{NI}{\$10,000-D}$
0.15 = $\frac{NI}{\$10,000-\$2,500}$
NI = \$1,125

Retailers:
TATO = $\frac{S}{A} = 3$
3= $\frac{2S}{\$10,000}$
S = \$15,000

PM for Computer Corp.: $\frac{NI}{S} = \frac{\$1{,}125}{\$15{,}000} = 0.075 = 7.5\%$

DIF: Tough OBJ: TYPE: Problem TOP: Profit margin