CHAPTER 20
FINANCIAL ANALYSIS TECHNIQUES

1. (B) inventory.

Explanation

Current ratio = current assets / current liabilities

Quick ratio = (current assets - inventories) / current liabilities

Marketable securities are included among current assets in both ratios. Neither ratio considers non-current assets.

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

2. (C) Inventory.

Explanation

Quick ratio = (cash + marketable securities + receivables) / current liabilities

Current ratio = (cash + marketable securities + receivables + inventory) / current liabilities

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

3. (C) 4 times.

Explanation

ICR = operating profit + I = EBIT + I = 100,000 + 25000 = 4

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

4. (C) 52 days.

Explanation

Days of sales outstanding = 365 / 10 = 36.5 days

Days of inventory on hand = 365 / 8 = 45.6 days

Days of payables = 365 / 12 = 30.4 days

Cash conversion cycle = 36.5 + 45.6 - 30.4 = 51.7 days

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

5. (A) Current Ratio.

Explanation

The current ratio is a liquidity measure. Equity turnover and net profit margin are used primarily as measures of a company's operating performance.

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

6. (B) increase current assets by 100 or decrease current liabilities by 50.

Explanation

For the current ratio to equal 2.0, current assets would need to move to $600 (or up by $100) or current liabilities would need to decrease to $250 (or down by $50). Remember that CA - CL = working capital (500 - 300 = 200).

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

7. (A) 9.3%.

Explanation

ROE = 150(NI) / [1000(common) + 620(RE)] = 150 / 1620 = 0.0926 or 9.3%

(Study Session 6, Module 20.4, LOS 20.d)

Related Material

SchweserNotes - Bok 2

8. (A) both IFRS and U.S. GAAP.

Explanation

Both IFRS and U.S. GAAP require companies to report segment data.

(Study Session 6, Module 20.5, LOS 20.f)

Related Material

SchweserNotes - Book 2

9. (C) 25 days.

Explanation

Average receivables collection period = 365 / receivables turnover, which is 22.81 days for the industry (= 365 / 16). If Q-Tell's receivables turnover is less than 16, its average days collection period must be greater than 22.81 days.

(Study Session 6, Module 20.3, LOS 20.c)

Related Material

SchweserNotes - Book 2

10. (B) net income/sales x sales/assets x assets/equity.

Explanation

The traditional three-part DuPont decomposition of ROE is profit margin x asset turnover x financial leverage. Although ROE can also be decomposed as net income/assets x sales/equity x assets/sales, this is not the DuPont equation.

(Study Session 6, Module 20.4, LOS 20.d)

Related Material

SchweserNotes - Book 2

11. (C) 5.81%.

Explanation

ROE = profit margin x asset turnover x A/E = 0.08 x 1.2 x 1.1 = 0.1056

RR = (1 - 0.45) = 0.55

g = ROE x RR = 0.1056 x 0.55 = 0.0581

(Study Session 6, Module 20.5, LOS 20.e)

Related Material

SchweserNotes - Book 2

12. (A) $40,000.

Explanation

The traditional DuPont system is given as:

ROE = (net profit margin)(asset turnover)(leverage ratio)

Solving for the net profit margin yields:

0.12 = (net profit margin) x (2) x (1.5)

0.04 = (net profit margin)

Recognizing that the net profit margin is equal to net income / revenue we can substitute that relationship into the above equation and solve for net income:

0.04 = net income / revenue = net income / $1,000,000

$40,000 = net income.

(Study Session 6, Module 20.4, LOS 20.d)

Related Material

SchweserNotes - Book 2

13. (A) 219.0 days.

Explanation

Receivables turnover = $250,000 / $150,000 = 1.66667

Collection period = 365 / 1.66667 = 219 days

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

14. (A) Lawrence has the greatest uncertainty about its net income.

Explanation

Jerome CV sales = 400,000 / 1,200,000 = 0.33

Lawrence CV sales = 700,000 / 3,500,000 = 0.20

Morris CV sales = 1,600,000 / 6,400,000 = 0.25

Uncertainty about sales is greatest for Jerome and least for Lawrence.

Jerome CV net income = 80,000 / 120,000 = 0.67

Lawrence CV net income = 300,000 / 400,000 = 0.75

Morris CV net income = 400,000 / 800,000 = 0.50

Uncertainty about net income is greatest for Lawrence and least for Morris.

(Study Session 6, Module 20.5, LOS 20.e)

Related Material

SchweserNotes - Book 2

15. (A) Entertainment, Lodging, and Services.

Explanation

For portions of a company that are distinguishable by their risk and return characteristics, IFRS and U.S. GAAP require segment reporting if a portion accounts for more than 10% of the company's revenues or assets. Services and Lodging each account for more than 10% of Pastel's total revenues and assets, and Entertainment accounts for more than 10% of Pastel's total assets.

(Study Session 6, Module 20.5, LOS 20.f)

Related Material

SchweserNotes - Book 2

16. (B) higher than G Company's because its interest coverage ratio is less than one-third of G Company's.

Explanation

E Company's interest coverage ratio (EBIT / interest expense) is (30 / 20) = 1.5.

G Company's interest coverage ratio is (25 / 5) = 5.0. Higher interest coverage means greater ability to cover required interest and lease payments. Note that 1.5 / 5.0 = 0.30, which means the interest coverage for **E** Company is less than 1/3 that of G Company.

(Study Session 6, Module 20.3, LOS 20.c)

Related Material

SchweserNotes - Book 2

17. (C) 252.7 days.

Explanation

COGS = (0.65)($1,000,000) = $650,000

Inventory turnover = CGS / Inventory = $650,000 / $450,000 = 1.4444

Average Inventory Processing Period = 365 / 1.4444 = 252.7 days

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

18. (C) **$58.4 million.**

Explanation

Set up the cash conversion cycle formula and solve for the missing variable, sales. Days in payables is equal to 73 [365 / 5 accounts payable turnover]. Days in inventory is equal to 36.5 [365 / ($30 million COGS / $3 million average inventory)]. Given the cash conversion cycle, days in inventory, and days in payables, calculate days in receivables of 50 [13.5 days cash conversion cycle + 73 days in payables - 36.5 days in inventory]. Given days in receivables of 50 and average receivables of $8 million, sales are $58.4 million [($8 million average receivables / 50 days) x 365].

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

19. (A) **26 days.**

Explanation

Cash conversion cycle = receivables collection period + inventory processing period - payables payment period.

Receivables collection period = (365 / 20) = 18

Inventory processing period = (365 / 16) = 23

Payables payment period = (365 / 24) = 15

Cash conversion cycle = 18 + 23 - 15 = 26

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

20. (C) **Only one of the ratios is a profitability ratio.**

Explanation

(Cash + short-term marketable investments + receivables) divided by average daily cash expenditures is known as the defensive interval ratio. The defensive interval ratio is a liquidity ratio that measures the firm's ability to pay cash expenditures in the absence of external cash flows, but does not directly measure profitability. EBIT / average total assets is one variation of the return on assets ratio. Return on assets is a profitability ratio that measures the efficiency of managing assets and generating profits.

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

21. (C) 2.0.

Explanation

Receivables turnover = 1,500(sales) / 750(receivables) = 2.0

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

22. (C) 1.33 20.8%

Explanation

Total asset turnover = sales / average assets = 5,000,000 / 3,750,000 = 1.33

Return on equity = net income / average equity

Net income = EBIT - interest - taxes = 800,000 - 160,000 - 256,000 = 384,000

ROE = 384,000 / 1,850,000 = 20.8%

(Study Session 6, Module 20.4, LOS 20.d)

Related Material

SchweserNotes - Book 2

23. (A) 7.35%.

Explanation

ROE = tax burden x interest burden x EBIT margin x asset turnover x financial leverage tax burden = net income/EBT

EBT = EBIT - I = 2,000,000 - 900,000 = 1,100,000

net income = (EBT)(1-t) = (1,100,000)(1 - 0.35) = 715,000

tax burden = 715,000/1,100,000 = 0.65

interest burden = EBT/EBIT = 1,100,000/2,000,000 = 0.55

EBIT margin = EBIT/revenue = 2,000,000/16,000,000 = 0.125

asset turnover = revenue/total assets = 16,000,000/12,300,000 = 1.301

financial leverage = total assets/total equity = 12,300,000/7,000,000 = 1.757

ROE = 0.65 x 0.55 x 0.125 x 1.301 x 1.757 = 0.1021

Alternatively, ROE = [(EBIT - 0(14)]/equity = [(2,000,000 - 900,000)(1 - 0.35)]/7,000,000 = 0.1021

Sustainable growth = ROE (1 - dividend payout rate) = 0.1021 x 0.72 = 7.35%.

(Study Session 6, Module 20.5, LOS 20.e)

Related Material

SchweserNotes - Book 2

24. (C) a range of target values for a ratio may be more appropriate than a single target value.

Explanation

A range of target values for a financial ratio may be more appropriate that a single numerical target. Financial ratios are not useful when viewed in isolation and are only valid when compared to historical figures or peers. Comparing ratios among firms can be complicated by variations in accounting treatments used at each firm.

(Study Session 6, Module 20.1, LOS 20.a)

Related Material

SchweserNotes - Book 2

25. (C) 53 days.

Explanation

Cash conversion cycle = days of sales outstanding + days of inventory on hand - number of days of payables = 37 + 46 - 30 = 53 days.

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

26. (B) current liabilities.

Explanation

Current liabilities are used in the denominator for the: current, quick, and cash ratios. (Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

27. (B) Debt to total capital.

Explanation

The debt to total capital ratio is not part of the original DuPont system. The firm's leverage is accounted for through the equity multiplier.

(Study Session 6, Module 20.4, LOS 20.d)

Related Material

SchweserNotes - Book 2

28. (B) 76.7 days.

Explanation

Average collection period = 365 / receivables turnover

Receivables turnover = sales / average receivables = 3,000 / 630 = 4.76

Average receivables collection period = 365 / 4.76 = 76.65

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

29. (B) 183.

Explanation

Receivables turnover = 1,500(sales) / 750(receivables) = 2.0

Average receivables collection period = 365 / 2 = 182.5 or 183

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

30. (C) $8.8 million.

Explanation

20X8 sales are expected to be $110 million [$100 million x 1.1] and COGS is expected to be $44 million [$110 million sales x 40%]. With 73 days of inventory on hand, average inventory is $8.8 million [($44 million COGS / 365) x 73 days].

(Study Session 6, Module 20.5, LOS 20.g)

Related Material

SchweserNotes - Book 2

31. (B) gross profit margin increased in 20X1 but net profit margin decreased.

Explanation

Royal's gross profit margin (gross profit / sales) was higher in 20X1 (34 / 82 = 41.5%) than in 20X0 (31 / 78 = 39.7%), but net profit margin (earnings after taxes / sales) declined from 7 / 78 = 9.0% in 20X0 to 6 / 82 = 7.3% in 20X1.

(Study Session 6, Module 20.3, LOS 20.c)

Related Material

SchweserNotes - Book 2

32. (B) both are incorrect.

Explanation

Although manipulation of cash flow can occur, the P/E ratio is easier to manipulate because earnings are based on the numerous estimates and judgments of accrual accounting. EPS does not facilitate direct comparisons of profitability. Two firms may have the same amount of earnings but their number of shares outstanding may differ significantly.

(Study Session 6, Module 20.5, LOS 20.e)

Related Material

SchweserNotes - Book 2

33. (B) 2.4 26.8%

Explanation

The current ratio is equal to 2.4 [(4.8% cash + 14.9% accounts receivable + 49.4% inventory) / (15.0% accounts payable + 13.8% accrued liabilities)]. This ratio can be calculated from the common size balance sheet because the percentages are all on the same base amount (total).

Return on equity is equal to net income divided by average total equity. Since this ratio mixes an income statement item and a balance sheet item, it is necessary to convert the common-size inputs to dollars. Net income is $11,211,200 ($215,600,000 x 5.2%) and average equity is $41,772,000 [($95,300,000 x 48.0%) + $37,800,000] / 2. Thus, 2007 ROE is 26.8% ($11,211,200 net income / $41,772,000 average equity).

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

34. (B) Description #3 Description #2

Explanation

Sensitivity analysis develops a range of possible outcomes as specific inputs are changed one at a time. Sensitivity analysis is also known as "what-if" analysis. *Scenario* analysis is based on a specific set of outcomes for multiple variables. Computer generated analysis, based on developing probability distributions of key variables, is known as *simulation* analysis.

(Study Session 6, Module 20.5, LOS 20.g)

Related Material

SchweserNotes - Book 2

35. (A) Higher Higher

Explanation

Available-for-sale securities are reported on the balance sheet at fair value and any unrealized gains and losses bypass the income statement and are reported as an adjustment to equity. Thus, a decrease in fair value will result in a higher ROA ratio (lower assets). Trading securities are also reported on the balance sheet at fair value; however, the unrealized gains and losses are recognized in the income statement. Therefore, an increase in fair value will result in higher ROA. In this case, both the numerator and denominator are higher; however, since the ratio is less than one, the percentage change of the numerator is greater than the percentage change of the denominator, so the ratio will increase.

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

36. (B) Interest burden.

Explanation

EBT / EBIT is the interest burden, the second component in the extended DuPont equation. It shows that more leverage does not always lead to higher ROE. As leverage rises, so does the interest burden. The positive effects of leverage can be offset by the higher interest payments that accompany higher levels of debt. Net income / EBT is called the tax burden and is equal to (1 - tax rate). The higher the tax rate, the lower the ROE level. EBIT / revenue is called the EBIT margin or operating margin.

For Further Reference:

(Study Session 6, Module 20.4, LOS 20.d)

CFA® Program Curriculum, Volume 3, page 221

Related Material

SchweserNotes - Book 2

37. (C) 80.38 days.

Explanation

The cash conversion cycle = average receivables collection period + average inventory processing period - payables payment period. The average receivables collection period = 365 / average receivables turnover or 365 / 10.5 = 34.76. The average inventory processing period = 365 / inventory turnover or 365 / 4 = 91.25. The payables payment period = 365 / payables turnover ratio = 365 / 8 = 45.63. Putting it all together: cash conversion cycle = 34.76 + 91.25 - 45.63 = 80.38.

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

38. (A) will increase.

Explanation

The DuPont decomposition (ROE = net profit margin x asset turnover x leverage ratio) shows that ROE will increase if asset turnover increases, assuming net profit margin and leverage are unchanged.

(Study Session 6, Module 20.4, LOS 20.d)

Related Material

SchweserNotes - Book 2

39. (B) 4.65 0.93

Explanation

Current ratio = [100(cash) + 750(accounts receivable) + 300(marketable securities) + 850(inventory)] / [300(AP) + 130(short term debt)] = (2000 / 430) = 4.65

Cash ratio = [100(cash) + 300(marketable securities)] / [300(AP) + 130(short term debt)] = (400 / 430) = 0.93

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

40. (B) No effect Increase

Explanation

Collecting receivables increases cash and decreases accounts receivable. Thus, current assets do not change and the current ratio is unaffected. Because the numerator of the cash ratio only includes cash and marketable securities, collecting accounts receivable increases the cash ratio.

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

41. (B) 1.59 0.86

Explanation

Current ratio = current assets / current liabilities = 12,297 / 7,735 = 1.59

Quick ratio = (cash + receivables) / current liabilities = 2,098 + 4,570 / 7,735 = 0.86

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

42. (B) 1.44.

Explanation

There are many different ways to illustrate ROE one of which is:

ROE = (net profit margin) (asset turnover) (equity multiplier)

0.18 = (0.05) (2.5) (equity multiplier)

0.18 + [(0.05) (2.5)] = equity multiplier

0.18 + 0.125 = equity multiplier

0.18 + 0.125 = 1.44

(Study Session 6, Module 20.4, LOS 20.d)

Related Material

SchweserNotes - Book 2

43. (B) Yes No

Explanation

The sustainable growth rate is equal to ROE multiplied by the retention rate. According to the Dupont formula, an increase in net profit margin will result in higher ROE. Thus, an increase in net profit margin will result in a higher growth rate. The retention rate is equal to 1 minus the dividend payout ratio. Thus, an increase in the dividend payout ratio will lower the retention rate and lower the growth rate.

(Study Session 6, Module 20.5, LOS 20.e)

Related Material

SchweserNotes - Book 2

44. (C) operating profit.

Explanation

Operating profit = earnings before interest and taxes (EBIT)

Gross profit = net sales – COGS

Net income = earnings after taxes = EAT

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

45. (C) 95 days of sales outstanding.

Explanation

Receivables turnover = $1,000,000 / $260,000 = 3.840

Days of sales outstanding = 365 / 3.840 = 95.05 days.

Inventory turnover = $800,000 / $400,000 = 2

Days of inventory on hand = 365 / 2 = 182.5 days.

Payables turnover ratio = $800,000 / $600,000 = 1.333.

Number of days of payables = 365 / 1.333 = 273.82 days.

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

46. (B) One is used primarily to assess its ability to meet short-term obligations, and the other is used primarily to assess its ability to meet long-term obligations.

Explanation

The quick ratio is a liquidity ratio. Liquidity ratios are used to measure a firm's ability to meet its short-term obligations. The debt-to-capital ratio is a solvency ratio. Solvency ratios are used to measure a firm's ability to meet its longer-term obligations.

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

47. (B) $4.5 million.

Explanation

Manhattan's quick assets were equal to $9 million ($15 million current assets - $6 million inventory). Given a quick ratio of 2.0, quick assets were twice the current liabilities. Thus, the current liabilities must have been $4.5 million ($9 million quick assets / 2.0 quick ratio).

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

48. (B) cross-sectional analysis.

Explanation

Comparing a company's ratios with those of its competitors is known as cross-sectional analysis.

(Study Session 6, Module 20.1, LOS 20.a)

Related Material

SchweserNotes - Book 2

49. (C) 9%.

Explanation

Return on equity (ROE) = net profit margin x asset turnover x leverage = (0.15) (0.67) (1.364) = 0.137.

The sustainable growth = (1 - dividend rate) (ROE) = (0.65) (0.137) = 8.9%.

(Study Session 6, Module 20.5, LOS 20.e)

Related Material

SchweserNotes - Book 2

50. (B) 20%.

Explanation

Operating profit margin = ($1,000 revenues - $600 COGS - $200 operating expenses) / $1,000 revenues = $200 / $1000 = 0.2

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

51. (A) Activity ratio Solvency ratio

Explanation

Revenue divided by average working capital, also known as the working capital turnover ratio, is an activity ratio. Average total assets divided by average total equity, also known as the financial leverage ratio, is a solvency ratio.

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

52. (A) Current ratio.

Explanation

Total asset turnover measures operating efficiency and interest coverage measures a company's financial risk.

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

53. (A) 79 days.

Explanation

Cash conversion cycle = receivables days + inventory processing days - payables payment period.

Receivables days = 365 / receivables turnover = 365 / 10 = 36.5 days.

Inventory processing days = 365 / inventory turnover = 365 / 5 = 73.0 days.

Cash collection cycle = 36.5 + 73.0 - 30.4 = 79.1 days.

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

54. (A) Asset turnover.

Explanation

The three-part DuPont approach is as follows: net profit margin x asset turnover x leverage ratio, where the leverage ratio is assets-to-equity.

For Further Reference:

(Study Session 6, Module 20.4, LOS 20.d)

CFA® Program Curriculum, Volume 3, page 221

Related Material

SchweserNotes - Book 2

55. (A) 0.50.

Explanation

Operating profit margin = (EBIT / sales) = (1,500 / 3,000) = 0.5

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

56. (C) $83,333,333.

Explanation

One of the many ways ROE can be expressed is: ROE = net income / equity

0.12 = $10,000,000 / equity

Equity = $10,000,000 / 0.12 = $83,333,333

(Study Session 6, Module 20.4, LOS 20.d)

Related Material

SchweserNotes - Book 2

57. (A) 3.25.

Explanation

First, calculate beginning inventory given COGS, purchases, and ending inventory. Beginning inventory was $35 million [$130 million COGS + $45 million ending inventory - $140 million purchases]. Next, calculate average inventory of $40 million [($35 million beginning inventory + $45 million ending inventory) / 2]. Finally, calculate inventory turnover of 3.25 [$130 million COGS / $40 million average inventory].

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

58. (C) Net profit margin, asset turnover, equity multiplier.

Explanation

The three ratios can be further decomposed as follows:

Net profit margin = net income/sales

Asset turnover = sales/assets

Equity multiplier = assets/equity

(Study Session 6, Module 20.4, LOS 20.d)

Related Material

SchweserNotes - Book 2

59. (B) 1.1 0.8 0.6

Explanation

Current ratio = (0.4 + 2.0 + 0.8 + 1.2) / 4.0 = 1.1.

Quick ratio = (0.4 + 2.0 + 0.8) / 4.0 = 0.8.

Cash ratio = (0.4 + 2.0) / 4.0 = 0.6.

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

60. (A) **Both ratios will decrease.**

Explanation

As an example, start with CA = 2, CL = 1, and Inv = 1.2. We begin with a current ratio of 2 and a quick ratio of 0.8. If the firm increases short-term bank debt (a current liability) by 1 to buy inventory (a current asset) of 1, both the numerator and denominator increase by 1, resulting $\frac{3}{2}$ = 1.5 (new current ratio) and $\frac{3 - 2.2}{2}$ = 0.4 (new quick ratio).

For Further Reference:

(Study Session 6, Module 20.2, LOS 20.b)

CFA® Program Curriculum, Volume 3, page 197

Related Material

SchweserNotes - Book 2

61. (A) **characteristics distinguishable from the company's other lines of business.**

Explanation

Financial statement items must be reported separately for any segment of a firm's business that is greater than 10% of revenue or assets and has risk and return characteristics that are distinguishable from those of the company's other lines of business. Requirements for reporting of geographic segments have the same size threshold and the segment must operate in a business environment that is different from that of the firm's other segments.

(Study Session 6, Module 20.5, LOS 20.f)

Related Material

SchweserNotes - Book 2

62. (A) **4.65.**

Explanation

Current ratio = [100(cash) + 750(AR) + 300(marketable securities) + 850(inventory)] / [300(AP) + 130(short-term debt)] = (2,000 / 430) = 4.65

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

63. (A) **lengthens.**

Explanation

CCC = collection period + Inv Period - Payment period.

Payment period = (365 / payables turnover) = (365 / 11) = 33; (365 / 12) = 30. This means the CCC actually increased to 83.

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

64. (B) Calculation of ratios involves a large degree of subjectivity.

Explanation

There is not a great deal of subjectivity involved in calculating ratios. The mechanical formulas for the calculations are fairly standard and objective for the activity, liquidity, solvency, and profitability ratios, for instance. On the other hand, determining the target or comparison value for a ratio is difficult as it requires some range of acceptable values and that introduces an element of subjectivity. Conclusions cannot be made from viewing one set of ratios as all ratios must be viewed relative to one another in order to make meaningful conclusions. It can be difficult to find comparable industry ratios, especially when analyzing companies that operate in multiple industries.

(Study Session 6, Module 20.1, LOS 20.a)

Related Material

SchweserNotes - Book 2

65. (B) 0.78 $500

Explanation

If equity equals 45% of assets, and current liabilities equals 20%, then long-term debt must be 35%.

Long-Term Debt / Equity = 0.35 / 0.45 = 0.78

Working capital = CA - CL = 45% - 20% = 25% of assets

WC = 2,000(0.25) = $500

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

66. (B) 3.15.

Explanation

ROE in 20X4 was 0.18 x 1.75 x 1.5 = 0.4725.

If ROE for 20X5 is unchanged from 20X4, then:

0.10 x asset turnover x 1.5 = 0.4725

Asset turnover = 3.15.

(Study Session 6, Module 20.4, LOS 20.d)

Related Material

SchweserNotes - Book 2

67. (B) 0.62

Explanation

There are several ways to approach this question but the easiest way is to recognize that ROE = NI / average equity thus ROE = 944 / 1,519 = 0.622.

If using the traditional DuPont, ROE = (NI / Sales) x (Sales / Assets) x (Assets / Equity):

ROE = (944 / 3,000) x (3,000 / 2,920) x (2,920 / 1,519) = 0.622

The 5-part Dupont formula gives the same result:

ROE = (net income / EBT) (EBT / EBIT) (EBIT / revenue) (revenue / total assets) (total assets / total equity)

Where EBIT = EBT + interest = 1,349 + 151 = 1,500

ROE 2007 = (944 / 1,349) (1,349 / 1,500) (1,500 / 3,000) (3,000 / 2,920) (2,920 / 1,519) = 0.622

(Study Session 6, Module 20.3, LOS 20.c)

Related Material

SchweserNotes - Book 2

68. (B) Statement #1 Statement #2

Explanation

Horizontal common-size analysis involves expressing each line item as a percentage of the base-year figure. Vertical common-size analysis involves expressing each line item of the income statement as a percentage of revenue and each line item of the balance sheet as a percentage of ending total assets.

(Study Session 6, Module 20.1, LOS 20.a)

Related Material

SchweserNotes - Book 2

69. (B) A company that has an inventory turnover of 6 times, a receivables turnover of 9 times, and a payables turnover of 12 times will have a cash conversion cycle of approximately 71 days.

Explanation

The cash conversion cycle is (365 / 6) + (365 / 9) - (365 / 12) = 60.8 + 40.6 - 30.4 = 71 days. ROA is less than ROE when net income is positive and debt is present. The fact that a company has a high gross profit margin does not necessarily mean it will have a high net profit margin. A company with a high gross margin may have a low (or negative) net margin if its operating expenses are high.

For Further Reference:

(Study Session 6, Module 20.2, LOS 20.b)

CFA® Program Curriculum, Volume 3, page 197

Related Material

SchweserNotes - Book 2

70. (A) sales.

Explanation

Vertical common-size analysis of an income statement is typically done by stating each item as a percentage of sales. Stating each item on a financial statement as a percentage of its value in a base period is referred to as horizontal common-size analysis.

For Further Reference:

(Study Session 6, Module 20.1, LOS 20.a)

CFA® Program Curriculum, Volume 3, page 176

Related Material

SchweserNotes - Book 2

71. (C) 2.018.

Explanation

Quick ratio = (cash + marketable securities + receivables) / CL = (450 + 0 + 660) / 550 = 2.018

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

72. (B) Decreases by approximately 3 days.

Explanation

Cash conversion cycle (CCC) = days of sales outstanding + days of inventory on hand -number of days of payables. Days of sales outstanding = 365 / receivables turnover = 365 / 11 = 33.18; 365 / 12 = 30.42. This means the CCC decreases by 2.76 days.

For Further Reference:

(Study Session 6, Module 20.2, LOS 20.b)

CFA® Program Curriculum, Volume 3, page 197

Related Material

SchweserNotes - Book 2

73. (B) Gross profit margin.

Explanation

The gross profit margin is used to measure a firm's operating profitability, not operating efficiency.

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

74. (B) Sum of the time it takes to sell inventory and collect on accounts receivable, less the time it takes to pay for credit purchases.

Explanation

Cash conversion cycle = (average receivables collection period) + (average inventory processing period) - (payables payment period)

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

75. (B) 1.29.

Explanation

Inventory turnover = 1,100(COGS) / 850(inventory) = 1.29

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

76. (B) Increase the quick ratio.

Explanation

The quick ratio numerator is cash plus marketable securities plus accounts receivable, and the denominator is current liabilities. The numerator is unaffected by a change in inventory, while the denominator decreases with a decrease in accounts payable, so the quick ratio will increase.

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

77. (C) 78%

Explanation

If equity equals 45% of assets and current liabilities equal 20% of assets, long-term debt must be 100 - 45 - 20 = 35% of assets.

Long-term debt 0.35

$$\text{Long-term debt to equity ratio} = \frac{\text{Long-term debt}}{\text{Total equity}} = \frac{0.35}{0.45} = 77.8\%$$

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

78. (A) 3 million.

Explanation

Cash ratio = (cash + marketable securities) / current liabilities

0.20 = ($10,000,000 + $2,000,000) / current liabilities

Current liabilities = $12,000,000 / 0.2 = $60,000,000

Quick ratio = [cash + marketable securities + receivables] / $60,000,000

0.25 = [$10,000,000 + $2,000,000 + receivables] / $60,000,000

($60,000,000)(0.25) = $12,000,000 + receivables

$15,000,000 = $12,000,000 + receivables

$15,000,000 - $12,000,000 = receivables

$3,000,000 = receivables

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

79. (C) only one is correct:

Explanation

Vertical common-size statements enable the analyst to make better comparisons of two firms of different sizes that operate in the same industry. Horizontal common-size financial statements express each line as a percentage of the base year figure; thus, horizontal common-size statements can be used to identify structural changes in a firm's operating results and financial condition over time.

(Study Session 6, Module 20.1, LOS 20.a)

Related Material

SchweserNotes - Book 2

80. (C) Sales/Total Assets.

Explanation

Sales/Total Assets, or Total Asset Turnover is a measure of operating efficiency, not operating profitability.

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

81. (A) $1,200,000.

Explanation

The 25% GP indicates that the cost of goods sold is 75% of sales. The inventory is derived from the difference between current ratio and the quick ratio. The current ratio indicates that the current assets are $200,000 and the quick assets are $125,000. The difference represents the inventory of $75,000. The inventory turnover is used to obtain cost of goods sold of $900,000.

The cost of goods sold is 75% of sales, indicating that sales are $1,200,000.
(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

82. (B) 166,667.

Explanation

Diluted EPS uses average price. Since the average price is greater than the exercise price, the warrants are dilutive.

$$\frac{60 - 50}{60} \times 1{,}000{,}000 = 166{,}667$$

For Further Reference:

(Study Session 6, Module 17.4, LOS 17.g)
CFA® Program Curriculum, Volume 3, page 34
CFA® Program Curriculum, Volume 3, page 34

Related Material

SchweserNotes - Book 2

83. (C) Return on equity has improved. Explanation

Explanation

Leverage increased as measured by the debt-to-equity ratio from 2.25 in 2005 to 3.68 in 2007. Gross profit margin declined from 20.0% in 2005 to 18.5% in 2007. Return on equity has improved since 2005. One measure of ROE is ROA x financial leverage. Financial leverage (assets / equity) can be derived by adding 1 to the debt-to-equity ratio. In 2005, ROE was 23.4% [7.2% ROA x (1 + 2.25 debt-to-equity)]. In 2007, ROE was 27.6% [5.9% ROA x (1 + 3.68 debt-to-equity)].
(Study Session 6, Module 20.3, LOS 20.c)

Related Material

SchweserNotes - Book 2

84. (B) of different size in the same industry.

Explanation

Ratio analysis is a useful way of comparing companies that are similar in operations but different in size. Ratios of companies that operate in different industries are often not directly comparable. For companies that operate in several industries, ratio analysis is limited by the difficulty of determining appropriate industry benchmarks.
(Study Session 6, Module 20.1, LOS 20.a)

Related Material

SchweserNotes - Book 2

85. (C) 20%.

Explanation

$$\text{ROE} = \frac{\text{net income}}{\text{equity}} = \frac{0.16(1{,}500)}{(1-0.40)(2{,}000)} = 0.20, \text{ or } 20\%$$

If the debt ratio (TD/TA) is equal to 40% and the firm has no preferred stock, the percentage of equity is 1 - 0.40, or 60%.

For Further Reference:

(Study Session 6, Module 20.2, LOS 20.b)

CFA® Program Curriculum, Volume 3, page 197

Related Material

SchweserNotes - Book 2

86. (C) 0.666.

Explanation

Gross profit margin = (gross profit / net sales) = (2,000 / 3,000) = 0.666

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

87. (C) 30%.

Explanation

Operating profit margin = (EBIT / net sales) = ($150,000 / $500,000) = 30% (Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2

88. (C) 7.67 0.30

Explanation

Interest coverage ratio = (EBIT / interest expense) = (115 / 15) = 7.67 Net profit margin = (net income / net sales) = (60 / 200) = 0.30 (Study Session 6, Module 20.2, LOS 20.b)

Related Material

Schweser Notes - Book 2

89. (B) $50 million increase.

Explanation

20X7 gross profit is equal to $100 million ($1 x 250 million units sold x 40% gross profit margin). The 10% price cut to $0.90 will increase cost of goods sold to 67% of sales [COGS = 0.6($1) = $0.60; $0.60 / $0.90 = 67%.]. As a result, gross profit will decrease to 33% of sales. If unit sales double in 20X8, gross

profit will equal $150 million ($0.90 x 500 million units x 33% gross profit margin). Therefore, gross profit will increase $50 million ($150 million 20X8 gross profit - $100 million 20X7 gross profit).

(Study Session 6, Module 20.5, LOS 20.g)

Related Material

SchweserNotes - Book 2

90. (C) 86 days.

Explanation

2008 expected days of sales outstanding is 66 [365 / (5.0 x 1.1)], 2008 days of inventory on hand is 96 [365 / (4.0 x 0.95)], and 2008 days of payables is 76 [365 / (6.0 x 0.8)]. Expected cash conversion cycle is 86 days [66 days of sales outstanding + 96 days of inventory on hand - 76 days of payables].

(Study Session 6, Module 20.3, LOS 20.c)

Related Material

SchweserNotes - Book 2

91. (A) 9.6%.

Explanation

Net income after taxes = 300 x 0.18 = 54

Equity = 1400 x 0.40 = 560

ROE = Net Income / Equity = 54 / 560 = 0.0964 = 9.6%

(Study Session 6, Module 20.2, LOS 20.b)

Related Material

SchweserNotes - Book 2