CHAPTER 2
FINANCIAL STATEMENTS, CASH FLOW, AND TAXES

(Difficulty: E = Easy, M = Medium, and T = Tough)

Multiple Choice: Conceptual

Easy:

Net cash flow **Answer: e Diff: E**

1. Last year Aldrin Co. had negative net cash flow, yet its cash on the balance sheet increased. What could explain these events?

   a. Aldrin issued long-term debt.
   b. Aldrin repurchased some of its common stock.
   c. Aldrin sold some of its assets.
   d. Statements a and b are correct.
   e. Statements a and c are correct.

Net cash flow **Answer: d Diff: E**

2. Last year, Blanda Brothers had positive net cash flow, yet cash on the balance sheet decreased. Which of the following could explain the company's financial performance?

   a. The company issued new common stock.
   b. The company issued new long-term debt.
   c. The company sold off some of its assets.
   d. The company purchased a lot of new fixed assets.
   e. The company eliminated its dividend.

Net cash flow **Answer: c Diff: E R**

3. Last year, Sewickley Shoes had negative net cash flow; however, cash on its balance sheet increased. Which of the following could explain this?

   a. The company repurchased some of its common stock.
   b. The company had large depreciation and amortization expenses.
   c. The company issued a large amount of long-term debt.
   d. The company dramatically increased its capital expenditures.
   e. All of the statements above are correct.

Net cash flow **Answer: d Diff: E N**

4. Which of the following factors could explain why last year Cleaver Energy had negative net cash flow, but the cash on its balance sheet increased?

   a. The company paid a large dividend.
   b. The company had large depreciation and amortization expenses.
   c. The company repurchased common stock.
   d. The company issued new debt.
   e. The company made a large investment in new plant and equipment.

Net cash flow **Answer: c Diff: E**

5. Analysts who follow Sierra Nevada Inc. recently noted that, relative to the previous year, the company's net cash flow was larger but cash on the firm's balance sheet had declined. What factors could explain these changes?

   a. The company sold a division and received cash in return.
   b. The company cut its dividend.
   c. The company made a large investment in new plant and equipment.
   d. Statements a and b are correct.
   e. Statements b and c are correct.

Net cash flow and net income **Answer: a Diff: E**

6. A stock analyst has acquired the following information for Palmer Products:

   - Retained earnings on the year-end 2001 balance sheet was $700,000.
   - Retained earnings on the year-end 2002 balance sheet was $320,000.
   - The company does not pay dividends.
   - The company's depreciation expense is its only non-cash expense.
   - The company has no non-cash revenues.
   - The company's net cash flow for 2002 was $150,000.

   On the basis of this information, which of the following statements is most correct?

   a. Palmer Products had negative net income in 2002.
   b. Palmer Products had positive net income in 2002, but it was less than its net income in 2001.
   c. Palmer Products' depreciation expense in 2002 was less than $150,000.
   d. Palmer Products' cash on the balance sheet at the end of 2002 must be lower than the cash it had on its balance sheet at the end of 2001.
   e. Palmer Products' net cash flow in 2002 must be higher than its net cash flow in 2001.

Net cash flow and net income **Answer: b Diff: E R**

7. Holmes Aircraft recently announced an increase in its net income, yet its net cash flow declined relative to last year. Which of the following could explain this performance?

   a. The company's interest expense increased.
   b. The company's depreciation and amortization expenses declined.
   c. The company's operating income declined.
   d. All of the statements above are correct.
   e. None of the statements above is correct.

Net cash flow and net income **Answer: a Diff: E R**

8. Kramer Corporation recently announced that its net income was lower than last year. However, analysts estimate that the company's net cash flow increased. What factors could explain this discrepancy?

   a. The company's depreciation and amortization expenses increased.
   b. The company's interest expense declined.
   c. The company had an increase in its noncash revenues.
   d. Statements a and b are correct.
   e. Statements b and c are correct.

Net cash flow, free cash flow, and cash **Answer: c Diff: E N**

9. Last year, Owen Technologies reported negative net cash flow and negative free cash flow. However, its cash on the balance sheet increased. Which of the following could explain these changes in its cash position?

   a. The company had a sharp increase in its depreciation and amortization expenses.
   b. The company had a sharp increase in its inventories.
   c. The company issued new common stock.
   d. Statements a and b are correct.
   e. Statements a and c are correct.

Current assets **Answer: d Diff: E**

10. Which of the following items is included as part of a company's current assets?

   a. Accounts payable.
   b. Inventory.
   c. Accounts receivable.
   d. Statements b and c are correct.
   e. All of the statements above are correct.

Current assets **Answer: a Diff: E N**

11. Which of the following items can be found on a firm's balance sheet listed as a current asset?

a. Accounts receivable.
b. Depreciation.
c. Accrued wages.
d. Statements a and b are correct.
e. Statements a and c are correct.

Balance sheet **Answer: c Diff: E**

12. On its 2001 balance sheet, Sherman Books had retained earnings equal to $510 million. On its 2002 balance sheet, retained earnings were also equal to $510 million. Which of the following statements is most correct?

a. The company must have had net income equal to zero in 2002.
b. The company did not pay dividends in 2002.
c. If the company's net income in 2002 was $200 million, dividends paid must have also equaled $200 million.
d. If the company lost money in 2002, they must have paid dividends.
e. None of the statements above is correct.

Balance sheet **Answer: b Diff: E**

13. Below is the equity portion (in millions) of the year-end balance sheet that Glenn Technology has reported for the last two years:

	2002	2001
Preferred stock	$ 80	$ 80
Common stock	2,000	1,000
Retained earnings	2,000	2,340
Total equity	$4,080	$3,420

Glenn does not pay a dividend to its common stockholders. Which of the following statements is most correct?

a. Glenn issued preferred stock in both 2001 and 2002.
b. Glenn issued common stock in 2002.
c. Glenn had positive net income in both 2001 and 2002, but the company's net income in 2002 was lower than it was in 2001.
d. Statements b and c are correct.
e. None of the statements above is correct.

Balance sheet **Answer: a Diff: E N**

14. All else equal, which of the following actions will increase the amount of cash on a company's balance sheet?

a. The company issues new common stock.
b. The company repurchases common stock.
c. The company pays a dividend.
d. The company purchases a new piece of equipment.
e. All of the statements above are correct.

Balance sheet **Answer: b Diff: E N**

15. Below are the 2001 and 2002 year-end balance sheets for Kewell Boomerangs:

Assets:	2002	2001
Cash	$ 100,000	$ 85,000
Accounts receivable	432,000	350,000
Inventories	1,000,000	700,000
Total current assets	$1,532,000	$1,135,000
Net fixed assets	3,000,000	2,800,000
Total assets	$4,532,000	$3,935,000
Liabilities and equity:		
Accounts payable	$ 700,000	$ 545,000
Notes payable	800,000	900,000
Total current liabilities	$1,500,000	$1,445,000
Long-term debt	1,200,000	1,200,000
Common stock	1,500,000	1,000,000
Retained earnings	332,000	290,000
Total common equity	$1,832,000	$1,290,000
Total liabilities and equity	$4,532,000	$3,935,000

Kewell Boomerangs has never paid a dividend on its common stock. Kewell issued $1,200,000 of long-term debt in 1997. This debt was non-callable and is scheduled to mature in 2027. As of the end of 2002, none of the principal on this debt has been repaid. Assume that 2001 and 2002 sales were the same in both years. Which of the following statements is most correct?

a. Kewell had negative net income in 2002.
b. Kewell issued new common stock in 2002.
c. Kewell issued long-term debt in 2002.
d. Statements a and b are correct.
e. All of the statements above are correct.

Changes in depreciation **Answer: c Diff: E**

16. Which of the following are likely to occur if Congress passes legislation that forces Carter Manufacturing to depreciate their equipment over a longer time period?

a. The company's physical stock of assets would increase.
b. The company's reported net income would decline.
c. The company's cash position would decline.
d. All of the statements above are correct.
e. Statements b and c are correct.

Changes in depreciation **Answer: d Diff: E**

17. Assume that a company currently depreciates its fixed assets over 7 years. Which of the following would occur if a tax law change forced the company to depreciate its fixed assets over 10 years instead?

a. The company's tax payment would increase.
b. The company's cash position would increase.
c. The company's net income would increase.
d. Statements a and c are correct.
e. Statements b and c are correct.

Changes in depreciation **Answer: d Diff: E**

18. Keaton Enterprises is a very profitable company, which recently purchased some equipment. It plans to depreciate the equipment on a straight-line basis over the next 10 years. Congress, however, is considering a change in the Tax Code that would allow Keaton to depreciate the equipment on a straight-line basis over 5 years instead of 10 years.

If Congress were to change the law, and Keaton does decide to depreciate the equipment over 5 years, what effect would this change have on the company's financial statements for the coming year? (Note that the change in the law would have no effect on the economic or physical value of the equipment.)

a. The company's net income would decline.
b. The company's net cash flow would decline.
c. The company's tax payments would decline.
d. Statements a and c are correct.
e. All of the statements above are correct.

Changes in depreciation **Answer: e Diff: E**

19. Congress recently passed a provision that will enable Piazza Cola to double its depreciation expense for the upcoming year. The new provision will have no effect on the company's sales revenue. Prior to the new provision, Piazza's net income was forecasted to be $4 million. The company's tax rate is 40 percent. Which of the following best describes the impact that this provision will have on Piazza's financial statements?

    a. The provision will increase the company's net income.
    b. The provision will reduce the company's net cash flow.
    c. The provision will increase the company's tax payments.
    d. All of the statements above are correct.
    e. None of the statements above is correct.

Changes in depreciation **Answer: e Diff: E N**

20. The Campbell Corporation just purchased an expensive piece of equipment. Originally, the firm was planning on depreciating the equipment over 5 years on a straight-line basis. However, Congress just passed a provision that will force the company to depreciate its equipment over 7 years on a straight-line basis. Which of the following will occur as a result of this Congressional action?

    a. Campbell Corporation's net income for the year will be higher.
    b. Campbell Corporation's tax liability for the year will be higher.
    c. Campbell Corporation's net fixed assets on the balance sheet will be higher at the end of the year.
    d. Statements a and b are correct.
    e. All of the statements above are correct.

Depreciation, net income, cash flow, and taxes **Answer: d Diff: E**

21. Armstrong Inc. is a profitable corporation with a 40 percent corporate tax rate. The company is deciding between depreciating the equipment it purchased this year on a straight-line basis over five years or over three years. Changing the depreciation schedule will have no impact on the equipment's economic value. If Armstrong chooses to depreciate the equipment over three years, which of the following will occur next year, relative to what would have happened, if it had depreciated the equipment over five years?

    a. The company will have a lower net income.
    b. The company will pay less in taxes.
    c. The company will have a lower net cash flow.
    d. Statements a and b are correct.
    e. All of the statements above are correct.

Financial statements **Answer: c Diff: E**

22. Which of the following statements is most correct?

a. Accounts receivable show up as current liabilities on the balance sheet.
b. Dividends paid reduce the net income that is reported on a company's income statement.
c. If a company pays more in dividends than it generates in net income, its balance of retained earnings reported on the balance sheet will fall.
d. Statements a and b are correct.
e. All of the statements above are correct.

Book and market values per share **Answer: e Diff: E N**

23. Haskell Motors' common equity on the balance sheet totals $700 million, and the company has 35 million shares of common stock outstanding. Haskell has significant growth opportunities. Its headquarters has a book value of $5 million, but its market value is estimated to be $10 million. Over time, Haskell has issued outstanding debt that has a book value of $10 million and a market value of $5 million. Which of the following statements is most correct?

a. Haskell's book value per share is $20.
b. Haskell's market value per share is probably less than $20.
c. Haskell's market value per share is probably greater than $20.
d. Statements a and b are correct.
e. Statements a and c are correct.

EBIT, net income, and operating cash flow **Answer: a Diff: E R**

24. Analysts who follow Cascade Technology recently noted that, relative to the previous year, the company's operating income (EBIT) and net income had declined but its operating cash flow had increased. What could explain these changes?

a. The company's depreciation and amortization expenses increased.
b. The company's interest expense decreased.
c. The company's tax rate increased.
d. Statements a and b are correct.
e. All of the statements above are correct.

EVA, cash flow, and net income **Answer: b Diff: E**

25. Which of the following statements is most correct?

a. Actions that increase net income will always increase net cash flow.
b. One way to increase EVA is to maintain the same operating income with less capital.
c. One drawback of EVA as a performance measure is that it mistakenly assumes that equity capital is free.
d. Statements a and b are correct.
e. Statements a and c are correct.

Medium:

Changes in depreciation **Answer: d Diff: M**

26. Solo Company has been depreciating its fixed assets over 15 years. It is now clear that these assets will only last a total of 10 years. Solo's accountants have encouraged the firm to revise its annual depreciation to reflect this new information. Which of the following would occur as a result of this change?

    a. The company's earnings per share would decrease.
    b. The company's cash position would increase.
    c. The company's EBIT would increase.
    d. Statements a and b are correct.
    e. All of the statements above are correct.

Changes in depreciation **Answer: d Diff: M**

27. A start-up firm is making an initial investment in new plant and equipment. Currently, equipment is depreciated on a straight-line basis over 10 years. Assume that Congress is considering legislation that will allow the corporation to depreciate the equipment over 7 years. If the legislation becomes law, and the firm implements the 7-year depreciation basis, which of the following will occur?

    a. The firm's tax payments will increase.
    b. The firm's net income will increase.
    c. The firm's taxable income will increase.
    d. The firm's net cash flow will increase.
    e. The firm's operating income (EBIT) will increase.

Effects of changes in financial leverage **Answer: a Diff: M**

28. The CFO of Mulroney Brothers has suggested that the company should issue $300 million worth of common stock and use the proceeds to reduce some of the company's outstanding debt. Assume that the company adopts this policy, and that total assets and operating income (EBIT) remain the same. The company's tax rate will also remain the same. Which of the following will occur?

    a. The company's net income will increase.
    b. The company's taxable income will fall.
    c. The company will pay less in taxes.
    d. Statements b and c are correct.
    e. All of the statements above are correct.

Cash flow and EVA **Answer: e Diff: M R**

29. An analyst has acquired the following information regarding Company A and Company B:

- Company A has a higher net cash flow than Company B.
- Company B has higher net income than Company A.
- Company B has a higher operating cash flow than Company A.
- The companies have the same tax rate, investor-supplied operating capital, and cost of capital (WACC).

Assume that non-cash revenues equal zero for both companies, and depreciation is the only non-cash expense for both companies. Which of the following statements is most correct?

a. Company A has a higher depreciation expense than Company B.
b. Company A has a lower level of operating income (EBIT) than Company B.
c. Company A has a lower EVA than Company B.
d. Statements a and b are correct.
e. All of the statements above are correct.

EVA and net income **Answer: c Diff: M**

30. Assume that the depreciation level used for tax and accounting purposes equals the true economic depreciation. Which of the following statements is most correct?

a. If a company's net income doubles, its Economic Value Added (EVA) will more than double.
b. If a company's depreciation expense declines its net income will fall but its Economic Value Added (EVA) will increase.
c. A firm can increase its EVA even if its operating income falls.
d. Statements a and b are correct.
e. Statements a and c are correct.

Multiple Choice: Problems

Easy:

Statement of cash flows **Answer: d Diff: E**

31. At the beginning of the year, Gonzales Corporation had $100,000 in cash. The company undertook a major expansion during this same year. Looking at its statement of cash flows, you see that the net cash provided by its operations was $300,000 and the company's investing activities required cash expenditures of $800,000. The company's cash position at the end of the year was $50,000. What was the net cash provided by the company's financing activities?

a. $350,000
b. $400,000
c. $300,000
d. $450,000
e. $500,000

Balance sheet cash **Answer: c Diff: E N**

32. At the end of 2001, Lehnhoff Inc. had $75 million in cash on its balance sheet. During 2002, the following events occurred:

- The cash flow from Lehnhoff's operating activities totaled $325 million.
- Lehnhoff issued $500 million in common stock.
- Lehnhoff's notes payable decreased by $100 million.
- Lehnhoff purchased fixed assets totaling $600 million.

How much cash did Lehnhoff Inc. have on its balance sheet at the end of 2002?

a. $ 50 million
b. $ 100 million
c. $ 200 million
d. $ 400 million
e. $1,400 million

Retained earnings **Answer: d Diff: E N**

33. At the end of 2001, Scaringe Medical Supply had $275 million of retained earnings on its balance sheet. During 2002, Scaringe paid a per-share dividend of $0.25 and produced earnings per share of $0.75. Scaringe has 20 million shares of stock outstanding. What was the level of retained earnings that Scaringe had on its balance sheet at the end of 2002?

a. $255 million
b. $265 million
c. $275 million
d. $285 million
e. $295 million

Statement of retained earnings **Answer: d Diff: E N**

34. In its recent income statement, Smith Software Inc. reported $25 million of net income, and in its year-end balance sheet, Smith reported $405 million of retained earnings. The previous year, its balance sheet showed $390 million of retained earnings. What were the total dividends paid to shareholders during the most recent year?

a. $ 3,500,000
b. $ 5,000,000
c. $ 6,750,000
d. $10,000,000
e. $11,250,000

Income statement **Answer: b Diff: E N**

35. Cox Corporation recently reported an EBITDA of $22.5 million and $5.4 million of net income. The company has $6 million interest expense and the corporate tax rate is 35 percent. What was the company's depreciation and amortization expense?

a. $ 4,333,650
b. $ 8,192,308
c. $ 9,427,973
d. $11,567,981
e. $14,307,692

EVA **Answer: a Diff: E**

36. Scranton Shipyards has $20 million in total investor-supplied operating capital. The company's WACC is 10 percent. The company has the following income statement:

Sales	$10.0 million
Operating costs	6.0 million
Operating income (EBIT)	$ 4.0 million
Interest expense	2.0 million
Earnings before taxes (EBT)	$ 2.0 million
Taxes (40%)	0.8 million
Net income	$ 1.2 million

What is Scranton's EVA?

a. $ 400,000
b. -$ 800,000
c. $1,200,000
d. $2,000,000
e. $4,000,000

MVA **Answer: d Diff: E**

37. Hayes Corporation has $300 million of common equity on its balance sheet and 6 million shares of common stock outstanding. The company's Market Value Added (MVA) is $162 million. What is the company's stock price?

a. $ 23
b. $ 32
c. $ 50
d. $ 77
e. $138

MVA **Answer: c Diff: E**

38. Byrd Lumber has 2 million shares of common stock outstanding and its stock price is $15 a share. On the balance sheet, the company has $40 million of common equity. What is the company's Market Value Added (MVA)?

a. -$80,000,000
b. -$20,000,000
c. -$10,000,000
d. $20,000,000
e. $80,000,000

Medium:

Rate of interest **Answer: c Diff: M**

39. A firm has notes payable of $1,546,000, long-term debt of $13,000,000, and total interest expense of $1,300,000. If the firm pays 8 percent interest on its long-term debt, what interest rate does it pay on its notes payable?

a. 8.2%
b. 13.1%
c. 16.8%
d. 18.0%
e. 15.3%

Calculating change in net income **Answer: c Diff: M R**

40. Garfield Industries is expanding its operations throughout the Southeast United States. Garfield anticipates that the expansion will increase sales by $1,000,000 and increase operating costs (excluding depreciation and amortization) by $700,000. Depreciation and amortization expenses will rise by $50,000, interest expense will increase by $150,000, and the company's tax rate will remain at 40 percent. If the company's forecast is correct, how much will net income increase or decrease, as a result of the expansion?

a. No change
b. $ 40,000 increase
c. $ 60,000 increase
d. $100,000 increase
e. $180,000 increase

Net income **Answer: b Diff: M**

41. Edge Brothers recently reported net income of $385,000. The tax rate is 40 percent. The company's interest expense was $200,000. What would have been the company's net income if it would have been able to double its operating income (EBIT), assuming that the company's tax rate and interest expense remain unchanged?

a. $ 770,000
b. $ 890,000
c. $ 920,000
d. $1,100,000
e. $1,275,000

Net cash flow **Answer: d Diff: M**

42. Coolidge Cola is forecasting the following income statement:

Sales	$30,000,000
Operating costs excluding depreciation and amortization	20,000,000
EBITDA	$10,000,000
Depreciation and amortization	5,000,000
Operating income (EBIT)	$ 5,000,000
Interest expense	2,000,000
Taxable income (EBT)	$ 3,000,000
Taxes (40%)	1,200,000
Net income	$ 1,800,000

Assume that, with the exception of depreciation, all other non-cash revenues and expenses sum to zero.

Congress is considering a proposal that will allow companies to depreciate their equipment at a faster rate. If this provision were put in place, Coolidge's depreciation expense would be $8,000,000 (instead of $5,000,000). This proposal would have no effect on the economic value of the company's equipment, nor would it affect the company's tax rate, which would remain at 40 percent. If this proposal were to be implemented, what would be the company's net cash flow?

a. $2,000,000
b. $4,000,000
c. $6,800,000
d. $8,000,000
e. $9,800,000

Net cash flow **Answer: d Diff: M N**

43. An analyst has collected the following information regarding Gilligan Grocers:

- Earnings before interest and taxes (EBIT) = $700 million.
- Earnings before interest, taxes, depreciation and amortization (EBITDA) = $850 million.
- Interest expense = $200 million.
- The corporate tax rate is 40 percent.
- Depreciation is the company's only non-cash expense or revenue.

What is the company's net cash flow?

a. $850 million
b. $650 million
c. $570 million
d. $450 million
e. $500 million

Operating and net cash flows **Answer: a Diff: M**

44. Brooks Sisters' operating income (EBIT) is $500,000. The company's tax rate is 40 percent, and its operating cash flow is $450,000. The company's interest expense is $100,000. What is the company's net cash flow? (Assume that depreciation is the only non-cash item in the firm's financial statements.)

a. $ 390,000
b. $ 550,000
c. $ 600,000
d. $ 950,000
e. $1,050,000

EVA **Answer: b Diff: M R**

45. Casey Motors recently reported the following information:

- Net income = $600,000.
- Tax rate = 40%.
- Interest expense = $200,000.
- Total investor-supplied operating capital employed = $9 million.
- After-tax cost of capital = 10%.

What is the company's EVA?

a. -$300,000
b. -$180,000
c. $ 0
d. $200,000
e. $400,000

Sales level **Answer: e Diff: M**

46. Hebner Housing Corporation has forecast the following numbers for this upcoming year:

- Sales = $1,000,000.
- Cost of goods sold = 600,000.
- Interest expense = 100,000.
- Net income = 180,000.

The company is in the 40 percent tax bracket. Its cost of goods sold always represents 60 percent of its sales. That is, if the company's sales were to increase to $1.5 million, its cost of goods sold would increase to $900,000.

The company's CEO is unhappy with the forecast and wants the firm to achieve a net income equal to $240,000. In order to achieve this level of net income, what level of sales will the company have to achieve? Assume that Hebner's interest expense remains constant.

a. $ 400,000
b. $ 500,000
c. $ 750,000
d. $1,000,000
e. $1,250,000

Sales level **Answer: e Diff: M**

47. Swann Systems is forecasting the following income statement for the upcoming year:

Sales	$5,000,000
Operating costs (excluding depreciation and amortization)	3,000,000
EBITDA	$2,000,000
Depreciation and amortization	500,000
EBIT	$1,500,000
Interest	500,000
EBT	$1,000,000
Taxes (40%)	400,000
Net income	$ 600,000

The company's president is disappointed with the forecast and would like to see Swann generate higher sales and a forecasted net income of $2,000,000.

Assume that operating costs (excluding depreciation and amortization) are always 60 percent of sales. Also, assume that depreciation and amortization, interest expense, and the company's tax rate, which is 40 percent, will remain the same even if sales change. What level of sales would Swann have to obtain to generate $2,000,000 in net income?

a. $ 5,800,000
b. $ 6,000,000
c. $ 7,200,000
d. $ 8,300,000
e. $10,833,333

Sales and income statement **Answer: d Diff: M**

48. Ozark Industries reported net income of $75 million in 2002. The company's corporate tax rate was 40 percent and its interest expense was $25 million. The company had $500 million in sales and its cost of goods sold was $350 million. Ozark's goal is for its net income to increase by 20 percent (to $90 million) in 2003. It forecasts that the tax rate will remain at 40 percent, interest expense will increase by 40 percent, and cost of goods sold will remain at 70 percent of sales. What level of sales (to the closest million) will Ozark have to produce in 2003 in order to meet its goal for net income?

a. $550 million
b. $583 million
c. $600 million
d. $617 million
e. $650 million

Sales and net cash flow **Answer: b Diff: M**

49. McGwire Aerospace expects to have net cash flow of $12 million. The company forecasts that its operating costs excluding depreciation and amortization will equal 75 percent of the company's sales. Depreciation and amortization expenses are expected to be $5 million and the company has no interest expense. All of McGwire's sales will be collected in cash, costs other than depreciation and amortization will be paid in cash during the year, and the company's tax rate is 40 percent. What is the company's expected sales?

a. $ 68.00 million
b. $ 66.67 million
c. $ 46.67 million
d. $133.33 million
e. $ 26.67 million

Retained earnings **Answer: e Diff: M**

50. Sanguillen Corp. had retained earnings of $400,000 on its 2001 balance sheet. In 2002, the company's earnings per share (EPS) were $3.00 and its dividends paid per share (DPS) were $1.00. The company has 200,000 shares of common stock outstanding. What will be the level of retained earnings on the company's 2002 balance sheet?

a. $400,000
b. $500,000
c. $600,000
d. $700,000
e. $800,000

Retained earnings **Answer: b Diff: M**

51. New Hampshire Services reported $2.3 million of retained earnings on its 2001 balance sheet. In 2002, the company lost money--its net income was -$500,000 (negative $500,000). Despite the loss, the company still paid a $1.00 per share dividend. The company's earnings per share for 2002 were -$2.50 (negative $2.50). What was the level of retained earnings on the company's 2002 balance sheet?

a. $1.2 million
b. $1.6 million
c. $1.8 million
d. $2.6 million
e. $2.8 million

Earnings per share **Answer: c Diff: M**

52. Whitehall Clothiers had $5,000,000 of retained earnings on its balance sheet at the end of 2001. One year later, Whitehall had $6,000,000 of retained earnings on its balance sheet. Whitehall has one million shares of common stock outstanding, and it paid a dividend of $0.80 per share in 2002. What was Whitehall's earnings per share in 2002?

a. $0.80
b. $1.00
c. $1.80
d. $5.00
e. $6.00

Operating income **Answer: d Diff: M**

53. New Mexico Lumber recently reported that its earnings per share were $3.00. The company has 400,000 shares of common stock outstanding, its interest expense is $500,000, and its corporate tax rate is 40 percent. What is the company's operating income (EBIT)?

a. $ 980,000
b. $1,220,000
c. $2,000,000
d. $2,500,000
e. $3,500,000

Statement of cash flows **Answer: e Diff: M N**

54. Cochrane, Inc. had $75,000 in cash on the balance sheet at the end of 2001. At year-end 2002, the company had $155,000 in cash. We know cash flow from operating activities totaled $1,250,000 and cash flow from long-term investing activities totaled -$1,000,000. Furthermore, Cochrane issued $250,000 in long-term debt last year to fund new projects, increase liquidity, and to buy back some common stock. If dividends paid to common stockholders equaled $25,000, how much common stock did Cochrane repurchase last year? (Assume that the only financing activities in which Cochrane engaged involved long-term debt, payment of common dividends, and common stock.)

a. $ 55,000
b. $105,000
c. $205,000
d. $255,000
e. $395,000

Free cash flow **Answer: a Diff: M N**

55. A stock market analyst has forecasted the following year-end numbers for Raedebe Technology:

Sales	$70 million
EBITDA	$20 million
Depreciation	$ 7 million
Amortization	$ 0

The company's tax rate is 40 percent. The company does not expect any changes in its net operating working capital. This year the company's planned gross capital expenditures will total $12 million. (Gross capital expenditures represent capital expenditures before deducting depreciation.) What is the company's forecasted free cash flow for the year?

a. $ 2.8 million
b. $ 7.0 million
c. $ 8.0 million
d. $12.8 million
e. $26.8 million

Multiple Part:

(The following information applies to the next four problems.)

You have just obtained financial information for the past 2 years for Sebring Corporation.

SEBRING CORPORATION: INCOME STATEMENTS FOR YEAR ENDING DECEMBER 31
(MILLIONS OF DOLLARS)

	2002	2001
Sales	$3,600.0	$3,000.0
Operating costs (excluding depreciation and amortization)	3,060.0	2,550.0
EBITDA	$ 540.0	$ 450.0
Depreciation and amortization	90.0	75.0
Earnings before interest and taxes	$ 450.0	$ 375.0
Interest	65.0	60.0
Earnings before taxes	$ 385.0	$ 315.0
Taxes (40%)	154.0	126.0
Net income available to common stockholders	$ 231.0	$ 189.0
Common dividends	$ 181.5	$ 13.2

SEBRING CORPORATION: BALANCE SHEETS FOR YEAR ENDING DECEMBER 31
(MILLIONS OF DOLLARS)

	2002	2001
Assets:		
Cash and marketable securities	$ 36.0	$ 30.0
Accounts receivable	540.0	450.0
Inventories	540.0	600.0
Total current assets	$1,116.0	$1,080.0
Net plant and equipment	900.0	750.0
Total assets	$2,016.0	$1,830.0
Liabilities and equity:		
Accounts payable	$ 324.0	$ 270.0
Notes payable	201.0	155.0
Accruals	216.0	180.0
Total current liabilities	$ 741.0	$ 605.0
Long-term bonds	450.0	450.0
Total debt	$1,191.0	$1,055.0
Common stock (50 million shares)	150.0	150.0
Retained earnings	675.0	625.0
Total common equity	$ 825.0	$ 775.0
Total liabilities and equity	$2,016.0	$1,830.0

NOPAT **Answer: d Diff: E**

56. What is Sebring's net operating profit after taxes (NOPAT) for 2002?

a. $100,000,000
b. $150,000,000
c. $225,000,000
d. $270,000,000
e. $375,000,000

Net operating working capital **Answer: b Diff: E**

57. What is Sebring's net operating working capital for 2002?

a. $ 540,000,000
b. $ 576,000,000
c. $ 750,000,000
d. $ 985,000,000
e. $1,116,000,000

Operating capital **Answer: e Diff: E**

58. What is Sebring's amount of total investor-supplied operating capital for 2002?

a. $ 576,000,000
b. $ 888,000,000
c. $ 900,000,000
d. $1,275,000,000
e. $1,476,000,000

Free cash flow **Answer: c Diff: M**

59. What is Sebring's free cash flow for 2002?

a. $ 85,000,000
b. $146,000,000
c. $174,000,000
d. $255,000,000
e. $366,000,000

(The following information applies to the next four problems.)

Last year, Sharpe Radios had a net operating profit after-taxes (NOPAT) of $7.8 million. Its EBITDA was $15.5 million and net income amounted to $3.8 million. During the year, Sharpe Radios made $5.5 million in net capital expenditures (that is, capital expenditures net of depreciation). Finally, Sharpe Radios' finance staff has concluded that the firm's total after-tax capital costs were $5.9 million and its tax rate was 40 percent.

Depreciation and amortization expense **Answer: c Diff: M N**

60. What is Sharpe Radios' depreciation and amortization expense?

a. $1.5 million
b. $2.1 million
c. $2.5 million
d. $3.3 million
e. $4.0 million

Interest expense **Answer: b Diff: M N**

61. What is Sharpe Radios' interest expense?

a. $ 6.33 million
b. $ 6.67 million
c. $ 8.33 million
d. $ 9.17 million
e. $10.13 million

Free cash flow **Answer: b Diff: E N**

62. What is Sharpe Radios' free cash flow?

a. $1.9 million
b. $2.3 million
c. $4.0 million
d. $4.8 million
e. $6.3 million

EVA **Answer: a Diff: E N**

63. What is Sharpe Radios' EVA?

a. $1.9 million
b. $2.3 million
c. $4.0 million
d. $7.2 million
e. $9.6 million

(The following information applies to the next four problems.)

Laiho Industries recently reported the following information in its annual report:

- Net income = $7.0 million.
- NOPAT = $60 million.
- EBITDA = $120 million.
- Net profit margin = 5.0%.

Laiho has depreciation expense, but it does not have amortization expense. Laiho has $300 million in operating capital, its after-tax cost of capital is 10 percent (that is, its WACC = 10%), and the firm's tax rate is 40 percent.

Depreciation expense **Answer: a Diff: M N**

64. What is Laiho's depreciation expense?

a. $20.0 million
b. $30.0 million
c. $53.0 million
d. $60.0 million
e. $77.1 million

Interest expense **Answer: c Diff: M N**

65. What is Laiho's interest expense?

a. $60.0 million
b. $82.5 million
c. $88.3 million
d. $92.0 million
e. $95.0 million

Sales level **Answer: b Diff: E N**

66. What is Laiho's sales?

a. $120.0 million
b. $140.0 million
c. $160.0 million
d. $180.0 million
e. $200.0 million

EVA **Answer: a Diff: E N**

67. What is Laiho's EVA?

a. $30.0 million
b. $40.0 million
c. $50.0 million
d. $60.0 million
e. $70.0 million

(The following information applies to the next three problems.)

Beckham Broadcasting Company (BBC) has operating income (EBIT) of $2,500,000. The company's depreciation expense is $500,000 and it has no amortization expense. The company is 100 percent equity financed (that is, its interest expense is zero). The company has a 40 percent tax rate, and its net investment in operating capital is $1,000,000.

Net income **Answer: d Diff: E N**

68. What is BBC's net income?

a. $1,000,000
b. $1,200,000
c. $1,250,000
d. $1,500,000
e. $1,550,000

NOPAT **Answer: d Diff: E N**

69. What is BBC's net operating profit after taxes (NOPAT)?

a. $1,000,000
b. $1,200,000
c. $1,250,000
d. $1,500,000
e. $1,550,000

Free cash flow **Answer: b Diff: E N**

70. What is BBC's free cash flow?

a. $ 0
b. $ 500,000
c. $ 900,000
d. $1,000,000
e. $1,500,000

Web Appendix 2A

Multiple Choice: Conceptual

Easy:

Personal taxes **Answer: c Diff: E**

2A-1. Current tax laws have which of the following effects?

a. Favor dividends because there are no capital gains taxes on dividends.
b. Do not favor capital gains because the tax must be paid as the value of the stock increases, whether or not the stock is sold.
c. Favor capital gains because the rate generally applicable to long-term capital gains is 20 percent and the tax does not have to be paid until the stock is sold.
d. Do not favor dividends or capital gains for most people because different people are in different tax brackets.
e. Favor dividends since dividends are tax-deductible for the paying corporation whereas retained earnings, which produce capital gains, are not tax-deductible.

Taxes **Answer: b Diff: E**

2A-2. Which of the following statements is most correct?

a. Corporations are allowed to exclude 70 percent of their interest income from corporate taxes.
b. Corporations are allowed to exclude 70 percent of their dividend income from corporate taxes.
c. Individuals pay taxes on only 30 percent of the income realized from municipal bonds.
d. Statements a and b are correct.
e. None of the statements above is correct.

Taxes **Answer: b Diff: E**

2A-3. Which of the following statements is most correct?

a. 70 percent of a corporation’s interest income is excluded from corporate income taxes.
b. 70 percent of a corporation’s dividend income is excluded from corporate income taxes.
c. A municipal bond will generally trade at a higher yield than a corporate bond of equal risk.
d. All of the statements above are correct.
e. Statements b and c are correct.

Carry-back, carry-forward **Answer: b Diff: E**

2A-4. A loss incurred by a corporation

a. Must be carried forward unless the company has had 2 loss years in a row.
b. Can be carried back 2 years, then carried forward up to 20 years following the loss.
c. Can be carried back 5 years and forward 3 years.
d. Cannot be used to reduce taxes in other years except with special permission from the IRS.
e. Can be carried back 3 years or forward 10 years, whichever is more advantageous to the firm.

Miscellaneous concepts **Answer: c Diff: E**

2A-5. Which of the following statements is most correct?

a. Retained earnings, as reported on the balance sheet, represents the amount of cash a company has available to pay out as dividends to shareholders.
b. 70 percent of the interest received by corporations is excluded from taxable income.
c. 70 percent of the dividends received by corporations is excluded from taxable income.
d. None of the statements above is correct.
e. Statements a and c are correct.

Multiple Choice: Problems

Easy:

Corporate taxes **Answer: b Diff: E**

2A-6. Your corporation has the following cash flows:

Operating income	$250,000
Interest received	10,000
Interest paid	45,000
Dividends received	20,000
Dividends paid	50,000

If the applicable income tax rate is 40 percent (federal and state combined), and if 70 percent of dividends received are exempt from taxes, what is the corporation's tax liability?

a. $ 74,000
b. $ 88,400
c. $ 91,600
d. $100,000
e. $106,500

Corporate taxes **Answer: b Diff: E N**

2A-7. Lintner Beverage Corp. reported the following information from their financial statements:

Operating income (EBIT) = $13.2 million.
Interest payments on long-term debt = $1.75 million.
Dividend income = $1 million.

Calculate Lintner's total tax liability using the corporate tax schedule below:

Taxable Income	Tax on Base of Bracket	Percentage on Excess above Base
$0-$50,000	$ 0	15%
$50,000-$75,000	7,500	25
$75,000-$100,000	13,750	34
$100,000-$335,000	22,250	39
$335,000-$10,000,000	113,900	34
$10,000,000-$15,000,000	3,400,000	35
$15,000,000-$18,333,333	5,150,000	38
Over $18,333,333	6,416,667	35

a. $3,995,000
b. $4,012,500
c. $4,233,000
d. $4,257,500
e. $4,653,000

Corporate taxes **Answer: c Diff: E N**

2A-8. Last year, Martyn Company had $500,000 in taxable income from its operations, $50,000 in interest income, and $100,000 in dividend income. Using the corporate tax rate table given below, what was the company's tax liability for the year?

Taxable Income	Tax on Base of Bracket	Percentage on Excess above Base
$0-$50,000	$ 0	15%
$50,000-$75,000	7,500	25
$75,000-$100,000	13,750	34
$100,000-$335,000	22,250	39
$335,000-$10,000,000	113,900	34
$10,000,000-$15,000,000	3,400,000	35
$15,000,000-$18,333,333	5,150,000	38
Over $18,333,333	6,416,667	35

a. $ 83,300
b. $182,274
c. $197,200
d. $210,800
e. $296,174

After-tax returns **Answer: b Diff: E**

2A-9. A corporation with a marginal tax rate of 35 percent would receive what after-tax dividend yield on a 12 percent coupon rate preferred stock bought at par, assuming a 70 percent dividend exclusion?

a. 11.03%
b. 10.74%
c. 6.48%
d. 7.31%
e. 5.52%

After-tax returns **Answer: b Diff: E**

2A-10. Carter Corporation has some money to invest, and its treasurer is choosing between City of Chicago municipal bonds and U.S. Treasury bonds. Both have the same maturity, and they are equally risky and liquid. If Treasury bonds yield 6 percent, and Carter's marginal income tax rate is 40 percent, what yield on the Chicago municipal bonds would make Carter's treasurer indifferent between the two?

a. 2.40%
b. 3.60%
c. 4.50%
d. 5.25%
e. 6.00%

After-tax returns **Answer: c Diff: E**

2A-11. A corporation can earn 7.5 percent if it invests in municipal bonds. The corporation can also earn 8.5 percent (before-tax) by investing in preferred stock. Assume that the two investments have equal risk. What is the break-even corporate tax rate that makes the corporation indifferent between the two investments?

a. 17.65%
b. 24.88%
c. 39.22%
d. 44.15%
e. 49.33%

After-tax returns **Answer: a Diff: E**

2A-12. A 5-year corporate bond yields 9 percent. A 5-year municipal bond of equal risk yields 6.5 percent. Assume that the state tax rate is zero. At what federal tax rate are you indifferent between the two bonds?

a. 27.78%
b. 38.46%
c. 41.22%
d. 54.33%
e. 72.22%

After-tax returns **Answer: d Diff: E**

2A-13. A corporation recently purchased some preferred stock that has a before-tax yield of 7 percent. The company has a tax rate of 40 percent. What is the after-tax return on the preferred stock?

a. 4.20%
b. 5.04%
c. 5.65%
d. 6.16%
e. 7.00%

After-tax returns **Answer: a Diff: E**

2A-14. A corporate bond currently yields 8.5 percent. Municipal bonds with the same risk, maturity, and liquidity currently yield 5.5 percent. At what tax rate would investors be indifferent between the two bonds?

a. 35.29%
b. 40.00%
c. 24.67%
d. 64.71%
e. 30.04%

After-tax returns **Answer: d Diff: E R**

2A-15. A 7-year municipal bond yields 4.8 percent. Your marginal tax rate (including state and federal taxes) is 27 percent. What interest rate on a 7-year corporate bond of equal risk would provide you with the same after-tax return?

a. 3.46%
b. 4.80%
c. 6.14%
d. 6.58%
e. 17.14%

After-tax returns **Answer: b Diff: E**

2A-16. Lovell Co. purchased preferred stock in another company. The preferred stock's before-tax yield was 8.4 percent. The corporate tax rate is 40 percent. What is the after-tax return on the preferred stock?

a. 3.36%
b. 7.39%
c. 5.05%
d. 6.89%
e. 3.53%

After-tax returns **Answer: c Diff: E**

2A-17. A company with a 35 percent tax rate buys preferred stock in another company. The preferred stock has a before-tax yield of 8 percent. What is the preferred stock's after-tax return?

a. 10.80%
b. 5.20%
c. 7.16%
d. 6.04%
e. 6.30%

After-tax returns **Answer: c Diff: E N**

2A-18. Van Dyke Corporation has a corporate tax rate equal to 30 percent. The company recently purchased preferred stock in another company. The preferred stock has an 8 percent before-tax yield. What is Van Dyke's after-tax yield on the preferred stock?

a. 7.90%
b. 5.60%
c. 7.28%
d. 6.32%
e. 9.10%

After-tax returns **Answer: d Diff: E N**

2A-19. Granville Co. recently purchased several shares of Kalvaria Electronics' preferred stock. The preferred stock has a before-tax yield of 8.6 percent. If the company's tax rate is 40 percent, what is Granville Co.'s after-tax yield on the preferred stock?

a. 3.44%
b. 5.16%
c. 6.19%
d. 7.57%
e. 9.63%

Carry-back, carry-forward **Answer: c Diff: E**

2A-20. Appalachian Airlines began operating in 1998. The company lost money the first year but has been profitable ever since. The company's taxable income (EBT) for its first five years is listed below. Each year the company's corporate tax rate has been 40 percent.

Year	Taxable Income
1998	-$4 million
1999	1 million
2000	2 million
2001	3 million
2002	5 million

Assume that the company has taken full advantage of the Tax Code's carry-back, carry-forward provisions and that the current provisions were applicable in 1998. How much did the company pay in taxes in 2001?

a. $ 120,000
b. $ 400,000
c. $ 800,000
d. $1,200,000
e. $1,800,000

Carry-back, carry-forward **Answer: d Diff: E**

2A-21. Collins Co. began operations in 1999. The company lost money the first two years, but has been profitable ever since. The company's taxable income (EBT) for its first four years are summarized below:

Year	EBT
1999	-$3.0 million
2000	-5.2 million
2001	4.2 million
2002	8.3 million

The corporate tax rate has remained at 40 percent. Assume that the company has taken full advantage of the Tax Code's carry-back, carry-forward provisions, and assume that the current provisions were applicable in 1999. What is Collins' tax liability for 2002?

a. $3.32 million
b. $0.04 million
c. $2.84 million
d. $1.72 million
e. $1.24 million

Carry-back, carry-forward **Answer: e Diff: E**

2A-22. Salinger Software was founded in 1999. The company lost money each of its first three years, but was able to turn a profit in 2002. Salinger's operating income (EBIT) for its first four years of operations is reported below.

Year	EBIT
1999	-$300 million
2000	-150 million
2001	-100 million
2002	700 million

The company has no debt, so operating income equals earnings before taxes. The corporate tax rate has remained constant at 40 percent. Assume that the company took full advantage of the carry-back, carry-forward provisions in the Tax Code, and assume that the current provisions were applicable in 1999. How much tax did the company pay in 2002?

a. $ 90 million
b. $180 million
c. $280 million
d. $270 million
e. $ 60 million

Medium:

After-tax returns **Answer: b Diff: M N**

2A-23. Allen Corporation can (1) build a new plant that should generate a before-tax return of 11 percent, or (2) invest the same funds in the preferred stock of Florida Power & Light (FPL), which should provide Allen with a before-tax return of 9 percent, all in the form of dividends. Assume that Allen's marginal tax rate is 25 percent, and that 70 percent of dividends received are excluded from taxable income. If the plant project is divisible into small increments, and if the two investments are equally risky, what combination of these two possibilities will maximize Allen's effective return on the money invested?

a. All in the plant project.
b. All in FPL preferred stock.
c. 60% in the project; 40% in FPL.
d. 60% in FPL; 40% in the project.
e. 50% in each.

After-tax returns **Answer: b Diff: M**

2A-24. Solarcell Corporation has $20,000 that it plans to invest in marketable securities. It is choosing between AT&T bonds that yield 11 percent, State of Florida municipal bonds that yield 8 percent, and AT&T preferred stock with a dividend yield of 9 percent. Solarcell's corporate tax rate is 40 percent, and 70 percent of the preferred stock dividends it receives are tax exempt. Assuming that the investments are equally risky and that Solarcell chooses strictly on the basis of after-tax returns, which security should be selected? Answer by giving the after-tax rate of return on the highest yielding security.

a. 8.46%
b. 8.00%
c. 7.92%
d. 9.00%
e. 9.16%

After-tax returns **Answer: a Diff: M R**

2A-25. A bond issued by the State of Pennsylvania provides a 9 percent yield. What yield on a Synthetic Chemical Company bond would cause the two bonds to provide the same after-tax rate of return to an investor in the 35 percent tax bracket?

a. 13.85%
b. 17.50%
c. 7.00%
d. 12.50%
e. 9.00%

After-tax returns **Answer: c Diff: M**

2A-26. Mantle Corporation is considering two equally risky investments:

- A $5,000 investment in preferred stock that yields 7 percent.
- A $5,000 investment in a corporate bond that yields 10 percent.

What is the breakeven corporate tax rate that makes the company indifferent between the two investments?

a. 33.17%
b. 34.00%
c. 37.97%
d. 42.15%
e. 42.86%

After-tax returns **Answer: a Diff: M**

2A-27. West Corporation has $50,000 that it plans to invest in marketable securities. The corporation is choosing between the following three equally risky securities: Alachua County tax-free municipal bonds yielding 6 percent; Exxon Mobil bonds yielding 9.5 percent; and GM preferred stock with a dividend yield of 9 percent. West's corporate tax rate is 35 percent. What is the after-tax return on the best investment alternative? (Assume the company chooses on the basis of after-tax returns.)

a. 8.055%
b. 7.125%
c. 6.175%
d. 6.550%
e. 6.000%

After-tax returns **Answer: b Diff: M R**

2A-28. A municipal bond issued by the City of Gainesville provides a 7.6 percent after-tax return. For an individual investor in the 30 percent tax bracket, (1) what return on a corporate bond and (2) what return on a preferred stock would produce the same after-tax return to the investor as the municipal bond?

a. 8.28% and 10.25%, respectively.
b. 10.86% and 10.86%, respectively.
c. 10.86% and 8.38%, respectively.
d. 24.52% and 10.86%, respectively.
e. 24.52% and 9.58%, respectively.

After-tax returns **Answer: e Diff: M R**

2A-29. Arvo Corporation is trying to choose between three alternative investments. The three securities that the company is considering are as follows:

- Tax-free municipal bonds with a return of 7 percent.
- Wooli Corporation bonds with a return of 10 percent.
- CFI Corp. preferred stock with a return of 9 percent.

The company's tax rate is 25 percent. What is the after-tax return on the best investment alternative?

a. 7.00%
b. 7.50%
c. 6.48%
d. 9.00%
e. 8.33%

Corporate taxes **Answer: d Diff: M**

2A-30. Corporations face the following corporate tax schedule:

Taxable Income	Tax on Base of Bracket	Percentage on Excess above Base
Up to $50,000	$ 0	15%
$50,000-$75,000	7,500	25
$75,000-$100,000	13,750	34
$100,000-$335,000	22,250	39
$335,000-$10,000,000	113,900	34
$10,000,000-$15,000,000	3,400,000	35
$15,000,000-$18,333,333	5,150,000	38
Over $18,333,333	6,416,667	35

Company Z has $80,000 of taxable income from its operations, $5,000 of interest income, and $30,000 of dividend income from preferred stock it holds in other corporations. What is Company Z's tax liability?

a. $12,250
b. $13,750
c. $16,810
d. $20,210
e. $28,100

Corporate taxes **Answer: d Diff: M**

2A-31. Griffey Communications recently realized $125,000 in operating income. The company had interest income of $25,000 and realized $70,000 in dividend income. The company's interest expense was $40,000.

Taxable Income	Tax on Base of Bracket	Percentage on Excess above Base
Up to $50,000	$ 0	15%
$50,000-$75,000	7,500	25
$75,000-$100,000	13,750	34
$100,000-$335,000	22,250	39
$335,000-$10,000,000	113,900	34
$10,000,000-$15,000,000	3,400,000	35
$15,000,000-$18,333,333	5,150,000	38
Over $18,333,333	6,416,667	35

Using the corporate tax schedule above, what is Griffey's tax liability?

a. $45,260
b. $53,450
c. $27,515
d. $34,340
e. $33,950

Average corporate tax rate **Answer: b Diff: M**

2A-32. Last year, Baldwin Brothers had net cash flow of $1.2 million. Its depreciation expense of $500,000 was the company's only non-cash expense, and the company has zero non-cash revenues. Baldwin's operating income (EBIT) was $1.5 million, and its interest expense was $500,000. What was the company's average tax rate for the year?

a. 20%
b. 30%
c. 33%
d. 40%
e. 50%

Personal taxes **Answer: c Diff: M R**

2A-33. Single individuals face the following tax schedule:

Taxable Income	Tax on Base of Bracket	Percentage on Excess above Base
Up to $6,000	$ 0.00	10.0%
$6,000-$27,950	600.00	15.0
$27,950-$67,700	3,892.50	27.0
$67,700-$141,250	14,625.00	30.0
$141,250-$307,050	36,690.00	35.0
Over $307,050	94,720.00	38.6

Bob Turley, a single individual, received a salary of $60,000 last year. Turley also received $7,000 in dividend income during the year. His personal exemption is $3,000, and his itemized deductions are $6,000. What is Turley's marginal and average tax rate for the year?

a. 27% marginal; 24.66% average
b. 30% marginal; 18.92% average
c. 27% marginal; 20.70% average
d. 30% marginal; 27.61% average
e. 35% marginal; 31.60% average

Carry-back, carry-forward **Answer: a Diff: M**

2A-34. Mays Industries was established in 1997. Since its inception, the company has generated the following levels of taxable income (EBT):

Year	Taxable Income
1997	$ 50,000
1998	40,000
1999	30,000
2000	20,000
2001	-100,000
2002	60,000

Assume that each year the company has faced a 40 percent income tax rate. Also, assume that the company has taken full advantage of the Tax Code's carry-back, carry-forward provisions, and assume that the current provisions were applicable in 1997. What is the company's tax liability for 2002?

a. $ 4,000
b. $ 5,000
c. $ 6,000
d. $ 8,000
e. $10,000

Carry-back, carry-forward **Answer: c Diff: M**

2A-35. Blass Brothers opened for business in 1998. The company lost money its first year, but has been profitable ever since. Specifically, its taxable income (EBT) has been as follows:

Year	Taxable Income
1998	-$1,000,000
1999	100,000
2000	200,000
2001	500,000
2002	600,000

The company's tax rate is 40 percent. Assume that the company has taken full advantage of the Tax Code's carry-back, carry-forward provisions, and assume that the current provisions were applicable in 1998. What is the amount of tax the company paid in 2002?

a. $ 80,000
b. $120,000
c. $160,000
d. $200,000
e. $240,000

Carry-back, carry-forward **Answer: c Diff: M**

2A-36. Sundowner Corporation began operations in 1996. The company's taxable income has been as follows:

Year	Taxable Income
1996	-$200,000
1997	50,000
1998	75,000
1999	85,000
2000	-90,000
2001	65,000
2002	75,000

Assume the company faced a tax rate of 40 percent each year. Also, assume that the company has taken full advantage of the Tax Code's carry-back, carry-forward provisions, and assume that the current provisions were applicable in 1996. What was the tax liability for Sundowner Corporation in 2002?

a. $36,000
b. $40,000
c. $24,000
d. $20,000
e. $30,000

Carry-back, carry-forward **Answer: c Diff: M**

2A-37. Pierce Company lost $600,000 during 2002. (Its net income was -$600,000.) The corporate tax rate is 40 percent. The company paid the following amount in taxes over the past five years:

Year	Taxes Paid
1997	$ 50,000
1998	75,000
1999	60,000
2000	40,000
2001	100,000

Assume that the company has taken full advantage of the Tax Code's carry-back, carry-forward provisions, and assume that the current provisions were applicable in 1997. What will be Pierce's tax credit or tax payment?

a. Payment of $240,000
b. Payment of $40,000
c. Credit of $140,000
d. Credit of $180,000
e. Credit of $600,000

Carry-back, carry-forward **Answer: b Diff: M**

2A-38. Below is the level of taxable income (EBT) reported by Indiana Iron Works over the past several years:

Year	Taxable Income
1997	$ 300,000
1998	600,000
1999	750,000
2000	200,000
2001	-1,150,000
2002	800,000

The company was founded in 1997. The corporate tax rate has been and will continue to be 40 percent. Assume that the company has taken full advantage of the Tax Code's carry-back, carry-forward provisions, and assume that the current provisions were applicable in 1997. What was the company's tax liability for 2002?

a. $220,000
b. $240,000
c. $320,000
d. $360,000
e. $700,000

Carry-back, carry-forward **Answer: c Diff: M**

2A-39. Garner Grocers began operations in 1999. Garner has reported the following levels of taxable income (EBT) over the past several years. The corporate tax rate was 40 percent each year. Assume that the company has taken full advantage of the Tax Code's carry-back, carry-forward provisions, and assume that the current provisions were applicable in 1999. What is the amount of taxes the company paid in 2002?

Year	Taxable Income
1999	-$3,200,000
2000	200,000
2001	500,000
2002	2,800,000

a. $320,000
b. $100,000
c. $120,000
d. $ 40,000
e. $ 20,000

Carry-back, carry-forward **Answer: a Diff: M**

2A-40. Bradshaw Beverages began operations in 1998. The table below contains the company's taxable income during each year of its operations. Notice that the company lost money in each of its first three years. The corporate tax rate has been 40 percent each year.

Year	Taxable Income
1998	-$ 700,000
1999	-500,000
2000	-200,000
2001	800,000
2002	1,000,000

Assume that the company has taken full advantage of the Tax Code's carry-back, carry-forward provisions, and assume that the current provisions were applicable in 1998. How much did the company pay in taxes during 2002?

a. $160,000
b. $240,000
c. $320,000
d. $520,000
e. $600,000

Carry-back, carry-forward **Answer: d Diff: M**

2A-41. Uniontown Books began operating in 1998. The company lost money its first three years of operations, but has had an operating profit during the past two years. The company's operating income (EBIT) for its first five years was as follows:

Year	EBIT
1998	-$3.6 million
1999	-2.0 million
2000	-1.0 million
2001	1.2 million
2002	7.0 million

The company has no debt, and therefore, pays no interest expense. Its corporate tax rate has remained at 40 percent during this 5-year period. What was Uniontown's tax liability for 2002? (Assume that the company has taken full advantage of the carry-back and carry-forward provisions, and assume that the current provisions were applicable in 1998.)

a. $2,800,000
b. $1,920,000
c. $2,720,000
d. $ 640,000
e. $2,400,000

Carry-back, carry-forward **Answer: e Diff: M N**

2A-42. Clampett Oil began operations in 1998. After losing money the first two years, Clampett had positive earnings before taxes in each of the next three years. The company's earnings before taxes for its first five years of operations are summarized below:

Year	Taxable Income
1998	-$4.6 million
1999	-2.4 million
2000	4.3 million
2001	5.8 million
2002	3.2 million

Assume that the corporate tax rate has remained at 40 percent, and that Clampett fully utilizes the carry-back, carry-forward provisions, and assume that the current provisions were applicable in 1998. How much in corporate taxes did Clampett have to pay in 2001?

a. $1.36 million
b. $2.32 million
c. $0
d. $2.55 million
e. $1.24 million

Net income **Answer: d Diff: M**

2A-43. Moose Industries faces the following tax schedule:

Taxable Income	Tax on Base of Bracket	Percentage on Excess above Base
Up to $50,000	$ 0	15%
$50,000-$75,000	7,500	25
$75,000-$100,000	13,750	34
$100,000-$335,000	22,250	39
$335,000-$10,000,000	113,900	34
$10,000,000-$15,000,000	3,400,000	35
$15,000,000-$18,333,333	5,150,000	38
Over $18,333,333	6,416,667	35

Last year the company realized $10,000,000 in operating income (EBIT). Its annual interest expense is $1,500,000. What was the company's net income for the year?

a. $3,450,175
b. $4,385,100
c. $5,100,000
d. $5,610,000
e. $8,386,100

CHAPTER 2
ANSWERS AND SOLUTIONS

1. Net cash flow **Answer: e Diff: E**

Long-term debt is a source of cash. Companies issue debt to get more cash. Therefore, statement a is true. If the company repurchases common stock, it must use cash to pay for the repurchases. So, cash on the balance sheet would decrease. Therefore, statement b is false. If the company sold assets, total assets would be unchanged but there would be an increase in cash and a decrease in other assets. Therefore, statement c is true. Since both statements a and c are true, the correct choice is statement e.

2. Net cash flow **Answer: d Diff: E**

If the company issued new stock, cash on the balance sheet would increase. Therefore, statement a is false. If it issued long-term debt, cash on the balance sheet would increase. Consequently, statement b is also false. If it sold assets, cash on the balance sheet would increase. So, statement c is also false. If it bought assets, cash would decrease and net cash flow would not be affected. (So, if cash flow were positive before, it would stay positive.) Therefore, statement d is true. If the company eliminated its dividend, cash on the balance sheet would increase. So, statement e is also false.

3. Net cash flow **Answer: c Diff: E R**

NCF = NI + DEP and AMORT.

If NCF is negative, then NI must be negative, meaning that the company had no profits. If the company had no profits, it must have found some other way to increase its cash on the balance sheet. It could do so by selling assets or issuing new securities. So, we can immediately eliminate statements a, b, and d. Statement a, repurchasing stock, is the opposite of issuing securities, so it is a use of cash, not a source of it. Therefore, statement a is false. Large depreciation and amortization expenses would make NCF less negative than it otherwise would have been. However, depreciation and amortization expenses are non-cash charges, so they would not affect cash on the balance sheet in any way. Therefore, statement b is false. Statement c, issuing long-term debt, would increase cash on the balance sheet, so statement c is true. Statement d would be a use of cash and would decrease cash on the balance sheet. Therefore, statement d is false. Consequently, statement e is false.

4. Net cash flow **Answer: d Diff: E N**

The correct answer is statement d. NCF = NI + DEP and AMORT. If the company pays a large dividend, it is a use of cash, so cash on the balance sheet decreases. Therefore, statement a is incorrect. If the company has large depreciation and amortization expenses, it makes NCF less negative. Depreciation and amortization expenses are non-cash charges, so they will not affect cash on the balance sheet. Therefore, statement b is incorrect. Repurchasing common stock is a use of cash, so cash on the balance sheet decreases. Therefore, statement c is incorrect. If the company issues debt, NCF can still be negative, but cash on the balance sheet will increase. (The company sells bonds. It receives cash for the bonds and gives the investors paper with a promise to pay in return.) Therefore, statement d could explain a negative NCF while cash on the balance sheet increases. A large investment in new plant and equipment is a use of cash, so cash on the balance sheet decreases. Therefore, statement e is incorrect.

5. Net cash flow **Answer: c Diff: E**

NCF = NI + DEP and AMORT. If the company had sold a division and received cash, cash on the firm's balance sheet would have increased. Therefore, statement a is false. If the company cut its dividend, it would have more cash left over from net income, so cash on the firm's balance sheet would have increased. Therefore, statement b is false. If the company made a large investment in new plant and equipment, it would have larger depreciation expense, so net cash flow would increase. In addition, it had to pay for the equipment somehow, so cash on the balance sheet would decline. Therefore, statement c is true.

6. Net cash flow and net income **Answer: a Diff: E**

According to the balance sheet, retained earnings declined. Additions to RE = NI – Div. So, the only two things that can change retained earnings are net income and dividends. The company does not pay dividends, so retained earnings declined because net income was negative. Therefore, statement a is correct. (Retained earnings fell by $380,000 and dividends are 0, so net income was -$380,000.) Statement b is false, because it states that net income was positive. Statement c is false. If we use the NCF equation and the net income number calculated above, we calculate that depreciation is $530,000. (Note that it was given in the problem that depreciation was the firm's only non-cash expense, so amortization is zero.)

NCF = NI + DEP and AMORT
$150,000 = -$380,000 + DEP
$530,000 = DEP.

This is definitely greater than $150,000. Statement d is false because changes in cash do not change retained earnings. Even though net income is negative, cash on the balance sheet can change by changing receivables, payables, or issuing new debt or equity. Statement e is also false. NCF = NI + DEP and AMORT. We know that net income for 2002 was -$380,000, and we are told that NCF in 2002 was $150,000, so we can find DEP of $530,000 (since amortization expenses are zero). However, we know nothing about earnings or depreciation and amortization in the previous year, so we can say nothing about NCF for 2001.

7. Net cash flow and net income **Answer: b Diff: E R**

Statement b is correct. Statement a is false, since it would reduce net income. Statement b is true; a decline in depreciation and amortization expenses would increase net income but decrease net cash flow. Statement c is false; since a decline in operating income would cause net income to decline. The remaining statements are false.

8. Net cash flow and net income **Answer: a Diff: E R**

9. Net cash flow, free cash flow, and cash **Answer: c Diff: E N**

The correct answer is statement c. Recall Net cash flow = NI + DEP and AMORT. Free cash flow = EBIT(1 - T) + Depreciation and amortization – Capital expenditures – ΔNOWC.

An increase in depreciation and amortization expenses increases both NCF and FCF, and may reduce taxes. This does not explain why NCF and FCF are negative with an increase in cash flow. So, statement a is not correct. An increase in inventories is paid either in cash or accounts payable. This suggests cash either decreases or remains the same. So, statement b is incorrect. By issuing new stock, cash does increase. And this has no impact on either NCF or FCF, so statement c is the correct response.

10. Current assets **Answer: d Diff: E**

Accounts payable are current liabilities, so they are not part of a firm's current assets. Therefore, statement d is the correct choice.

11. Current assets **Answer: a Diff: E N**

The correct answer is statement a. Depreciation is an expense item found on the income statement and accrued wages are a current liability on the balance sheet.

12. Balance sheet **Answer: c Diff: E**

Statement c is correct; the others are false. Simply because the change in retained earnings between the two years was zero, doesn't mean that net income was zero. Remember, Beginning retained earnings + Net income - Dividends = Ending retained earnings. Just because the change in retained earnings was zero, doesn't mean that dividends were zero.

13. Balance sheet **Answer: b Diff: E**

If Glenn had issued preferred stock, the dollar value of preferred stock would have increased. Statement a is false. The amount of common stock did increase between 2001 and 2002. Therefore, statement b is true. Glenn had negative net income in 2002. When a company has positive net income, it pays a dividend first (in this case Div = $0) and whatever is left over is added to retained earnings. Since retained earnings declined and no dividends were paid, net income must have been negative in 2002. So statement c is false.

14. Balance sheet **Answer: a Diff: E N**

The correct answer is statement a. Issuing new stock means that the company sells stock to shareholders and receives cash in return; therefore, statement a is correct. If the company repurchases common stock, they are spending money and reducing cash; therefore, statement b is incorrect. If the company pays a dividend, it is giving cash to its shareholders. This reduces cash on the balance sheet; therefore, statement c is incorrect. If the company purchases new equipment, it is spending money; therefore, statement d is incorrect.

15. Balance sheet **Answer: b Diff: E N**

The correct answer is statement b. Since its retained earnings increased, net income had to be positive in 2002, so statement a is incorrect. Statement c is incorrect since outstanding long-term debt did not change from 2001 to 2002. Statement b, then, is the only correct answer.

16. Changes in depreciation **Answer: c Diff: E**

Statement c is correct. In the statement of cash flows, depreciation is a source of cash. Therefore, a decrease in depreciation means that cash will decrease. The other statements are false. The physical stock of assets would not change. In the income statement, depreciation is deducted from sales; therefore, a decrease in depreciation means that net income will increase.

17. Changes in depreciation **Answer: d Diff: E**

Statements a and c are correct; therefore statement d is the correct choice. Statement b is incorrect. The company would be paying more in taxes, a cash expense. Thus, the company's cash position would decrease.

18. Changes in depreciation **Answer: d Diff: E**

Reducing the depreciable life will increase the amount of depreciation expense. This results in lower taxable income, lower net income, and a higher net cash flow. Therefore, the correct choice is statement d.

19. Changes in depreciation **Answer: e Diff: E**

By increasing depreciation, the firm will have lower taxable income. As a result, the firm will pay less taxes. However, its net income will be lower--doubling the depreciation expense has a greater effect on net income than the lowered tax payments. Net cash flow will be higher since depreciation is a non-cash charge that reduces the amount of cash paid in taxes. So, statements a, b, c, and d are false. Therefore, the correct choice is statement e.

20. Changes in depreciation **Answer: e Diff: E N**

Statement a is true; if the provision passes, Campbell will be forced to depreciate their equipment more slowly, resulting in lower depreciation expenses. As a result, Campbell Corporation's net income will be higher than it would have been otherwise. Statement b is true; for the reasons stated above, Campbell Corporation's tax liability will be higher. Statement c is also true; remember, changes in depreciation have no effect on physical assets, therefore gross fixed assets remain unchanged. However, if the depreciation expense is lower, net fixed assets will increase because accumulated depreciation will be lower. Therefore, statement e is the correct choice.

21. Depreciation, net income, cash flow, and taxes **Answer: d Diff: E**

If the company depreciates the same asset over a shorter time, it will have a higher depreciation expense. Since depreciation is an expense on the income statement, higher depreciation will reduce net income. Therefore, statement a is true. If the company has lower net income, it will pay less in taxes. Therefore, statement b is true. Cash flow is equal to NI + DEP and AMORT. Because depreciation is taken out of the income statement before taxes, it does not reduce net income dollar for dollar. (That is, $1 of depreciation expense will equal only a $0.60 decline in net income.) However, the entire $1 is added back to net income to calculate cash flow. Therefore, statement c is false. Since statements a and b are true, the correct choice is statement d.

22. Financial statements **Answer: c Diff: E**

Statement a is false; accounts receivable are current assets, not current liabilities. Statement b is false; dividends are paid out of net income, not before net income. Statement c is correct; if dividends are greater than the current year's net income, retained earnings must decline.

23. Book and market values per share **Answer: e Diff: E N**

The correct answer is statement e. The book value per share refers to the book value of common equity. The problem states that the common equity on the balance sheet totals $700 million. This is the total book value for all of the common shares. There are 35 million shares outstanding. Therefore, the book value per share is $700 million/35 million shares = $20 per share. Therefore, statement a is correct. The company has significant growth opportunities. The company also has assets on the left side of the balance sheet whose market values are greater than their book values. Each of these factors, by itself, would tend to increase the firm's market value per share. Therefore, it is likely that the firm's market value per share would be greater than $20. Therefore, statement b is incorrect and statement c is correct.

24. EBIT, net income, and operating cash flow **Answer: a Diff: E R**

OCF = EBIT(1 - T) + DEP and AMORT. If depreciation and amortization expenses increase, EBIT would decline by DEP and AMORT, but OCF would go up by DEP and AMORT, so the net change to OCF would be: DEP and AMORT – (DEP and AMORT)(1 - T) = DEP and AMORT – (DEP and AMORT) + (DEP and AMORT)(T) = (DEP and AMORT)(T). So OCF would increase by this amount, but EBIT and NI would decline. Therefore, statement a is true. If interest expense decreased, this would not affect EBIT or OCF but net income would increase, so statement b is false. If the tax rate increased, this would have no effect on operating income but net income would decline. In addition, if taxes increased, the term (1 - T) would decrease, so EBIT (1 - T) would decrease. Therefore, OCF would decrease, so statement c is false.

25. EVA, cash flow, and net income **Answer: b Diff: E**

EVA = EBIT(1 - T) - (After-tax cost of capital)(Total investor-supplied operating capital). Therefore, if less capital is used with the same operating income, EVA will increase.

26. Changes in depreciation **Answer: d Diff: M**

Statement a is correct, because an increase in depreciation would lower net income and, consequently, EPS. Statement b is also correct because Solo will pay less taxes because depreciation is higher. Therefore, statement d is the correct choice. Statement c is incorrect. Depreciation expense would increase; hence, EBIT would fall.

27. Changes in depreciation **Answer: d Diff: M**

Statement d is correct. The other statements are false. The tax paid by the firm will be less due to the larger non-cash expense of depreciation, which increases net cash flow. The firm's net income is lower because depreciation will be higher, and the firm will also have less taxable income due to higher depreciation expense.

28. Effects of changes in financial leverage **Answer: a Diff: M**

Statement a is correct. Net income will increase because less interest expense will be paid by the company. Statement b is incorrect because reducing interest expense will increase the amount of EBT (taxable income). Higher taxable income results in higher taxes; therefore, statement c is incorrect.

29. Cash flow and EVA **Answer: e Diff: M R**

OCF = (EBIT)(1 - T) + DEP AND AMORT.
NCF = NI + Non-cash charges.

Statements a, b, and c are true, so the appropriate choice is statement e. Statement a is correct. NCF = NI + DEP and AMORT. Since A has higher NCF than B but a lower NI than B, A's depreciation (since amortization equals 0 as given in the problem) must be greater than B's. Statement b is correct. OCF = EBIT(1 - T) + DEP and AMORT. Both companies have the same tax rate, but A's depreciation is greater than B's. However, B has a greater operating cash flow. Consequently, A must have lower operating income than B. Statement c is correct. EVA = EBIT(1 - T) - (WACC × Total investor-supplied operating capital). From above, we learned, $EBIT_B > EBIT_A$. Also, we've been told that both companies have the same tax rate, WACC, and investor-supplied operating capital. Thus, $EVA_B > EVA_A$.

30. EVA and net income **Answer: c Diff: M**

Statement c is correct. Recall that EVA = EBIT(1 – T) – (After-tax cost of capital)(Total investor-supplied operating capital). Even if EBIT falls, EVA can increase by reducing either (or both) total investor-supplied operating capital or the after-tax cost of capital.

31. Statement of cash flows **Answer: d Diff: E**

The cash flow statement can be developed as follows:

Beginning cash	$ 100,000
Additions from operating activities	300,000
Uses from investing activities	-800,000
Additions from financing activities	?
Ending cash	$ 50,000

For the firm to end up with $50,000 cash, it must have had a cash inflow from financing activities of $450,000.

32. Balance sheet cash **Answer: c Diff: E N**

The four transactions have the following effects:

1. Cash from operating activities

Debit	Cash	$325,000,000	
Credit	Net income		$325,000,000
	(or a similar income statement account)		

2. Stock issuance

Debit	Cash	$500,000,000	
Credit	Common stock		$500,000,000

3. Decrease in notes payable

Debit	Notes payable	$100,000,000	
Credit	Cash		$100,000,000

4. Purchase of fixed assets

Debit	Fixed assets	$600,000,000	
Credit	Cash		$600,000,000

So, Cash = $75,000,000 (initial balance) + $325,000,000 + $500,000,000 - $100,000,000 - $600,000,000 = $200,000,000.

33. Retained earnings **Answer: d Diff: E N**

2001 Ret. earnings	$275,000,000	(given)
2002 Net income	+ 15,000,000	($ 0.75 × 20,000,000)
2002 Dividends	- 5,000,000	($ 0.25 × 20,000,000)
2002 Ret. earnings	$285,000,000	

34. Statement of retained earnings **Answer: d Diff: E N**

NI = $25,000,000; $R/E_{Y/E}$ = $405,000,000; $R/E_{B/Y}$ = $390,000,000; Dividends = ?
$R/E_{B/Y}$ + NI − Div = $R/E_{Y/E}$.

$$\$390,000,000 + \$25,000,000 - Div = \$405,000,000$$
$$\$415,000,000 - Div = \$405,000,000$$
$$\$10,000,000 = Div.$$

35. Income statement **Answer: b Diff: E N**

EBITDA = $22,500,000; NI = $5,400,000; Int = $6,000,000; T = 35%; DA = ?

EBITDA	$22,500,000	
DA	8,192,308	EBITDA − DA = EBIT; DA = EBITDA − EBIT
EBIT	$14,307,692	EBIT = EBT + Int = $8,307,692 + $6,000,000
Int	6,000,000	(Given)
EBT	$ 8,307,692	
Taxes (35%)	2,907,692	
NI	$ 5,400,000	(Given)

$$\frac{\$5{,}400{,}000}{(1-T)} = \frac{\$5{,}400{,}000}{0.65}$$

36. EVA **Answer: a Diff: E**

EVA = EBIT × (1 − T) − (WACC × Total investor-supplied operating capital)
= $4,000,000 × (1 − 0.4) − (0.1 × $20,000,000)
= $2,400,000 − $2,000,000
= $400,000.

37. MVA **Answer: d Diff: E**

MVA = (Shares outstanding)(Stock Price) − Total common equity.
$162,000,000 = (6,000,000)P_0 − $300,000,000
$462,000,000 = (6,000,000)P_0
P_0 = $77.00.

38. MVA **Answer: c Diff: E**

MVA = (Shares outstanding)(Stock Price) − Total common equity.
MVA = (2,000,000)($15) − $40,000,000
MVA = −$10,000,000.

39. Rate of interest **Answer: c Diff: M**

Long-term interest = ($13,000,000)(0.08) = $1,040,000.
Short-term interest = $1,300,000 − $1,040,000 = $260,000.
Short-term interest rate = $260,000/$1,546,000 = 16.82% ≈ 16.8%.

40. Calculating change in net income **Answer: c Diff: M R**

Set up an income statement:

Sales	$1,000,000	
Operating costs excl. dep. and amort.	700,000	
EBITDA	$ 300,000	
Depreciation and amortization	50,000	
EBIT	$ 250,000	
Interest	150,000	
EBT	$ 100,000	
Taxes (40%)	40,000	Taxes = 0.4($100,000) = $40,000.
Net income	$ 60,000	

41. Net income **Answer: b Diff: M**

We need to work backwards through the income statement to get the EBIT.

EBIT	$841,667	($641,667 + $200,000)
Interest	200,000	
EBT	$641,667	($385,000/0.6)
Tax (40%)	256,667	
NI	$385,000	

If EBIT doubles:

EBIT	$1,683,334	($841,667 × 2)
Interest	200,000	
EBT	$1,483,334	
Tax (40%)	593,334	
NI	$ 890,000	($1,483,334 × 0.6)

42. Net cash flow **Answer: d Diff: M**

The income statement would show:

Sales	$30,000,000
Oper. costs (excl. depr. and amort.)	20,000,000
EBITDA	$10,000,000
Depreciation and amortization	8,000,000
EBIT	$ 2,000,000
Interest exp.	2,000,000
EBT	$ 0
Taxes	0
NI	$ 0

NCF = NI + DEP and AMORT
NCF = 0 + $8,000,000 = $8,000,000.

43. Net cash flow **Answer: d Diff: M N**

NCF = NI + Depreciation and Amortization.

NI = EBIT - I - Taxes
= $700 - $200 - Taxes
= $500 – ($500 × 40%)
= $500 - $200
= $300 million.

EBIT = EBITDA – Depreciation and Amortization
$700 = $850 - DA
$150 million = DA.

So, depreciation and amortization totals $150 million.

NCF = NI + DEP and AMORT
= $300 + $150
= $450 million.

44. Operating and net cash flows **Answer: a Diff: M**

NCF = NI + DEP and AMORT

EBIT	$500,000	(Given)
Interest	100,000	(Given)
EBT	$400,000	
Taxes (40%)	160,000	(Given)
NI	$240,000	

Operating cash flow = EBIT(1 - T) + DEP and AMORT
$450,000 = $500,000(0.6) + DEP and AMORT
$150,000 = DEP and AMORT.

NCF = $240,000 + $150,000
= $390,000.

45. EVA **Answer: b Diff: M R**

$$\text{EVA} = \text{EBIT}(1 - \text{T}) - \begin{pmatrix}\text{Total investor-supplied} \\ \text{capital employed}\end{pmatrix}\begin{pmatrix}\text{After-tax} \\ \text{cost of capital}\end{pmatrix}.$$

Note that EBIT = Earnings before taxes plus interest expense.

$$\text{Earnings before taxes} = \text{EBT} = \frac{\$600{,}000}{0.6} = \$1{,}000{,}000.$$

EBIT = $1,000,000 + $200,000 = $1,200,000.

EVA = $1,200,000(0.6) - $9,000,000(0.10)
= -$180,000.

46. Sales level **Answer: e Diff: M**

This question requires working backwards through the income statement from net income to sales. The income statement will look like this:

Sales	$1,250,000	$500,000/(1 - 0.6)
CGS (60%)	750,000	$1,250,000 × 0.6
EBIT	$ 500,000	$100,000 + $400,000
Interest	100,000	(Given)
EBT	$ 400,000	$240,000/(1 - 0.4)
Tax (40%)	160,000	
NI	$ 240,000	

47. Sales level **Answer: e Diff: M**

Working up the income statement you calculate the new sales level should be $10,833,333.

Sales	$10,833,333	$4,333,333/(1 - 0.6)
Operating costs (excl. depr. and amort.)(60%)	6,500,000	$10,833,333 × 0.6
EBITDA	$ 4,333,333	$3,833,333 + $500,000
Depreciation and amortization	500,000	
EBIT	$ 3,833,333	$3,333,333 + $500,000
Interest	500,000	
EBT	$ 3,333,333	$2,000,000/0.6
Taxes (40%)	1,333,333	
Net income	$ 2,000,000	

48. Sales and income statement **Answer: d Diff: M**

In 2002, net income was $75 million and the tax rate was 40 percent. Therefore, earnings before taxes (EBT) was equal to $75/(1 - 0.4) = $125 million. We know interest equals $25 million, so EBIT = $125 + $25 = $150 million. In addition, we know that the cost of goods sold (COGS) was $350 million and sales were $500 million.

We want net income to be 20 percent larger, so net income must be $75 × 1.2 = $90 million. Therefore, EBT = $90/(1 - 0.4) = $150 million. Interest will increase by 40 percent, so new interest will be $25 × 1.4 = $35 million. Therefore, EBIT = $150 + $35 = $185 million. EBIT is 30 percent of sales since COGS is 70 percent of sales. So Sales = EBIT/(1 - 0.7) = $185/0.3 = $616.67 million ≈ 617 million.

49. Sales and net cash flow **Answer: b Diff: M**

The firm's income statement is determined as follows:

Sales	$66.67	($16.67/0.25)
Operating costs excl. DA (75% of sales)	50.00	
EBITDA	$16.67	($11.67 + $5.00)
Depreciation and amortization	5.00	(Given)
EBIT	$11.67	
Interest	0.00	(Given)
EBT	$11.67	($7.00/0.6)
Taxes (40%)	4.67	
Net income	$ 7.00	($12.00 - $5.00)
Depreciation and amortization	5.00	(Given)
Net cash flow	$12.00	(Given)

50. Retained earnings **Answer: e Diff: M**

EPS = $3, but $1 per share is paid out as dividends. This means that $2 per share is added to retained earnings. Total amount retained is $2(200,000) = $400,000. Add this to the amount already in the retained earnings account on the balance sheet and you get a total ending balance of retained earnings equal to $400,000 + $400,000 = $800,000.

51. Retained earnings **Answer: b Diff: M**

EPS = NI/shares.
For 2002, -$2.50 = -$500,000/Shares
Shares = -$500,000/-$2.50 = 200,000.

Dividends paid in 2002 = $1.00 × 200,000 = $200,000.

Looking at additions to retained earnings in 2002:

2001 Retained earnings	$2,300,000
2002 Dividends	(200,000)
2002 Net income	(500,000)
2002 Retained earnings	$1,600,000

52. Earnings per share **Answer: c Diff: M**

The company paid a dividend of $0.80 per share. The total amount paid was:

$0.80 per share × 1 million shares = $800,000.

The change in retained earnings (the amount of money the company reinvests) is equal to NI - Div.

($6,000,000 - $5,000,000) = NI - $800,000
$1,000,000 + $800,000 = NI
$1,800,000 = NI.

EPS = NI/Shares
= $1,800,000/1,000,000
= $1.80.

53. Operating income **Answer: d Diff: M**

EPS = NI/Shares
NI = EPS × Shares
= $3.00 × 400,000 = $1,200,000.

EBT = NI/(1 - T) = $1,200,000/(1 - 0.4) = $2,000,000.
EBIT = EBT + Interest expense = $2,000,000 + $500,000 = $2,500,000.

54. Statement of cash flows **Answer: e Diff: M N**

This question involves the statement of cash flows. We know from the statement of cash flows that the change in cash must equal cash flow from operating activities plus long-term investing activities plus financing activities. First, we must identify the change in cash as follows:

Cash at the end of the year	$155,000
Cash at the beginning of the year	-75,000
Change in cash	$ 80,000

The sum of cash flows generated from operations, investment, and financing must equal $80,000. Therefore, we can calculate the cash flow from financing as follows:

CF from operations + CF from investing + CF from financing = Δ in cash
$1,250,000 + (-$1,000,000) + CF from financing = $ 80,000
CF from financing = -$170,000.

We have been given the cash flows from two of the three financing activities, so we can calculate the amount of stock that was repurchased.

ΔL-T debt + ΔCommon stock – Pmt. of common dividends = CF from financing
$250,000 + ΔCommon stock - $25,000 = -$170,000
ΔCommon stock = -$395,000.

The negative change in common stock tells us that the firm repurchased $395,000 worth of its common stock.

55. Free cash flow **Answer: a Diff: M N**

$$FCF_1 = EBIT(1 - T) + \begin{matrix}\text{Depreciation} \\ \text{and amortization}\end{matrix} - \begin{matrix}\text{Gross capital} \\ \text{expenditures}\end{matrix} - \Delta NOWC$$

$FCF_1 = (\$20 - \$7)(1 - 0.4) + \$7 - \$12 - \$0$
$FCF_1 = \$7.8 + \$7 - \$12 - \$0$
$FCF_1 = \$2.8$ million.

56. NOPAT **Answer: d Diff: E**

$NOPAT_{02} = EBIT(1 - T)$
$= \$450,000,000(0.6)$
$= \$270,000,000.$

57. Net operating working capital **Answer: b Diff: E**

$$\begin{matrix}\text{Net operating} \\ \text{working capital}_{02}\end{matrix} = \$1,116,000,000 - \$540,000,000 = \$576,000,000.$$

58. Operating capital **Answer: e Diff: E**

$$\begin{matrix}\text{Total investor - supplied} \\ \text{operating capital}_{02}\end{matrix} = \$900,000,000 + \$576,000,000 = \$1,476,000,000.$$

59. Free cash flow **Answer: c Diff: M**

$NOWC_{01}$ = Current assets - Non-interest charging current liabilities
= $1,080,000,000 - $450,000,000 = $630,000,000.

Total investor-supplied operating capital$_{01}$ = Net plant & equipment + NOWC
= $750,000,000 + $630,000,000 = $1,380,000,000.

FCF_{02} = $NOPAT_{02}$ - Net investment in operating capital
= $270,000,000 - $1,476,000,000 - $1,380,000,000 = $174,000,000.

60. Depreciation and amortization expense **Answer: c Diff: M N**

Looking back at the income statement, we realize that the depreciation and amortization expense can be found as the difference between EBITDA and EBIT. Therefore, we need to break down NOPAT to determine EBIT:

NOPAT = EBIT(1 - T)
$7,800,000 = EBIT(1 - 0.4)
$7,800,000 = EBIT(0.6)
$13,000,000 = EBIT.

Now that we have EBIT, we can find the depreciation and amortization expense by subtracting EBIT from EBITDA, which is given in the problem.

EBITDA	$15,500,000
Depr. & Amort.	- ?????????
EBIT	$13,000,000

Therefore, depreciation and amortization expense is equal to $2.5 million.

61. Interest expense **Answer: b Diff: M N**

To get the firm's interest expense, we must use the income statement to determine earnings before taxes (EBT). Then, we can subtract EBT from EBIT to find the interest expense.

EBIT	$13,000,000
Int	-??????????
EBT	
Taxes	
NI	$ 3,800,000

NI = EBT(1 - T)
$3,800,000 = EBT(0.6)
$6,333,333 = EBT.

Interest expense simply becomes the difference between EBIT and EBT.

EBIT – Int = EBT
$13,000,000 – Int = $6,333,333
$6,666,667 = Int.

So, interest expense is $6.67 million.

62. Free cash flow **Answer: b Diff: E N**

Remember, free cash flow (FCF) can be calculated as after-tax operating income less net capital expenditures. Therefore,

FCF = EBIT(1 - T) – Net capital expenditures
FCF = $13,000,000(1 - 0.4) – $5,500,000
FCF = $ 7,800,000 – $5,500,000
FCF = $ 2,300,000.

63. EVA **Answer: a Diff: E N**

Recall, EVA is after-tax operating income less the after-tax capital costs.

EVA = EBIT(1 - T) – AT capital costs
EVA = $7,800,000 - $5,900,000
EVA = $1,900,000.

64. Depreciation expense **Answer: a Diff: M N**

NOPAT = EBIT(1 - T)
$60,000,000 = EBIT(1 - 0.4)
EBIT = $100,000,000.

EBITDA	$120,000,000	
Depr.	X	
Amort.	0	(given)
EBIT	$100,000,000	

EBITDA – DA = EBIT
$120,000,000 - X = $100,000,000
Depreciation = $20,000,000.

65. Interest expense **Answer: c Diff: M N**

EBIT	$100,000,000	(from previous problem)
Int	X	
EBT		
Taxes		
NI	$ 7,000,000	(given)

NI = EBT(1 – T)
$7,000,000 = EBT(0.6)
$11,666,667 = EBT.

Interest expense is simply the difference between EBIT and EBT.

EBIT – Int = EBT
$100,000,000 – Int = $11,666,667
$88,333,333 = Int.

So interest expense is $88.3 million.

66. Sales level **Answer: b Diff: E N**

Net profit margin = NI/Sales = 5%.

$7,000,000/Sales = 5%
0.05Sales = $7,000,000
Sales = $140,000,000.

67. EVA **Answer: a Diff: E N**

EVA = EBIT(1 - T) - (Total operating capital × WACC)
= $100,000,000(1 - 0.40) - ($300,000,000 × 0.10)
= $60,000,000 - $30,000,000
= $30,000,000.

68. Net income **Answer: d Diff: E N**

EBIT	$2,500,000
Int	0
EBT	$2,500,000
Taxes (40%)	1,000,000
NI	$1,500,000

69. NOPAT **Answer: d Diff: E N**

NOPAT = EBIT(1 – T) = $2,500,000(1 – 0.40) = $1,500,000.

70. Free cash flow **Answer: b Diff: E N**

FCF = EBIT (1 – T) – Net investment in operating capital
= $2,500,000(1 – 0.40) – $1,000,000 = $500,000.

WEB APPENDIX 2A SOLUTIONS

2A-1. Personal taxes **Answer: c Diff: E**

2A-2. Taxes **Answer: b Diff: E**

Statement b is correct. The other statements are false. Corporations cannot exclude interest income from corporate taxes and individuals pay no taxes on municipal bond income.

2A-3. Taxes **Answer: b Diff: E**

Statement b is correct. The other statements are false. Corporations cannot exclude interest income from corporate taxes. Recall that municipal bonds are not taxed.

$$\text{Equivalent pre-tax yield on taxable bond} = \frac{\text{Yield on muni}}{(1 - T)}$$

or

$$\text{Equivalent pre-tax yield on muni} = \left(\text{Pre-tax yield on taxable bond}\right)(1 - T).$$

Munis trade at lower yields than equivalent corporate bonds because investors do not have to pay taxes on munis.

2A-4. Carry-back, carry-forward **Answer: b Diff: E**

2A-5. Miscellaneous concepts **Answer: c Diff: E**

Statement c is correct. The other statements are false. Retained earnings do not represent cash and all of the firm's interest income is taxed.

2A-6. Corporate taxes **Answer: b Diff: E**

Operating income	$250,000
Interest received	10,000
Interest paid	(45,000)
Dividends received (taxable)	6,000*
Taxable income	$221,000

*Taxable dividends = $20,000(0.30) = $6,000.
Taxes = 0.4($221,000) = $88,400.

2A-7. Corporate taxes **Answer: b Diff: E N**

We must use the corporate tax table to answer this question. First, find the firm's taxable income. Don't forget only 30% of dividend income received by corporations is taxed.

Operating income	$13,200,000
Interest payments	-1,750,000
Dividend income	300,000
Taxable income	$11,750,000

Tax on base		$3,400,000
Tax on excess of base	$1,750,000 × 0.35 =	612,500
Tax liability		$4,012,500

2A-8. Corporate taxes **Answer: c Diff: E N**

Operating income	$500,000	
Interest income	+ 50,000	
Dividend income	+ 30,000	[$100,000(1 – 0.7)]
Taxable income	$580,000	

Tax on base		$113,900
Tax on excess of base	$245,000 × 0.34 =	83,300
Tax liability		$197,200

2A-9. After-tax returns **Answer: b Diff: E**

12%[1 - 0.30(0.35)] = 10.74%.

2A-10. After-tax returns **Answer: b Diff: E**

Chicago municipal bonds = Tax Exempt; BT yield = AT yield.
U.S. Treasury bonds = AT yield = 6%(1 - 0.4) = 3.60%.
3.60% = yield where indifferent between the two.

2A-11. After-tax returns **Answer: c Diff: E**

70% of the preferred stock dividends are not taxable, thus we need to solve the following for T (the tax rate):

7.5% = 8.5% - 8.5%(1 - 0.7)(T)
1% = 2.55%T
T = 0.3922 = 39.22%.

2A-12. After-tax returns **Answer: a Diff: E**

9%(1 - T) = 6.5%
(1 - T) = 6.5%/9%

$$T = 1 - \frac{6.5\%}{9\%}$$

T = 27.78%.

2A-13. After-tax returns **Answer: d Diff: E**

After-tax yield = 7% - 7%[0.4(1 - 0.7)] = 6.16%.
(Remember, 70 percent of preferred dividends are not taxable.)

2A-14. After-tax returns **Answer: a Diff: E**

Compare the two after-tax rates: $0.085(1 - T) = 0.055$. $T = 0.3529 \approx 35.29\%$.

2A-15. After-tax returns **Answer: d Diff: E R**

Equivalent pre-tax yield on corporate bond = $\frac{4.8\%}{(1 - 0.27)} = 6.58\%$.

2A-16. After-tax returns **Answer: b Diff: E**

Remember, that if a company buys preferred stock in another company, 70 percent of the dividends are excluded from taxes. Therefore, the after-tax return will be:

AT return = 8.4%[1 – (0.4)(1 – 0.7)]
= 8.4%[1 – (0.4)(0.3)]
= 8.4%(0.88)
= 7.39%.

2A-17. After-tax returns **Answer: c Diff: E**

Remember, only 30 percent of the preferred dividends are taxable.
After-tax return = 8% – [8% × 0.35 × 0.3] = 7.16%.

2A-18. After-tax returns **Answer: c Diff: E N**

After-tax yield = 8% – 8%[0.3(1 - 0.7)]
= 8% - 0.72%
= 7.28%.

2A-19. After-tax returns **Answer: d Diff: E N**

AT yield = BT yield[1 - (0.3)T]
= 8.6%[1 - (0.3)(0.4)]
= 7.568% ≈ 7.57%.

2A-20. Carry-back, carry-forward **Answer: c Diff: E**

Step 1: Determine how far the loss can be carried forward.

Year	Taxable Income (EBT)	Carry-forward Used	EBT After Carry-forward Applied	Carryable Amount Unused
1998	-$4,000,000	$ 0	$ 0	$4,000,000
1999	1,000,000	1,000,000	0	3,000,000
2000	2,000,000	2,000,000	0	1,000,000
2001	3,000,000	1,000,000	2,000,000	0
2002	5,000,000	0	5,000,000	0

Step 2: Calculate the 2001 tax liability:
In 2001, the company has $2 million in EBT after applying the tax loss carry forward. The tax rate is 40 percent. Taxes paid are calculated as follows:

Taxes paid = 40% × $2 million
= $800,000.

2A-21. Carry-back, carry-forward **Answer: d Diff: E**

Year	EBT	Carry-back/ forward Used	Taxable Income After Carry-forward Applied	Taxes Paid (EBT × T)	Carryable Amount Still Unused
1999	-$3,000,000	$ 0	$ 0	$ 0	-$3,000,000
2000	-5,200,000	0	0	0	-8,200,000
2001	4,200,000	-4,200,000	0	0	-4,000,000
2002	8,300,000	-4,000,000	4,300,000	1,720,000	0

2A-22. Carry-back, carry-forward **Answer: e Diff: E**

The company can carry all of its losses forward against the 2002 profit of $700 million. (Remember, you can carry forward for 20 years.)

Accumulated losses = (-$300,000,000) + (-$150,000,000) + (-$100,000,000)
= -$550,000,000.

This means it can carry forward $550 million of losses, against $700 million of profits, leaving $700 - $550 = $150 million taxable income.

Taxes = 0.40 × $150,000,000 = $60,000,000.

2A-23. After-tax returns **Answer: b Diff: M N**

After-tax return on the new project:
0.11(1 - T) = 0.11(0.75) = 0.0825 = 8.25%.

After-tax return on the preferred stock:
0.09[1 - 0.3(0.25)] = 0.09(1 - 0.075) = 0.09(0.925)
= 0.08325 = 8.325%.

Therefore, invest 100 percent in the preferred stock.

2A-24. After-tax returns **Answer: b Diff: M**

Florida municipal bond:
After-tax yield on FLA bond = 8%. (The munis are tax exempt.)

AT&T bond:
After-tax yield on AT&T bond = 11% - Taxes = 11% - 11%(0.4) = 6.6%.

Alternative solution for AT&T bond:
Invest $20,000 @ 11% = $2,200 interest.
Pay 40% tax, so after-tax income = $2,200(1 - T) = $2,200(0.6) = $1,320.
After-tax rate of return = $1,320/$20,000 = 6.6%.

AT&T preferred stock:
After-tax yield = 9% - Taxes = 9% - 0.3(9%)(0.4) = 9% - 1.08% = 7.92%.

Therefore, invest in the Florida municipal bonds that yield 8% after taxes.

2A-25. After-tax returns **Answer: a Diff: M R**

Before-tax return(1 - T) = 9%
Before-tax return(0.65) = 9%
Before-tax return = 9%/0.65 = 13.85%.

2A-26. After-tax returns **Answer: c Diff: M**

The tax rate that equates the after-tax yields of the alternative investments will make the corporation indifferent between the securities. The after-tax yield of the alternatives are:

Bond: Before-tax yield(1 - Tax rate) or 10%(1 - T).

Preferred stock: Before-tax yield[1 - 0.3(Tax rate)] or 7%(1 - 0.3T).

70% of corporate dividend income is exempt from taxes.

Solving 10%(1 - T) = 7%(1 - 0.3T) for T will give the tax rate that makes the firm indifferent.

10%(1 - T) = 7%(1 - 0.3T)
10% - 10%T = 7% - 2.1%T
3% = 7.9%T
T = 37.97%.

2A-27. After-tax returns **Answer: a Diff: M**

The after-tax yield on the municipal bond is 6%. The after-tax yield on the Exxon Mobil bonds is 9.5%(1 - 0.35)= 6.175%. Finally, the after-tax yield on the preferred stock (remember 70% of dividends are excluded from taxes) is 9%(1 - (0.3)(0.35)) = 8.055%. Thus, the preferred stock is the best alternative based on after-tax returns.

2A-28. After-tax returns **Answer: b Diff: M R**

For individual investors, the tax rates on interest income and dividend income are identical. Therefore, without any calculations you may properly conclude that statement b is the correct answer. To prove that this is correct, consider the following:

Muni yield = Bond yield(1 - Tax rate)
and/or
Muni yield = Preferred stock yield(1 - Tax rate)

7.6% = Before-tax yield(1 - 0.30)
7.6% = Before-tax yield(0.70)
Before-tax yield = 10.8571% ≈ 10.86%.

2A-29. After-tax returns **Answer: e Diff: M R**

After-tax return on the municipal bond is 7%. (No federal tax on municipals).
After-tax return on the Wooli Corp. bond is 10%(1 - 0.25) = 7.50%.
After-tax return on the preferred stock is 9%(1 - (0.3)(0.25)) = 8.325% ≈ 8.33%.

2A-30. Corporate taxes **Answer: d Diff: M**

Calculate taxable income:

Taxable income from operations	$80,000
Int. income	+5,000
Div. income	+9,000*
Total income	$94,000

*Taxable dividend income = $30,000(1 - 0.7) = $9,000. Only 30% of preferred dividends are taxable to corporations.

Calculate Taxes:

0 - $75,000	=	$13,750
+ ($94,000 - $75,000) × 0.34	=	6,460
		$20,210

2A-31. Corporate taxes **Answer: d Diff: M**

Determine the firm's taxable income:

Operating income	$125,000
Interest expense	-40,000
Interest income	+ 25,000
Dividend income (30%)*	+21,000
Taxable income	$131,000

*Only 30 percent of corporate dividends are included as taxable income: 0.30 × $70,000 = $21,000.

Looking this up in the tax table above, the base tax amount is $22,250 and the tax above the base is 39 percent of $31,000($131,000 - $100,000) = (0.39 × $31,000) = $12,090. Griffey's total tax liability is $22,250 + $12,090 = $34,340.

2A-32. Average corporate tax rate **Answer: b Diff: M**

NCF = NI + DEP and AMORT
$1,200,000 = NI + $500,000
$700,000 = NI.

EBIT - I = EBT
$1,500,000 - $500,000 = EBT
$1,000,000 = EBT.

EBT × (1 - T) = NI
$1,000,000 × (1 - T) = $700,000
1 - T = 0.7
T = 0.3 = 30%.

2A-33. Personal taxes **Answer: c Diff: M R**

First, find the taxable income:

Salary	$60,000
Dividends	7,000
Personal Exempt.	(3,000)
Item. Deduct.	(6,000)
Taxable Income	$58,000

Next, use the table to find that Bob is in the 27% marginal bracket, so calculate his taxes:

Tax liability = $3,892.50 + (0.27)($58,000 - $27,950) = $12,006.00.

Finally, calculate Bob's average tax rate using the tax liability and taxable income:

Average tax rate = $12,006/$58,000 = 0.2070, or 20.70%.

2A-34. Carry-back, carry-forward **Answer: a Diff: M**

The tax loss in 2001 can be carried back two years. The tax loss available is $100,000 × 40% or $40,000. Taxes paid in 1999 and 2000 were $12,000 and $8,000, respectively. Thus, $20,000 of the 2001 tax loss can be carried back. That leaves $20,000 available to carry forward. The tax liability for 2002 before the carry forward is $60,000 × 40% = $24,000. Therefore, the 2002 tax liability net of the $20,000 carry forward is $4,000.

2A-35. Carry-back, carry-forward **Answer: c Diff: M**

The loss in 1998 can be carried forward to offset taxes for up to 20 years. By 2002, $800,000 of the loss will have been used up leaving $200,000 that can be offset against the profit of $600,000. Tax = ($600,000 - $200,000) × 0.4 = $160,000.

2A-36. Carry-back, carry-forward **Answer: c Diff: M**

The $200,000 loss in 1996 can be carried forward to cover 1997, 1998, and all but $10,000 of 1999 income. $10,000 of the $90,000 loss in 2000 can be carried back to cover that portion of 1999 income not covered by the 1996 loss. Additionally, the remaining $80,000 of the 2000 loss can be carried forward to cover all of 2001 income and $15,000 of 2002 income. Thus, taxable income for 2002 is $75,000 - $15,000 = $60,000. Given a 40 percent tax rate, Sundowner's tax liability is $60,000 × 0.4 = $24,000.

2A-37. Carry-back, carry-forward **Answer: c Diff: M**

First, figure out your taxable income for the last two years:

Year	Taxes Paid	Taxable Income	
2000	$ 40,000	$100,000	Taxable income = $ 40,000/0.40
2001	100,000	250,000	Taxable income = $100,000/0.40

Note: Tax losses can be carried back only two years.

Next, add up the taxable income for the past two years. It sums to $350,000.

Finally, compute the tax credit on the carry-back:
($350,000)(0.40) = $140,000.

2A-38. Carry-back, carry-forward **Answer: b Diff: M**

Indiana can carry back its losses for 2 years. The total taxable income over 1999 and 2000 was $750,000 + $200,000 = $950,000. This leaves $1,150,000 - $950,000 = $200,000 that can be carried forward for up to 20 years. Applying this against the 2002 income of $800,000 leaves taxable income of $600,000. At a 40 percent tax rate, the tax owed for 2002 is 0.4($600,000) = $240,000.

2A-39. Carry-back, carry-forward **Answer: c Diff: M**

The company has $3,200,000 taxable income with which it can offset future taxes. In 2000 and 2001, it uses up $700,000 of that income. It has $2,500,000 left to apply to 2002 taxable income. It can use all of this in 2002 to help offset the $2,800,000 taxable income. However, it still leaves $300,000 of income that will be taxed. At 40 percent, this yields $120,000 in taxes.

2A-40. Carry-back, carry-forward **Answer: a Diff: M**

The total tax credit is ($700,000 + $500,000 + $200,000)0.4 = $560,000. Taxes owed in 2001 are ($800,000)0.4 = $320,000. $560,000 - $320,000 = $240,000 credit available for 2002. Taxes owed in 2002 are ($1,000,000)0.4 = $400,000. $400,000 - $240,000 = $160,000 taxes actually payable.

2A-41. Carry-back, carry-forward **Answer: d Diff: M**

Step 1: Determine how far the loss can be carried forward.

Year	Taxable Income (EBT)	Carry-forward Used	EBT After Carry-forward Applied	Taxes Owed	Carryable Amount Unused
1998	-$3,600,000	$ 0	-$3,600,000	$ 0	-$3,600,000
1999	-2,000,000	0	-2,000,000	0	-5,600,000
2000	-1,000,000	0	-1,000,000	0	-6,600,000
2001	1,200,000	-1,200,000	0	0	-5,400,000
2002	7,000,000	-5,400,000	1,600,000	640,000	0

Step 2: Calculate the 2002 tax liability:
Taxes paid = $1,600,000 × 40%
= $640,000.

2A-42. Carry-back, carry-forward **Answer: e Diff: M N**

Year	Taxable Income (EBT)	Loss Carry Used	EBT after Carry Loss Applied	Taxes Owed	Carryable Loss Unused
1998	-$4,600,000	$ 0	-$4,600,000	$ 0	$4,600,000
1999	-2,400,000	0	-2,400,000	0	7,000,000
2000	4,300,000	4,300,000	0	0	2,700,000
2001	5,800,000	2,700,000	3,100,000	1,240,000	0
2002	3,200,000	0	3,200,000	1,280,000	0

2A-43. Net income **Answer: d Diff: M**

EBIT	$10,000,000	
Interest	1,500,000	
EBT	$ 8,500,000	
Tax	2,890,000	= $113,900 + ($8,500,000 - $335,000)0.34
NI	$ 5,610,000	