

CHAPTER 2—FINANCIAL STATEMENTS, CASH FLOW, AND TAXES**TRUE/FALSE**

1. The annual report contains four basic financial statements: the income statement, balance sheet, statement of cash flows, and statement of retained earnings.

ANS: T PTS: 1 DIF: EASY REF: 24
OBJ: (2.1) Annual report

2. The primary reason the annual report is important in finance is that it is used by investors when they form expectations about the firm's future earnings and dividends, and the riskiness of those cash flows.

ANS: T PTS: 1 DIF: EASY REF: 24
OBJ: (2.1) Annual report and expectations

3. Consider the balance sheet of Wilkes Industries as shown below. Because Wilkes has \$800,000 of retained earnings, the company would be able to pay cash to buy an asset with a cost of \$200,000.

Cash	\$ 50,000	Accounts payable	\$ 100,000
Inventory	200,000	Accruals	<u>100,000</u>
Accounts receivable	<u>250,000</u>	Total CL	<u>\$ 200,000</u>
Total CA	<u>\$ 500,000</u>	Debt	200,000
Net fixed assets	\$ 900,000	Common stock	200,000
		Retained earnings	<u>800,000</u>
Total assets	<u>\$1,400,000</u>	Total L & E	<u>\$1,400,000</u>

ANS: F PTS: 1 DIF: EASY REF: 25–27
OBJ: (2.2) Retained earnings versus cash

4. On the balance sheet, total assets must always equal total liabilities plus equity.

ANS: T PTS: 1 DIF: EASY REF: 25–27
OBJ: (2.2) Balance sheet

5. In Canada, amortization is a similar concept as depreciation and can be applied to both tangible and intangible assets.

ANS: T PTS: 1 DIF: EASY REF: 26
OBJ: (2.2) Amortization/depreciation

6. The income statement shows the difference between a firm's income and its costs—i.e., its profits—during a specified period of time. However, not all reported income comes in the form of cash, and reported costs likewise may not correctly reflect cash outlays. Therefore, there may be a substantial difference between a firm's reported profits and its actual cash flow for the same period.

ANS: T PTS: 1 DIF: EASY REF: 27–29
OBJ: (2.3) Income statement

7. Income statements must be prepared only on an annual basis.

ANS: F PTS: 1 DIF: EASY REF: 27–29

OBJ: (2.3) Income statement

8. Total net operating capital is equal to net fixed assets.

ANS: F PTS: 1 DIF: EASY REF: 36

OBJ: (2.7) Total net operating capital

9. Net operating profit after taxes (NOPAT) is the amount of net income a company would generate from its operations if it had no interest income or interest expense.

ANS: T PTS: 1 DIF: EASY REF: 34

OBJ: (2.7) Net operating profit after taxes (NOPAT)

10. The fact that interest income received by a corporation is 50% taxable encourages firms to use more debt financing than equity financing.

ANS: F PTS: 1 DIF: EASY REF: 43–45

OBJ: (2.9) Corporate interest income taxes

11. If the tax laws were changed so that \$0.50 out of every \$1.00 of interest paid by a corporation was allowed as a tax-deductible expense, this would probably encourage companies to use more debt financing than they currently do, other things held constant.

ANS: F PTS: 1 DIF: EASY REF: 43–45

OBJ: (2.9) Corporate income taxes: interest expense

12. The interest and dividends paid by a corporation are considered to be deductible operating expenses; hence, they decrease the firm's tax liability.

ANS: F PTS: 1 DIF: EASY REF: 43–45

OBJ: (2.9) Corporate taxes: interest expense and dividends

13. The balance sheet is a financial statement that measures the flow of funds into and out of various accounts over time, while the income statement measures the firm's financial position at a point in time.

ANS: F PTS: 1 DIF: EASY REF: 25–29

OBJ: (Comp: 2.2, 2.3) Financial statements

14. The FIFO method leads to a higher balance sheet inventory value but a lower cost of goods sold in the income statement.

ANS: T PTS: 1 DIF: MEDIUM REF: 26

OBJ: (2.2) Inventory

15. The value of goodwill on intangible assets is calculated according to the impairment rule instead of a fixed annual charge.

ANS: T PTS: 1 DIF: MEDIUM REF: 26

OBJ: (2.3) Goodwill

16. Retained earnings are the existing shareholders' reinvested profit and do not represent cash.

ANS: T PTS: 1 DIF: MEDIUM REF: 29

OBJ: (2.4) Retained earnings

17. Since investors use net income to value the firm, cash flow becomes a secondary consideration simply because cash is for operation only.

ANS: F PTS: 1 DIF: MEDIUM REF: 30–31

OBJ: (2.5) Cash flow and net income

18. To estimate the cash flow from operations, depreciation must be added back to net income because it is a non-cash charge that has been deducted from revenue.

ANS: T PTS: 1 DIF: MEDIUM REF: 31

OBJ: (2.6) Statement of cash flows

19. The current cash flow from existing assets is highly relevant to the investor. However, since the value of the firm depends primarily upon its growth opportunities, profit projections from those opportunities are the only relevant future flows with which investors are concerned.

ANS: F PTS: 1 DIF: MEDIUM REF: 36–39

OBJ: (2.7) Future cash flows

20. Interest paid by a corporation is a tax deduction for the paying corporation, but dividends paid are not deductible. This treatment, other things held constant, tends to encourage the use of debt financing by corporations.

ANS: T PTS: 1 DIF: MEDIUM REF: 43–45

OBJ: (2.9) Corporate taxes: interest expense and dividends

21. The time dimension is important in financial statement analysis. The balance sheet shows the firm's financial position at a given point in time, the income statement shows results over a period of time, and the statement of cash flows reflects changes in the firm's accounts over that period of time.

ANS: T PTS: 1 DIF: MEDIUM REF: 25 | 27 | 31

OBJ: (Comp: 2.1–2.3, 2.6) Financial statements: time dimension

MULTIPLE CHOICE

1. Which statement about financial statements is correct?
- The balance sheet gives us a picture of the firm's financial position at a point in time.
 - The income statement gives us a picture of the firm's financial position at a point in time.
 - The statement of cash flows tells us how much cash the firm has in the form of currency and demand deposits.
 - The statement of cash needs tells us how much cash the firm will require during some future period, generally a month or a year.

ANS: A PTS: 1 DIF: EASY REF: 24

OBJ: (2.1) Financial statements BLM: Understand

2. Which statement about the balance sheet is true?
- The balance sheet for a given year is designed to give us an idea of what happened to the firm during that year.
 - The balance sheet for a given year tells us how much money the company earned during that year.

- c. For most companies, the market value of the stock equals the book value of the stock as reported on the balance sheet.
- d. A balance sheet lists the assets that will be converted to cash first, and then goes on down to list the longest-lived ones last.

ANS: D PTS: 1 DIF: EASY REF: 25–27
 OBJ: (2.2) Balance sheet BLM: Understand

3. Other things held constant, which action would increase the amount of cash on a company's balance sheet?
- a. The company purchases a new piece of equipment.
 - b. The company pays a dividend.
 - c. The company issues new common stock.
 - d. The company gives customers more time to pay their bills.

ANS: C PTS: 1 DIF: EASY REF: 25–27
 OBJ: (2.2) Balance sheet BLM: Analyze

4. Which of the following items is NOT included in current assets?
- a. accounts receivable
 - b. inventory
 - c. bonds
 - d. cash

ANS: C PTS: 1 DIF: EASY REF: 26
 OBJ: (2.2) Current assets BLM: Remember

5. Which of the following items cannot be found on a firm's balance sheet under current liabilities?
- a. accounts payable
 - b. short-term notes payable to the bank
 - c. accrued wages
 - d. cost of goods sold

ANS: D PTS: 1 DIF: EASY REF: 26–27
 OBJ: (2.2) Current liabilities BLM: Remember

6. Which statement about the income statement is true?
- a. The focal point of the income statement is the cash account, because that account cannot be manipulated by "accounting tricks."
 - b. EBITDA is a truer measure of financial strength than are net income and free cash flow.
 - c. If a firm follows the International Financial Reporting Standard (IFRS), its reported net income and net cash flow will be the same.
 - d. The income statement for a given year is designed to give us an idea of how much the firm earned during that year.

ANS: D PTS: 1 DIF: EASY REF: 27–29
 OBJ: (2.3) Income statement BLM: Understand

7. Below are the 2011 and 2012 year-end balance sheets for Wolken Enterprises:

<u>Assets:</u>	2012	2011
Cash	\$ 200,000	\$ 170,000
Accounts receivable	864,000	700,000
Inventories	<u>2,000,000</u>	<u>1,400,000</u>
Total current assets	\$ 3,064,000	\$2,270,000

Net fixed assets	<u>6,000,000</u>	<u>5,600,000</u>
Total assets	<u>\$ 9,064,000</u>	<u>\$7,870,000</u>
<u>Liabilities and equity:</u>		
Accounts payable	\$ 1,400,000	\$1,090,000
Notes payable	<u>1,600,000</u>	<u>1,800,000</u>
Total current liabilities	<u>\$ 3,000,000</u>	<u>\$2,890,000</u>
Long-term debt		2,400,000
	2,400,000	
Common stock		2,000,000
	3,000,000	
Retained earnings		580,000
	<u>664,000</u>	
Total common equity	<u>\$ 3,664,000</u>	\$2,580,000
Total liabilities and equity	<u>\$ 9,064,000</u>	<u>\$7,870,000</u>

Wolken has never paid a dividend on its common share, and it issued \$2,400,000 of 10-year non-callable, long-term debt in 2011. As of the end of 2012, none of the principal on this debt had been repaid. Assume that the company's sales in 2011 and 2012 were the same. Which of the following statements must be correct?

- Wolken increased its short-term bank debt in 2012.
- Wolken issued long-term debt in 2012.
- Wolken issued new common shares in 2012.
- Wolken repurchased some common shares in 2012.

ANS: C PTS: 1 DIF: MEDIUM REF: 25–27
 OBJ: (2.2) Balance sheet BLM: Analyze

- On its 2012 balance sheet, Barngrover Books showed \$510 million of retained earnings, and exactly that same amount was shown the following year. Assuming that no earnings restatements were issued, which of the following statements is correct?
 - Although the company lost money in 2012, it must have paid dividends.
 - The company must have had zero net income in 2012.
 - The company must have paid no dividends in 2012.
 - Dividends could have been paid in 2012, with amounts equal to the earnings for the year.

ANS: D PTS: 1 DIF: MEDIUM REF: 25–27
 OBJ: (2.2) Balance sheet BLM: Analyze

- Below is the common equity section (in millions) of Teweles Technology's last two year-end balance sheets:

	<u>2012</u>	<u>2011</u>
Common share	\$2,000	\$1,000
Retained earnings	<u>2,000</u>	<u>2,340</u>
Total common equity	<u>\$4,000</u>	<u>\$3,340</u>

Teweles has never paid a dividend to its common shareholders. Which of the following statements is correct?

- The company's net income in 2012 was higher than in 2011.
- Teweles issued common stock in 2012.
- The market price of Teweles's stock doubled in 2012.
- The company has more equity than debt on its balance sheet.

ANS: B PTS: 1 DIF: MEDIUM REF: 26–27
OBJ: (2.2) Balance sheet BLM: Analyze

10. Which of the following statements is correct?
- Typically, a firm's DPS should exceed its EPS.
 - Typically, a firm's EBIT should exceed its EBITDA.
 - With an excellent profit record, a firm stock price exceeds its book value per share.
 - The more depreciation a firm has in a given year, the higher its EPS, other things held constant.

ANS: C PTS: 1 DIF: MEDIUM REF: 28
OBJ: (2.3) EPS, DPS, BVPS, and stock price BLM: Understand

11. Which statement about depreciation is true?
- The more depreciation a firm reports, the higher its tax bill, other things held constant.
 - Depreciation reduces a firm's cash balance, so an increase in depreciation would normally lead to a reduction in the firm's net cash flow.
 - Net Cash Flow = Net Income + Depreciation and Amortization Charges.
 - Depreciation and amortization are not cash charges, so neither of them has an effect on a firm's reported profits.

ANS: C PTS: 1 DIF: MEDIUM REF: 31–33
OBJ: (2.5) Depreciation, amortization, and net cash flow BLM: Understand

12. What would be most likely to occur in the year when companies have to depreciate equipment over longer lives? Assume that sales, other operating costs, and tax rates are not affected, and the same depreciation method is used for tax and shareholder reporting purposes.
- Companies' NOPAT would decline.
 - Companies' physical stocks of fixed assets would increase.
 - Companies' net cash flows would increase.
 - Companies' cash positions would decline.

ANS: D PTS: 1 DIF: MEDIUM REF: 30–31
OBJ: (2.5) Changes in depreciation BLM: Analyze

13. Which factor could explain why Dellva Energy had a negative net cash flow last year, even though the cash on its balance sheet increased?
- The company sold a new issue of bonds.
 - The company made a large investment in new plant and equipment.
 - The company paid a large dividend.
 - The company had high amortization expenses.

ANS: A PTS: 1 DIF: MEDIUM REF: 31–33
OBJ: (2.6) Net cash flow BLM: Understand

14. Analysts who follow Howe Industries recently noted that, relative to the previous year, the company's operating net cash flow *increased*, yet cash as reported on the balance sheet *decreased*. Which factor could explain this situation?
- The company cut its dividend.
 - The company made a large investment in a profitable new plant.
 - The company sold a division and received cash in return.
 - The company issued new long-term debt.

ANS: B PTS: 1 DIF: MEDIUM REF: 31–33
OBJ: (2.6) Net cash flow BLM: Analyze

15. A security analyst obtained the following information from Prestopino Products' financial statements:
- Retained earnings at the end of 2011 were \$700,000, but retained earnings at the end of 2012 had declined to \$320,000.
 - The company does not pay dividends.
 - The company's depreciation expense is its only non-cash expense; it has no amortization charges.
 - The company has no non-cash revenues.
 - The company's net cash flow (NCF) for 2012 was \$150,000.

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

- a. Prestopino had negative net income in 2012.
- b. Prestopino's depreciation expense in 2012 was less than \$150,000.
- c. Prestopino had positive net income in 2012, but its income was less than its 2011 income.
- d. Prestopino's NCF in 2012 must be higher than its NCF in 2011.

ANS: A PTS: 1 DIF: MEDIUM REF: 31–33
OBJ: (2.6) Net cash flow and net income BLM: Analyze

16. Aubey Aircraft recently announced that its net income increased sharply from the previous year, yet its net cash flow from operations declined. What could explain this performance?
- a. The company's operating income declined.
 - b. The company's expenditures on fixed assets declined.
 - c. The company's cost of goods sold increased.
 - d. The company's depreciation and amortization expenses declined.

ANS: D PTS: 1 DIF: MEDIUM REF: 31–33
OBJ: (2.6) Net cash flow and net income BLM: Understand

17. Which statement regarding the statement of cash flows is correct?
- a. The statement of cash flows reflects cash flows from operations, but it does not reflect the effects of buying or selling fixed assets.
 - b. The statement of cash flows reflects cash flows from continuing operations, but it does not reflect the effects of changes in working capital.
 - c. The statement of cash flows reflects cash flows from operations and from borrowings, but it does not reflect cash obtained by selling new common stock.
 - d. The statement of cash flows shows how much the firm's cash—the total of currency, bank deposits, and short-term liquid securities (or cash equivalents)—increased or decreased during a given year.

ANS: D PTS: 1 DIF: MEDIUM REF: 31–33
OBJ: (2.6) Statement of cash flows BLM: Understand

18. Which statement regarding the statement of cash flows is true?
- a. In the statement of cash flows, a *decrease* in accounts receivable is reported as a use of cash.
 - b. In the statement of cash flows, a *decrease* in accounts payable is reported as a use of cash.
 - c. In the statement of cash flows, depreciation charges are reported as a use of cash.
 - d. In the statement of cash flows, a *decrease* in inventories is reported as a use of cash.

ANS: B PTS: 1 DIF: MEDIUM REF: 31–33
OBJ: (2.6) Statement of cash flows BLM: Understand

19. The standard financial statements prepared by accountants have to be modified for managerial purposes. Related to these modifications, which of the following statements is correct?

- a. The standard statements make adjustments to reflect the effects of inflation on asset values, and these adjustments are normally carried into any adjustment that managers make to the standard statements.
- b. The standard statements focus on accounting income for the entire corporation, not cash flows, and the two can be quite different during any given accounting period. However, for valuation purposes we need to discount cash flows, not accounting income. Moreover, since many firms have a number of separate divisions, and since division managers should be compensated on their divisions' performance, not that of the entire firm, information that focuses on the divisions is needed. These factors have led to the development of information that is focused on cash flows and the operations of individual units.
- c. The standard statements provide useful information on the firm's individual operating units, but management needs more information on the firm's overall operations than the standard statements provide.
- d. The standard statements focus on cash flows, but managers are less concerned with cash flows than with accounting income as defined by GAAP.

ANS: B PTS: 1 DIF: MEDIUM REF: 33–39
 OBJ: (2.7) Modifying accounting data for managerial purposes
 BLM: Evaluate

20. Which of the following statements is correct?
- a. Changes in working capital have no effect on free cash flow.
 - b. Free cash flow (FCF) is defined as follows:

$$\text{FCF} = \text{EBIT}(1 - T) + \text{Depreciation and Amortization} - \text{Capital expenditures required to sustain operations} - \text{Required changes in net operating working capital}$$
 - c. Free cash flow (FCF) is defined as follows:

$$\text{FCF} = \text{EBIT}(1 - T) + \text{Depreciation and Amortization} + \text{Capital expenditures}$$
 - d. Operating cash flow is the same as free cash flow (FCF).

ANS: B PTS: 1 DIF: MEDIUM REF: 33–39
 OBJ: (2.7) Depreciation, amortization, and free cash flow BLM: Remember

21. Which of the following statements is correct?
- a. MVA gives us an idea about how much value a firm's management has added during the last year.
 - b. MVA stands for market value added, and it is defined as follows:

$$\text{MVA} = (\text{Shares outstanding}) \times (\text{Stock price}) + \text{Book value of common equity}$$
 - c. EVA stands for economic value added, and it is defined as follows:

$$\text{EVA} = (\text{Operating capita}) \times (\text{ROIC} - \text{WACC})$$
 - d. EVA gives us an idea about how much value a firm's management has added over the firm's life.

ANS: C PTS: 1 DIF: MEDIUM REF: 40–42
 OBJ: (2.8) MVA and EVA BLM: Remember

22. Which statement regarding the tax system is true?
- a. Since companies can deduct dividends paid but not interest paid, such a tax system favours the use of equity financing over debt financing.
 - b. Interest paid to an individual is counted as income for tax purposes and taxed at the individual's regular tax rate.
 - c. The maximum federal personal tax rate in 2012 is 35%.
 - d. Ordinary corporate operating losses can be carried back to each of the preceding 10 years and forward for the next 3 years and used to offset taxable income in those years.

ANS: B PTS: 1 DIF: MEDIUM REF: 43–47
OBJ: (2.9) Tax system BLM: Remember

23. Which statement regarding the tax system is true?
- a. For small Canadian-controlled private corporations, income less than \$400,000 is exempt from taxes. Thus, government receives no tax revenue from these businesses.
 - b. All businesses, regardless of their legal form of organization, are taxed by the Canada Revenue Agency (CRA).
 - c. Corporate income taxes are influenced by the size and location of the companies and their income types.
 - d. All corporations other than non-profit corporations are subject to corporate income taxes, which are 26.5% for the lowest amounts of income and 32.5% for the highest amounts of income.

ANS: C PTS: 1 DIF: MEDIUM REF: 43–47
OBJ: (2.9) Tax system BLM: Remember

24. Last year, Tucker Technologies had (1) a negative net cash flow from operations, (2) a negative free cash flow, and (3) an increase in cash as reported on its balance sheet. Which factor could explain this situation?
- a. The company had a sharp increase in its inventories.
 - b. The company had a sharp increase in its accrued liabilities.
 - c. The company sold a new issue of common stock.
 - d. The company made a large capital investment early in the year.

ANS: C PTS: 1 DIF: MEDIUM REF: 31–39
OBJ: (Comp: 2.6, 2.7) NCF, FCF, and cash BLM: Analyze

25. Assume that Bev's Beverages Inc. (BBI) can double its depreciation expense for the upcoming year while sales revenue and tax rate remain unchanged. Prior to the change, BBI's net income after taxes was forecasted to be \$4 million. What impact will this change have on BBI's financial statements? Assume that the company uses the same depreciation method for tax and shareholder reporting purposes.
- a. The provision will reduce the company's net cash flow.
 - b. The provision will increase the company's tax payments.
 - c. Net fixed assets on the balance sheet will increase.
 - d. Net fixed assets on the balance sheet will decrease.

ANS: D PTS: 1 DIF: MEDIUM REF: 26 | 27 | 31 | 44
OBJ: (Comp: 2.2, 2.3, 2.6, 2.9) Changes in depreciation BLM: Analyze

26. The Nantell Corporation just purchased an expensive piece of equipment. Originally, the firm planned to depreciate the equipment over 5 years on a straight-line basis, but now wants to depreciate the equipment on a straight-line basis over 7 years. Other things held constant, what will occur as a result of this change? Assume that the company uses the same depreciation method for tax and stockholder reporting purposes.
- a. Nantell's taxable income will be lower.
 - b. Nantell's net fixed assets as shown on the balance sheet will be higher at the end of the year.
 - c. Nantell's cash position will improve (increase).
 - d. Nantell's tax liability for the year will be lower.

ANS: B PTS: 1 DIF: MEDIUM REF: 26 | 27 | 31 | 44
OBJ: (Comp: 2.2, 2.3, 2.6, 2.9) Changes in depreciation BLM: Analyze

27. Assume that Pappas Company commenced operations on January 1, 2011, and it was granted permission to use the same depreciation calculations for shareholder reporting and income tax purposes. The company planned to depreciate its fixed assets over 15 years, but in December 2008 management realized that the assets would last for only 10 years. The firm's accountants plan to report the 2011 financial statements based on this new information. How would the new depreciation assumption affect the company's financial statements?
- The firm's reported net fixed assets would increase.
 - The firm's EBIT would increase.
 - The firm's reported 2011 earnings per share would increase.
 - The firm's cash position in 2011 and 2012 would increase.

ANS: D PTS: 1 DIF: MEDIUM REF: 26 | 27 | 31
OBJ: (Comp: 2.2, 2.3, 2.6) Changes in depreciation BLM: Analyze

28. A start-up firm is making an initial investment in new plant and equipment. Assume that currently its equipment must be depreciated on a straight-line basis over 10 years, but now the company is allowed to depreciate the equipment over 7 years. What would occur in the year following the change?
- The firm's operating income (EBIT) would increase.
 - The firm's net cash flow would increase.
 - The firm's tax payments would increase.
 - The firm's reported net income would increase.

ANS: B PTS: 1 DIF: MEDIUM REF: 26 | 27 | 31 | 44
OBJ: (Comp: 2.2, 2.3, 2.9) Changes in depreciation BLM: Analyze

29. Which statement regarding financial statements is true?
- Dividends paid reduce the net income that is reported on a company's income statement.
 - If a company uses some of its bank deposits to buy short-term, highly liquid marketable securities, this will cause a decline in its current assets as shown on the balance sheet.
 - If a company issues new long-term bonds during the current year, this will increase its reported current liabilities at the end of the year.
 - If a company pays more in dividends than it generates in net income, its retained earnings as reported on the balance sheet will decline from the previous year's balance.

ANS: D PTS: 1 DIF: MEDIUM REF: 24–29 | 31–33
OBJ: (Comp: 2.1, 2.3, 2.6) Financial statements BLM: Understand

30. Which statement regarding EVA is true?
- One way to increase EVA is to achieve the same level of operating income but with more investor-supplied capital.
 - If a firm reports positive net income, its EVA must also be positive.
 - One drawback of EVA as a performance measure is that it mistakenly assumes that equity capital is free.
 - One way to increase EVA is to generate the same level of operating income but with less investor-supplied capital.

ANS: D PTS: 1 DIF: MEDIUM REF: 30–33 | 40–42
OBJ: (Comp: 2.5, 2.6, 2.8) EVA, CF, and net income BLM: Understand

31. Which statement regarding retained earnings is true?
- Since depreciation is a source of funds, the more depreciation a company has, the larger its retained earnings will be, other things held constant.
 - A firm can show a large amount of retained earnings on its balance sheet yet need to borrow cash to make required payments.

- c. The retained earnings account as shown on the balance sheet shows the amount of cash that is available for paying dividends.
- d. If a firm reports a loss on its income statement, then the retained earnings account as shown on the balance sheet will be negative.

ANS: B PTS: 1 DIF: MEDIUM REF: 26 | 27 | 31–33
 OBJ: (Comp: 2.2, 2.3, 2.6) Retained earnings BLM: Understand

32. The CFO of Shalit Industries plans to have the company issue \$300 million of new common stock and use the proceeds to pay off some of its outstanding bonds. Assume that the company, which does not pay any dividends, takes this action, and that total assets, operating income (EBIT), and its tax rate all remain constant. Which of the following would occur?
- a. The company's taxable income would fall.
 - b. The company would have less common equity than before.
 - c. The company's net income would increase.
 - d. The company would have to pay less tax.

ANS: C PTS: 1 DIF: MEDIUM | HARD
 REF: 26 | 27 | 43–45 OBJ: (Comp: 2.2, 2.3, 2.9) Changes in leverage
 BLM: Analyze

33. Last year Roussakis Company's operations provided a negative net cash flow, yet the cash shown on its balance sheet increased. What action could explain the increase in cash, assuming the company's financial statements were prepared under generally accepted accounting principles?
- a. The company repurchased some of its common stock.
 - b. The company retired a large amount of its long-term debt.
 - c. The company sold some of its fixed assets.
 - d. The company had high depreciation expenses.

ANS: C PTS: 1 DIF: HARD REF: 30–31
 OBJ: (2.5) Net cash flow BLM: Understand

34. Tucker Electronic System's current balance sheet shows total common equity of \$3,125,000. The company has 125,000 shares of stock outstanding, and they sell at a price of \$52.50 per share. By how much do the firm's market and book values per share differ?
- a. \$27.50
 - b. \$28.88
 - c. \$30.32
 - d. \$31.83

ANS: A

Shares outstanding	125,000
Price per share	\$52.50
Total book common equity	\$3,125,000
Book value per share	\$25.00
Difference between book and market values	\$27.50

PTS: 1 DIF: EASY REF: 25–27
 OBJ: (2.2) Balance sheet: market value versus book value BLM: Analyze

35. Hunter Manufacturing Inc.'s December 31, 2011 balance sheet showed total common equity of \$2,050,000 and 100,000 shares of stock outstanding. During 2012, Hunter had \$250,000 of net income, and it paid out \$100,000 as dividends. What was the book value per share at 12/31/12, assuming that Hunter neither issued nor retired any common stock during 2009?
- a. \$20.90

- b. \$22.00
- c. \$23.10
- d. \$24.26

ANS: B

12/31/11 common equity	\$2,050,000
2012 net income	\$250,000
2012 dividends	\$100,000
2012 addition to retained earnings	\$150,000
12/31/12 common equity	\$2,200,000
Shares outstanding	100,000
12/31/12 BVPS	\$22.00

PTS: 1 DIF: EASY REF: 25–27

OBJ: (2.2) Balance sheet: change in BVPS from RE addition BLM: Analyze

36. Companies generate income from their “regular” operations and from other sources such as interest earned on the securities they hold, which is called non-operating income. Lindley Textiles recently reported \$12,500 of sales, \$7,250 of operating costs other than depreciation, and \$1,000 of depreciation. The company had no amortization charges and no non-operating income. It had \$8,000 of bonds outstanding that carry a 7.5% interest rate, and its combined federal and provincial income tax rate was 40%. How much was Lindley’s operating income, or EBIT?
- a. \$3,644
 - b. \$3,836
 - c. \$4,038
 - d. \$4,250

ANS: D

Sales	\$12,500
Operating costs excluding depreciation	\$7,250
Depreciation	\$1,000
Operating income (EBIT)	\$4,250

PTS: 1 DIF: EASY REF: 27–28

OBJ: (2.3) Income statement: EBIT BLM: Analyze

37. Frederickson Office Supplies recently reported \$12,500 of sales, \$7,250 of operating costs other than depreciation, and \$1,250 of depreciation. The company had no amortization or depreciation charges and no nonoperating income. It had \$8,000 of bonds outstanding that carry a 7.5% interest rate, and its combined federal and provincial income tax rate was 40%. How much was the firm’s taxable income, or earnings before taxes (EBT)?
- a. \$3,230.00
 - b. \$3,400.00
 - c. \$3,570.00
 - d. \$3,748.50

ANS: B

Bonds	\$8,000.00
Interest rate	7.50%
Sales	\$12,500.00
Operating costs excluding depreciation	\$7,250.00
Depreciation	\$1,250.00
Operating income (EBIT)	\$4,000.00
Interest charges	–\$600.00
Taxable income	\$3,400.00

PTS: 1 DIF: EASY REF: 27

OBJ: (2.3) Income statement: taxable income

BLM: Analyze

38. JBS Inc. recently reported net income of \$4,750 and depreciation of \$885. How much was its net cash flow, assuming it had no amortization expense and sold none of its fixed assets?
- a. \$4,831.31
 - b. \$5,085.59
 - c. \$5,353.25
 - d. \$5,635.00

ANS: D

Net income	\$4,750.00
Depreciation	\$885.00
NCF	\$5,635.00

PTS: 1

DIF: EASY

REF: 30–31

OBJ: (2.5) Net cash flow

BLM: Analyze

39. Swinnerton Clothing Company's balance sheet showed total current assets of \$2,250, all of which were required in operations. Its current liabilities consisted of \$575 of accounts payable, \$300 of 6% short-term notes payable to the bank, and \$145 of accrued wages and taxes. What was its net operating working capital that was financed by investors?
- a. \$1,454
 - b. \$1,530
 - c. \$1,607
 - d. \$1,771

ANS: B

Current assets	\$2,250
Accounts payable	\$575
Accrued wages and taxes	\$145
Net operating working capital	\$1,530

Note that NOWC represents the current assets required in operations that are financed by investors, given that payables and accruals are generated spontaneously by operations and are thus "free."

PTS: 1

DIF: EASY

REF: 35–36

OBJ: (2.7) Net operating working capital

BLM: Analyze

40. Over the years, Janjigian Corporation's shareholders have provided \$15,250 of capital, part when they purchased new issues of stock and part when they allowed management to retain some of the firm's earnings. The firm now has 1,000 shares of common share outstanding, and it sells at a price of \$42.00 per share. How much value has Janjigian's management added to stockholder wealth over the years, i.e., what is Janjigian's MVA?
- a. \$22,935
 - b. \$24,142
 - c. \$25,413
 - d. \$26,750

ANS: D

Total book value of equity	\$15,250
Stock price per share	\$42.00
Shares outstanding	1,000
Market value of equity	42,000

MVA = 26,750

PTS: 1 DIF: EASY REF: 40–42 OBJ: (2.8) MVA
BLM: Analyze

41. An individual made \$48,000 last year paying \$12,480 in taxes. What is the taxpayer's average tax rate?
- a. 17.4%
 - b. 22.1%
 - c. 26.0%
 - d. 30.9%

ANS: C

Average tax rate = $12,480/48,000 = 0.26$

PTS: 1 DIF: EASY REF: 45–47 OBJ: (2.9) Taxes
BLM: Understand

42. Meric Mining Inc. recently reported \$15,000 of sales, \$7,500 of operating costs other than depreciation, and \$1,200 of depreciation. The company had no amortization charges, it had outstanding \$6,500 of bonds that carry a 6.25% interest rate, and its combined federal and provincial income tax rate was 35%. How much was the firm's net income after taxes? Meric uses the same depreciation expense for tax and shareholder reporting purposes.
- a. \$3,284.55
 - b. \$3,457.42
 - c. \$3,639.39
 - d. \$3,830.94

ANS: D

Bonds	\$6,500
Interest rate	6.25%
Tax rate	35%
Sales	\$15,000
Operating costs excluding depreciation	\$7,500
Depreciation	<u>\$1,200</u>
Operating income (EBIT)	\$6,300.00
Interest charges	<u>-\$406.25</u>
Taxable income	\$5,893.75
Taxes	<u>-\$2,062.81</u>
Net income	\$3,830.94

PTS: 1 DIF: EASY | MEDIUM REF: 27–28
OBJ: (2.3) Income statement: net after-tax income BLM: Analyze

43. On 12/31/12, Heaton Industries Inc. reported retained earnings of \$675,000 on its balance sheet, and it reported that it had \$172,500 of net income during the year. On its previous balance sheet, at 12/31/11, the company had reported \$555,000 of retained earnings. No shares were repurchased during 2012. How much in dividends did Heaton pay during 2012?
- a. \$47,381
 - b. \$49,875
 - c. \$52,500
 - d. \$55,125

ANS: C

12/31/12 RE \$675,000

12/31/11 RE	\$555,000
Change in RE	\$120,000
Net income for 2012	\$172,500
Dividends = net income – change	\$52,500

PTS: 1 DIF: EASY | MEDIUM REF: 29
 OBJ: (2.4) Statement of change in equity: dividends BLM: Analyze

44. During 2012, Bascom Bakery Inc. paid out \$21,750 of common dividends. It ended the year with \$187,500 of retained earnings versus the prior year's retained earnings of \$132,250. How much net income did the firm earn during the year?
- \$77,000
 - \$80,850
 - \$84,893
 - \$89,137

ANS: A

Net income = The change in retained earnings plus the dividends paid:

Current RE	\$187,500
Previous RE = Current RE – increment	\$132,250
Change in RE	\$55,250
Plus dividends paid	\$21,750
= Net income	\$77,000

PTS: 1 DIF: EASY | MEDIUM REF: 29
 OBJ: (2.4) Statement of change in equity: NI BLM: Analyze

45. NNR Inc.'s balance sheet showed total current assets of \$1,875,000 plus \$4,225,000 of net fixed assets. All of these assets were required in operations. The firm's current liabilities consisted of \$475,000 of accounts payable, \$375,000 of 6% short-term notes payable to the bank, and \$150,000 of accrued wages and taxes. Its remaining capital consisted of long-term debt and common equity. What was NNR's total investor-provided operating capital?
- \$4,694,128
 - \$4,941,188
 - \$5,201,250
 - \$5,475,000

ANS: D

Operating Capital = Operating Assets – Operating current Liabilities

Op. Cap = 1,875,000 + 4,225,000 = 6,100,000

Op. Liab. = 475,000 + 150,000 = 625,000

Op. Cap. = 6,100,000 – 625,000 = \$5,475,000

PTS: 1 DIF: EASY | MEDIUM REF: 36
 OBJ: (2.7) Total operating capital BLM: Understand

46. Last year Tiemann Technologies reported \$10,500 of sales, \$6,250 of operating costs other than depreciation, and \$1,300 of depreciation. The company had no amortization charges, it had \$5,000 of bonds that carry a 6.5% interest rate, and its combined federal and provincial income tax rate was 35%. This year's data are expected to remain unchanged except for one item, depreciation, which is expected to increase by \$750. By how much will net after-tax income change as a result of the change in depreciation? The company uses the same depreciation calculations for tax and stockholder reporting purposes.

- a. -463.13
- b. -487.50
- c. -511.88
- d. -537.47

ANS: B

This problem can be worked very easily—just multiply the increase in depreciation by $(1 - T)$ to get the decrease in net income:

Change in depreciation	\$750
Tax rate	35%
Reduction in net income	-\$487.50

We can also get the answer a longer way, which explains things more clearly:

Item	Old	New	Change
Bonds	\$ 5,000.00	\$ 5,000.00	\$ 0.00
Interest rate	6.5%	6.5%	0.0%
Tax rate	35%	35%	0%
Sales	\$10,500.00	\$10,500.00	\$ 0.00
Operating costs excluding depreciation	\$ 6,250.00	\$ 6,250.00	\$ 0.00
Depreciation	\$ 1,300.00	\$ 2,050.00	\$ 750.00
Operating income (EBIT)	\$ 2,950.00	\$ 2,200.00	-\$ 750.00
Interest charges	\$ 325.00	\$ 325.00	\$ 0.00
Taxable income	\$ 2,625.00	\$ 1,875.00	-\$ 750.00
Taxes	\$ 918.75	\$ 656.25	-\$ 262.50
Net income	\$ 1,706.25	\$ 1,218.75	-\$ 487.50

PTS: 1 DIF: MEDIUM REF: 27–28

OBJ: (2.3) Income statement: change in net income

BLM: Analyze

47. TSW Inc. had the following data for last year: Net income = \$800; Net operating profit after taxes (NOPAT) = \$700; Total assets = \$3,000; and Total operating capital = \$2,000. Information for the just-completed year is as follows: Net income = \$1,000; Net operating profit after taxes (NOPAT) = \$925; Total assets = \$2,600; and Total operating capital = \$2,500. How much free cash flow did the firm generate during the just-completed year?
- a. \$383
 - b. \$425
 - c. \$468
 - d. \$514

ANS: B

<u>Prior Year</u>	<u>Current Year</u>	
NOPAT = EBIT(1 - T)	\$700	\$925
Total operating capital	\$2,000	\$2,500

FCF this year = NOPAT – Net investment in new operating capital

FCF this year = \$925 – \$500

FCF this year = \$425

PTS: 1 DIF: MEDIUM REF: 36–39

OBJ: (2.7) Free cash flow

BLM: Analyze

48. Rao Corporation has the following balance sheet. How much net operating working capital does the firm have?

Cash	\$ 10	Accounts payable	\$ 20
Short-term investments	30	Accruals	20
Accounts receivable	50	Notes payable	<u>50</u>
Inventory	<u>40</u>	Current liabilities	\$ 90
Current assets	\$130	Long-term debt	0
Net fixed assets	<u>100</u>	Common equity	30
		Retained earnings	<u>50</u>
Total assets	<u>\$230</u>	Total liab. & equity	<u>\$230</u>

- a. \$54.00
b. \$60.00
c. \$66.00
d. \$72.60

ANS: B

Net operating working capital = Operating current assets – Operating current liabilities

NOWC = \$100.00 – \$40.00

NOWC = \$60.00

PTS: 1 DIF: MEDIUM REF: 35

OBJ: (2.7) Net operating working capital

BLM: Understand

49. Bae Inc. has the following income statement. How much net operating profit after taxes (NOPAT) does the firm have?

Sales	\$2,000.00
Costs	1,200.00
Depreciation	<u>100.00</u>
EBIT	\$ 700.00
Interest expense	<u>200.00</u>
EBT	\$ 500.00
Taxes (35%)	<u>175.00</u>
Net income	<u>\$ 325.00</u>

- a. \$390.11
b. \$410.64
c. \$432.25
d. \$455.00

ANS: D

EBIT \$700.00

Tax rate 35%

NOPAT = \$455.00

PTS: 1 DIF: MEDIUM REF: 35

OBJ: (2.7) Net operating working capital

BLM: Understand

50. EP Enterprises has the following income statement. How much net operating profit after taxes (NOPAT) does the firm have?

Sales	\$1,800.00
Costs	1,400.00
Depreciation	<u>250.00</u>
EBIT	\$ 150.00
Interest expense	<u>70.00</u>
EBT	\$ 80.00
Taxes (40%)	<u>32.00</u>
Net income	<u>\$ 48.00</u>

- a. \$81.23
- b. \$85.50
- c. \$90.00
- d. \$94.50

ANS: C

EBIT	\$150.00
Tax rate	40%
NOPAT =	\$90.00

PTS: 1 DIF: MEDIUM REF: 34

OBJ: (2.7) Net operating profit after taxes (NOPAT)

BLM: Understand

51. Tibbs Inc. had the following data for the year ending 12/31/12: Net income = \$300; Net operating profit after taxes (NOPAT) = \$400; Total assets = \$2,500; Short-term investments = \$200; Shareholders' equity = \$1,800; Total debt = \$700; and Total operating capital = \$2,300. What was its return on invested capital (ROIC)?
- a. 14.91%
 - b. 15.70%
 - c. 16.52%
 - d. 17.39%

ANS: D

NOPAT	\$400
Total operating capital	\$2,300

ROIC = NOPAT/ Total operating capital

ROIC = \$400/\$2,300

ROIC = 17.39%

PTS: 1 DIF: MEDIUM REF: 39

OBJ: (2.7) Return on invested capital (ROIC)

BLM: Understand

52. Zumbahlen Inc. has the following balance sheet. How much total operating capital does the firm have?

Cash	\$ 20.00	Accounts payable	\$ 30.00
Short-term investments	50.00	Accruals	50.00
Accounts receivable	20.00	Notes payable	<u>30.00</u>
Inventory	<u>60.00</u>	Current liabilities	\$110.00
Current assets	\$150.00	Long-term debt	70.00
Gross fixed assets	\$140.00	Common stock	30.00
Accumulated depreciation	<u>40.00</u>	Retained earnings	<u>40.00</u>
Net fixed assets	<u>\$100.00</u>	Total common equity	<u>\$ 70.00</u>
Total assets	<u>\$250.00</u>	Total liability & equity	<u>\$250.00</u>

- a. \$114.00
- b. \$120.00
- c. \$126.00
- d. \$132.30

ANS: B

Total op. capital = Operating current assets – Operating current liabilities + Net fixed assets

Total operating capital = \$100.00 – \$80.00 + \$100.00

Total operating capital = \$120.00

PTS: 1

DIF: MEDIUM

REF: 36

OBJ: (2.7) Total operating capital

BLM: Understand

53. Barnes' Brothers has the following data for the year ending 12/31/07: Net income = \$600; Net operating profit after taxes (NOPAT) = \$700; Total assets = \$2,500; Short-term investments = \$200; Stockholders' equity = \$1,800; Total debt = \$700; and Total operating capital = \$2,100. Barnes' weighted average cost of capital is 10%. What is its economic value added (EVA)?
- a. \$420.11
 - b. \$442.23
 - c. \$465.50
 - d. \$490.00

ANS: D

NOPAT

\$700

Total operating capital

\$2,100

WACC

10.00%

EVA = NOPAT – Total operating capital × WACC

EVA = \$700.00 – \$2,100.00 × 10.00%

EVA = \$490.00

PTS: 1

DIF: MEDIUM

REF: 40–42

OBJ: (2.8) Economic Value Added (EVA)

BLM: Understand

54. If a local Firm X owns 35% of the shares of a Canadian-owned Firm Y, and Y pays dividends to all of its shareholders, what percentage of the dividends received by X can be exempted from its taxable income?
- a. 0%
 - b. 35%
 - c. 65%
 - d. 100%

ANS: D

If a Canadian company earns dividend income on common stock of another Canadian corporation, those earnings face no taxation. It means 100% is exempted from its taxable income.

PTS: 1

DIF: MEDIUM

REF: 43–44

OBJ: (2.9) Taxes

BLM: Remember

55. What is the tax liability for a small Canadian-controlled private corporation (CCPC) located in British Columbia having earnings before taxes (EBT) of \$480,000? The relevant combined federal and provincial corporate income tax rate is 13.5% for taxable income up to \$400,000 and 26.5 for the amount exceeding \$400,000.

- a. \$64,800
- b. \$75,200
- c. \$96,000
- d. \$127,200

ANS: B

$$\text{Tax} = (\$400,000)(0.135) + (\$480,000 - \$400,000)(0.265) = \$75,200$$

PTS: 1 DIF: MEDIUM REF: 43–44 OBJ: (2.9) Taxes

BLM: Understand

56. Formed in 2008, ABC Ltd. had taxable income of \$95,000 in 2008; \$70,000 in 2009; \$55,000 in 2010; \$80,000 in 2011, and –\$150,000 in 2012. What is the adjusted corporate tax payment in 2012? Assume that ABC is a CCPC in Manitoba with a combined federal and provincial corporate income tax rate of 13%.
- a. \$17,150.00
 - b. \$18,100.00
 - c. \$19,500.00
 - d. \$20,550.00

ANS: C

Ordinary corporate operating losses can be carried back to each of the preceding 3 years. The loss of \$150,000 in 2012 is written off for \$80,000 in 2011, \$55,000 in 2010, and \$15,000 in 2009. The firm can receive a total of $(0.13) \times (\$150,000) = \$19,500$ in tax refund after the adjustment.

PTS: 1 DIF: MEDIUM REF: 44

OBJ: (2.9) Taxes: Loss carry-back, carry-forward BLM: Remember

57. Formed in 2012, the ABC Ltd. had an operating loss of \$95,000, with projected taxable income of \$70,000 in 2013, \$55,000 in 2014, and \$80,000 in 2015. What will the corporate tax liability be in 2015? Assume that ABC is a CCPC in Quebec with a combined federal and provincial corporate income tax rate of 19%.
- a. \$15,200.00
 - b. \$16,250.00
 - c. \$17,700.00
 - d. \$18,500.00

ANS: A

Ordinary corporate operating losses can also be carried forward for the next 10 years to offset future taxable income in those years. The loss of \$95,000 in 2012 writes off the entire \$70,000 income in 2013. The remaining \$25,000 reduces the income of \$55,000 to \$30,000 in 2014. Nothing will be left for 2015. Thus, taxes = $(0.19) \times (\$80,000) = \$15,200$.

PTS: 1 DIF: MEDIUM REF: 44

OBJ: (2.9) Taxes: Loss carry-back, carry-forward BLM: Understand

58. In 2012, XYZ Inc. located in Ontario had income from operation of \$3,850,000, received interest of \$150,000, paid \$200,000 in interest, received dividends from another Canadian corporation of \$100,000, and paid \$400,000 in dividends to its common shareholders. If the applicable income tax rate is 33%, what is the corporation's tax liability?
- a. \$1,155,000
 - b. \$1,254,000
 - c. \$1,287,000
 - d. \$1,353,000

ANS: B

2012 taxable income is calculated as follows: Income from operations (\$3.85m) + Fully taxable interest income (\$0.15m) – Fully deductible interest expenses (\$0.2m) + Nontaxable dividend income (\$0) = \$3.8m. Note: dividends are paid from after-tax income and do not affect taxable income). Based on the tax rate of 33%, taxes = $(0.33) \times (\$3.8\text{m}) = \1.254m .

PTS: 1

DIF: MEDIUM

REF: 43–45

OBJ: (2.9) Taxes

BLM: Analyze

59. An individual living in Alberta with wage earnings of \$65,000 has invested \$25,000 for 1 year in corporate bonds yielding 6%. What is the after-tax return? The relevant federal and provincial tax rates are 22% and 10%.
- \$480
 - \$880
 - \$1,020
 - \$1,500

ANS: C

Interest income received by individuals is taxed at the marginal tax rate after accounting for taxes paid on employment income. In this case the marginal tax rate is 22% + 10%. Receipt = $(0.06) (\$25,000) = \$1,500$. Taxes = $\$1,500 \times (0.22 + 0.1) = (\$1,500)(0.32) = \$1,020$.

PTS: 1

DIF: MEDIUM

REF: 45–47

OBJ: (2.9) Taxes

BLM: Understand

60. Wells Water Systems recently reported \$8,250 of sales, \$4,500 of operating costs other than depreciation, and \$950 of depreciation. The company had no amortization charges, it had \$3,250 of outstanding bonds that carry a 6.75% interest rate, and its combined federal and provincial income tax rate was 35%. In order to sustain its operations and thus generate sales and cash flows in the future, the firm was required to spend \$750 to buy new fixed assets and to invest \$250 in net operating working capital. How much free cash flow did Wells generate?
- \$1,770.00
 - \$1,858.50
 - \$1,951.43
 - \$2,049.00

ANS: A

Bonds	\$3,250.00
Interest rate	6.75%
Tax rate	35%
Required addition to net operating working capital	\$250.00
Required capital expenditures (fixed assets)	\$750.00
Sales	\$8,250.00
Operating costs excluding depreciation	\$4,500.00
Depreciation	\$950.00
Operating income (EBIT)	<u>\$2,800.00</u>

$$\text{FCF} = \text{EBIT}(1 - T) + \text{Depr.} - \text{Cap Ex} - \text{Net Op WC}$$

$$\text{FCF} = \$1,820 + \$950 - \$750 - \$250 = \$1,770.00$$

PTS: 1

DIF: MEDIUM

REF: 27–28 | 36–39

OBJ: (Comp:2.3, 2.7) Income statement: free cash flow

BLM: Understand

61. HHH Inc. reported \$12,500 of sales and \$7,025 of operating costs (including depreciation). The company had \$18,750 of investor-supplied operating assets (or capital), the weighted average cost of that capital (the WACC) was 9.5%, and the combined federal and provincial income tax rate was 40%. How much value did management add to shareholders' wealth during the year?
- \$1,357.13
 - \$1,428.56
 - \$1,503.75
 - \$1,578.94

ANS: C

Sales	\$12,500
Operating costs	\$7,025
Operating income (EBIT)	\$5,475
WACC	9.5%
Tax rate	40%
Investor-supplied capital	\$18,750

$$\text{EVA} = \text{EBIT}(1 - T) - \text{Investor Capital} \times \text{WACC}$$

$$\text{EVA} = \$3,285.00 - \$1,781.25$$

$$\text{EVA} = \$1,503.75$$

PTS: 1

DIF: HARD

REF: 40–42

OBJ: (2.8) EVA

BLM: Understand

62. Last year, Michelson Manufacturing reported \$10,250 of sales, \$3,500 of operating costs other than depreciation, and \$1,250 of depreciation. The company had no amortization charges, it had \$3,500 of bonds outstanding that carry a 6.5% interest rate, and its combined federal and provincial income tax rate was 35%. This year's data are expected to remain unchanged except for one item, depreciation, which is expected to increase by \$725. By how much will the depreciation change cause the firm's net after-tax income and its net cash flow to change? Note that the company uses the same depreciation calculations for tax and stockholder reporting purposes.
- \$404.04; \$217.56
 - \$425.30; \$229.01
 - \$447.69; \$241.06
 - \$471.25; \$253.75

ANS: D

This problem can be worked very easily—just multiply the increase in depreciation by $(1 - T)$ to get the decrease in net income, and then add to the change in income the change in depreciation to get the change in net cash flow:

Change in depreciation	\$725
Tax rate	35.00%
Reduction in net income = Change in Depr'n $(1 - \text{Tax rate})$	–\$471.25
Increase in net cash flow = Change in Depr'n – reduction in NI	\$253.75

We can also get the answer the long way, which explains things in more detail:

	Old	New	Change
Bonds	\$3,500	\$3,500	\$0.00
Interest rate	6.50%	6.50%	\$0.00
Tax rate	35%	35%	\$0.00
Sales	\$10,250	\$10,250	\$0.00
Operating costs excluding depreciation	\$3,500	\$3,500	\$0.00

Depreciation	\$1,250	\$1,975	\$725.00
Operating income (EBIT)	\$5,500	\$4,775	-\$725.00
Interest charges	\$228	\$228	\$0.00
Taxable income	\$5,273	\$4,548	-\$725.00
Taxes	\$1,845	\$1,592	-\$253.75
Net income after taxes	\$3,427	\$2,956	-\$471.25
Net cash flow	\$4,677	\$4,931	\$253.75
Check on NCF: $\Delta \text{NCF} = \text{change in depreciation} \times \text{tax rate}$			\$253.75

We like this problem because it illustrates that an increase in depreciation will *decrease* the firm's net income yet *increase* its net cash flow, and cash is king.

PTS: 1 DIF: HARD REF: 27–28 | 36–39

OBJ: (Comp: 2.3, 2.7) Changes in net income and NCF BLM: Analyze

63. Bartling Energy Systems recently reported \$9,250 of sales, \$5,750 of operating costs other than depreciation, and \$700 of depreciation. The company had no amortization charges, it had \$3,200 of outstanding bonds that carry a 5% interest rate, and its combined federal and provincial income tax rate was 35%. In order to sustain its operations and thus generate sales and cash flows in the future, the firm was required to make \$1,250 of capital expenditures on new fixed assets and to invest \$300 in net operating working capital. By how much did the firm's net income exceed its free cash flow?
- \$673.27
 - \$708.70
 - \$746.00
 - \$783.30

ANS: C

Bonds	\$3,200.00
Interest rate	5.00%
Tax rate	35.00%
Required capital expenditures (fixed assets)	\$1,250.00
Required addition to net operating working capital	\$300.00
Sales	\$9,250.00
Operating costs excluding depreciation	\$5,750.00
Depreciation	\$700.00
Operating income (EBIT)	\$2,800.00
Interest charges	\$160.00
Taxable income (EBT)	\$2,640.00
Taxes	\$924.00
Net income after taxes	\$1,716.00

$$\text{FCF} = \text{EBIT}(1 - T) + \text{Depr'n} - \text{Cap Ex} - \Delta \text{Net Op WC}$$

$$\text{FCF} = \$1,820 + \$700 - \$1,250 - \$300$$

$$\text{FCF} = \$970.00$$

$$\text{Difference between net income and FCF} = \$746.00$$

PTS: 1 DIF: HARD REF: 27–28 | 36–39

OBJ: (Comp: 2.3, 2.7) Income statement: FCF versus net income

BLM: Analyze

64. Mr. X lives in Saskatchewan. In 2011, he had employment income of \$80,000 and income from capital gains of \$10,000. What is his total tax liability? The applicable tax tables are as follows:

Federal Rate
Tax Bracket
Provincial Rate
Tax Bracket

Fed. 15%
\$0 – \$41,544
Sask. 11%
\$0 – \$40,919

Fed. 22%
\$41,544 – \$83,088
Sask. 13%
\$40,919 – \$116,911

Fed. 26%
\$83,088 – \$128,800
Sask. 15%
Over \$116,911

Fed. 29%
Over \$128,800

- a. \$20,774
- b. \$24,274
- c. \$26,100
- d. \$28,050

ANS: C

Capital gains are taxes at 50% of the amount received. Therefore Mr. X's total income for tax purposes is $\$80,000 + .5(\$10,000) = \$85,000$.

Tax Liability:

Fed. = $.15(41,544) + .22(83,088 - 41,544) + .26(85,000 - 83,088) = 15,868$
Sask. = $.11(40,919) + .13(85,000 - 40,919) = 10,232$
Total Tax Liability = $15,868 + 10,231 = \$26,100$

PTS: 1 DIF: HARD REF: 45–47 OBJ: (2.9) Personal taxes
BLM: Understand