

## QUESTIONS

### 3.1 Profitability Ratios

Questions 1 and 2 are based on the following information. The financial statements for Dividendosaurus, Inc., for the current year are as follows:

<u>Balance Sheet</u>		<u>Statement of Income and Retained Earnings</u>	
Cash	\$100	Sales	\$ 3,000
Accounts receivable	200	Cost of goods sold	(1,600)
Inventory	50	Gross profit	\$ 1,400
Net fixed assets	600	Operations expenses	(970)
Total	<u>\$950</u>	Operating income	\$ 430
Accounts payable	\$140	Interest expense	(30)
Long-term debt	300	Income before tax	\$ 400
Capital stock	260	Income tax	(200)
Retained earnings	250	Net income	\$ 200
Total	<u>\$950</u>	Plus Jan. 1 retained earnings	150
		Minus dividends	(100)
		Dec. 31 retained earnings	<u>\$ 250</u>

1. Dividendosaurus has return on assets of

- A. 21.1%
- B. 39.2%
- C. 42.1%
- D. 45.3%

Answer (A) is correct. (CIA, adapted)

**REQUIRED:** The return on assets.

**DISCUSSION:** The return on assets is the ratio of net income to total assets. It equals 21.1% ( $\$200 \text{ NI} \div \$950 \text{ total assets}$ ).

Answer (B) is incorrect. The ratio of net income to common equity is 39.2%. Answer (C) is incorrect. The ratio of income before tax to total assets is 42.1%. Answer (D) is incorrect. The ratio of income before interest and tax to total assets is 45.3%.

2. Dividendosaurus has a profit margin of

- A. 6.67%
- B. 13.33%
- C. 14.33%
- D. 46.67%

Answer (A) is correct. (CIA, adapted)

**REQUIRED:** The profit margin.

**DISCUSSION:** The profit margin is the ratio of net income to sales. It equals 6.67% ( $\$200 \text{ NI} \div \$3,000 \text{ sales}$ ).

Answer (B) is incorrect. The ratio of income before tax to sales is 13.33%. Answer (C) is incorrect. The ratio of income before interest and taxes to sales is 14.33%. Answer (D) is incorrect. The ratio of gross profit to sales is 46.67%.

3. In the current year, Griffin Inc. had \$15 million in sales, while total fixed costs were held to \$6 million. The firm's total assets at year-end were \$20 million and the debt/equity ratio was calculated at 0.60. If the firm's EBIT is \$3 million, the interest on all debt is 9%, and the tax rate is 40%, what is the firm's return on equity?

- A. 11.16%
- B. 14.4%
- C. 18.6%
- D. 24.0%

Answer (A) is correct. (Publisher, adapted)

**REQUIRED:** The return on equity.

**DISCUSSION:** The first step is to determine the amount of equity. If the debt/equity ratio is .6, then the calculation is  $.6E + E = \$20 \text{ million}$ . Thus, E (equity) equals \$12.5 million. Debt is therefore \$7.5 million. At 9%, interest on \$7.5 million of debt is \$675,000. Earnings before taxes are \$2,325,000 ( $\$3,000,000 \text{ EBIT} - \$675,000 \text{ interest}$ ). At a 40% tax rate, taxes are \$930,000, which leaves a net income of \$1,395,000. Return on equity is calculated by dividing the \$1,395,000 by the \$12,500,000 of equity capital, giving an ROE of 11.16%.

Answer (B) is incorrect. A failure to deduct interest expense results in 14.4%. Answer (C) is incorrect. A failure to deduct income taxes results in 18.6%. Answer (D) is incorrect. Using the wrong amount of equity results in 24.0%.

4. White Knight Enterprises is experiencing a growth rate of 9% with a return on assets of 12%. If the debt ratio is 36% and the market price of the stock is \$38 per share, what is the return on equity?

- A. 7.68%
- B. 9.0%
- C. 12.0%
- D. 18.75%

Answer (D) is correct. (Publisher, adapted)

**REQUIRED:** The return on equity.

**DISCUSSION:** Assume that the firm has \$100 in assets, with debt of \$36 and equity of \$64. Income (return) is \$12. The \$12 return on assets equates to an 18.75% return on equity ( $\$12 \div \$64$ ).

Answer (A) is incorrect. This percentage is based on 64% of the ROA. Answer (B) is incorrect. This percentage is the growth rate, not a return. Answer (C) is incorrect. This percentage is the return on assets, not return on equity.

Questions 5 and 6 are based on the following information. Jensen Corporation's board of directors met on June 3 and declared a regular quarterly cash dividend of \$.40 per share for a total value of \$200,000. The dividend is payable on June 24 to all stockholders of record as of June 17. Excerpts from the statement of financial position for Jensen Corporation as of May 31 are presented as follows.

Cash	\$ 400,000
Accounts receivable (net)	800,000
Inventories	1,200,000
Total current assets	<u>\$2,400,000</u>
Total current liabilities	<u>\$1,000,000</u>

Assume that the only transactions to affect Jensen Corporation during June are the dividend transactions.

5. Jensen's total stockholders' equity would be
- Unchanged by the dividend declaration and decreased by the dividend payment.
  - Decreased by the dividend declaration and increased by the dividend payment.
  - Unchanged by either the dividend declaration or the dividend payment.
  - Decreased by the dividend declaration and unchanged by the dividend payment.
6. If the dividend declared by Jensen Corporation had been a 10% stock dividend instead of a cash dividend, Jensen's current liabilities would have been
- Unchanged by the dividend declaration and increased by the dividend distribution.
  - Unchanged by the dividend declaration and decreased by the dividend distribution.
  - Increased by the dividend declaration and unchanged by the dividend distribution.
  - Unchanged by either the dividend declaration or the dividend distribution.
7. In Year 3, Newman Manufacturing's gross profit margin remained unchanged from Year 2. But, in Year 3, the company's net profit margin declined from the level reached in Year 2. This could have happened because, in Year 3,
- Corporate tax rates increased.
  - Cost of goods sold increased relative to sales.
  - Sales increased at a faster rate than operating expenses.
  - Common share dividends increased.

Answer (D) is correct. (CMA, adapted)

**REQUIRED:** The impact on total stockholders' equity of dividend declaration and payment.

**DISCUSSION:** A dividend declaration reduces retained earnings and thus total stockholders' equity. The subsequent payment will have no effect on stockholders' equity since only cash and dividends payable are reduced.

Answer (D) is correct. (CMA, adapted)

**REQUIRED:** The impact on current liabilities of declaration and distribution of a stock dividend.

**DISCUSSION:** A stock dividend requires transfer of an amount from retained earnings to paid-in capital. Consequently, no liability accounts are affected by either the declaration or the distribution of a stock dividend.

Answer (A) is correct. (CMA, adapted)

**REQUIRED:** The factor that could bring about a reduction in net profit margin with no change in gross profit margin.

**DISCUSSION:** Gross profit margin is net sales minus cost of goods sold. Net profit margin is gross profit margin minus all remaining expenses and losses, one of which is income taxes. If corporate tax rates increased, net profit margin would decrease, leaving gross profit margin unchanged.

Answer (B) is incorrect. A change in cost of goods sold would have affected gross profit margin. Answer (C) is incorrect. Sales increasing faster than operating expenses would have resulted in an increase, not a decrease, to net profit margin.

Answer (D) is incorrect. Any impact on dividends cannot be determined from the information given.

8. Colonie, Inc. expects to report net income of at least \$10 million annually for the foreseeable future. Colonie could increase its return on equity by taking which of the following actions with respect to its inventory turnover and the use of equity financing?

	<u>Inventory Turnover</u>	<u>Use of Equity Financing</u>
A.	Increase	Increase
B.	Increase	Decrease
C.	Decrease	Increase
D.	Decrease	Decrease

Questions 9 through 11 are based on the following information. Excerpts from the statement of financial position for Landau Corporation as of September 30 of the current year are presented as follows.

Cash	\$ 950,000
Accounts receivable (net)	1,675,000
Inventories	2,806,000
Total current assets	<u>\$5,431,000</u>
Accounts payable	\$1,004,000
Accrued liabilities	785,000
Total current liabilities	<u>\$1,789,000</u>

The board of directors of Landau Corporation met on October 4 of the current year and declared the regular quarterly cash dividend amounting to \$750,000 (\$.60 per share). The dividend is payable on October 25 of the current year to all shareholders of record as of October 12 of the current year. Assume that the only transactions to affect Landau Corporation during October of the current year are the dividend transactions and that the closing entries have been made.

9. Landau Corporation's total equity was

- Unchanged by the dividend declaration and decreased by the dividend payment.
- Decreased by the dividend declaration and increased by the dividend payment.
- Unchanged by either the dividend declaration or the dividend payment.
- Decreased by the dividend declaration and unchanged by the dividend payment.

10. If the dividend declared by Landau Corporation had been a 10% stock dividend instead of a cash dividend, Landau's current liabilities would have been

- Unchanged by the dividend declaration and increased by the dividend distribution.
- Unchanged by the dividend declaration and decreased by the dividend distribution.
- Increased by the dividend declaration and unchanged by the dividend distribution.
- Unchanged by either the dividend declaration or the dividend distribution.

Answer (B) is correct. (CMA, adapted)

**REQUIRED:** The actions that would increase return on equity.

**DISCUSSION:** Return on equity, in the most general terms, is the ratio of net income to total equity. Increasing inventory turnover raises the numerator, and decreasing equity financing lowers the denominator. This combination is thus the only effective means of increasing return on equity.

Answer (A) is incorrect. Increasing equity financing raises the denominator, lowering the overall return on equity ratio.

Answer (C) is incorrect. Decreasing inventory turnover lowers the numerator, lowering the overall return on equity ratio.

Answer (D) is incorrect. Decreasing inventory turnover lowers the numerator, lowering the overall return on equity ratio.

Answer (D) is correct. (CMA, adapted)

**REQUIRED:** The effect on total equity of a cash dividend declaration and payment.

**DISCUSSION:** A dividend declaration decreases equity, of which retained earnings is a component, by the amount of the dividend. Because equity equals assets minus liabilities, the subsequent payment of the dividend had no effect on equity because an asset and a liability were decreased by the same amount.

Answer (A) is incorrect. The declaration of a cash dividend reduces equity. Answer (B) is incorrect. The payment of a cash dividend decreases assets and liabilities, but has no effect on equity. Answer (C) is incorrect. The declaration of a cash dividend reduces equity.

Answer (D) is correct. (CMA, adapted)

**REQUIRED:** The effect on current liabilities of the declaration of a small stock dividend.

**DISCUSSION:** A stock dividend (one less than 20% to 25% of the shares outstanding) requires a debit to one equity account (retained earnings) and a credit to one or more other equity accounts (common stock dividend distributable and paid-in capital in excess of par) for the fair value of the stock. The subsequent distribution of that stock dividend involves a debit to common stock dividend distributable and a credit to common stock, both of which are equity accounts. Thus, liabilities are unaffected by either the declaration or distribution of a stock dividend.

11. If the dividend declared by Landau had been a 10% stock dividend instead of a cash dividend, Landau's total shareholders' equity would have been

- A. Decreased by the dividend declaration and increased by the dividend distribution.
- B. Unchanged by the dividend declaration and increased by the dividend distribution.
- C. Increased by the dividend declaration and unchanged by the dividend distribution.
- D. Unchanged by either the dividend declaration or the dividend distribution.

Answer (D) is correct. (CMA, adapted)

**REQUIRED:** The effect on total shareholders' equity of the declaration and distribution of a stock dividend.

**DISCUSSION:** The entry to record the declaration of a small stock dividend (one less than 20% to 25% of the shares outstanding) involves a debit to one shareholders' equity account (retained earnings) and a credit to one or more other shareholders' equity accounts (common stock dividend distributable and paid-in capital in excess of par) for the fair value of the stock. Consequently, the declaration has no effect on total shareholders' equity because the entry merely entails a transfer from retained earnings to permanent capital. The subsequent distribution of a stock dividend requires only a debit to common stock dividend distributable and a credit to common stock. Because both are shareholders' equity accounts, the distribution has no effect on total shareholders' equity.

Answer (A) is incorrect. Neither the distribution nor the declaration of a stock dividend has an effect on total shareholders' equity. Answer (B) is incorrect. The distribution of a stock dividend has no effect on total shareholders' equity. Answer (C) is incorrect. The declaration of a stock dividend has no effect on total shareholders' equity.

Questions 12 and 13 are based on the following information. For the year just ended, Beechwood Corporation had income from operations of \$198,000 and net income of \$96,000. The liabilities and shareholders' equity section of Beechwood's statement of financial position is shown below.

	January 1	December 31
Accounts payable	\$ 32,000	\$ 84,000
Accrued liabilities	14,000	11,000
7% bonds payable	95,000	77,000
Common stock (\$10 par value)	300,000	300,000
Reserve for bond retirement	12,000	28,000
Retained earnings	155,000	206,000
Total liabilities and shareholders' equity	<u>\$608,000</u>	<u>\$706,000</u>

12. Beechwood's debt-to-equity ratio at year end is

- A. 25.1%
- B. 25.6%
- C. 32.2%
- D. 33.9%

Answer (C) is correct. (CMA, adapted)

**REQUIRED:** The debt-to-equity ratio.

**DISCUSSION:** A firm's debt to equity ratio is total debt divided by total stockholders' equity.

$$\begin{aligned} \text{Debt to equity} &= (\$84,000 + \$11,000 + \$77,000) \div (\$300,000 + \\ &\quad \$28,000 + \$206,000) \\ &= \$172,000 \div \$534,000 \\ &= 32.2\% \end{aligned}$$

13. Beechwood's return on shareholders' equity for the year just ended is

- A. 19.2%
- B. 19.9%
- C. 32.0%
- D. 39.5%

Answer (A) is correct. (CMA, adapted)

**REQUIRED:** The return on shareholders' equity.

**DISCUSSION:** Return on equity consists of net income divided by total equity. Since the numerator is derived from the income statement, the balance sheet accounts in the denominator must be averaged. Beechwood's return is thus calculated as follows:

$$\begin{aligned} \$96,000 \div \{ [(\$300,000 + \$300,000) \div 2] + [(\$12,000 + \\ \$28,000) \div 2] + [(\$155,000 + \$206,000) \div 2] \} = \\ \$96,000 \div (\$300,000 + \$20,000 + \$180,500) = \\ \$96,000 \div \$500,500 = 0.1918 \end{aligned}$$

Answer (B) is incorrect. This percentage results from failing to include the reserve for bond retirement in total equity. Answer (C) is incorrect. This percentage results from failing to include the reserve for bond retirement and retained earnings in the denominator. Answer (D) is incorrect. This percentage results from improperly using income from operations rather than net income in the numerator.

### 3.2 Market Ratios

Question 14 is based on the following information. Depoole Company is a manufacturer of industrial products that uses a calendar year for financial reporting purposes. These questions present several of Depoole's transactions during the year. Assume that total quick assets exceeded total current liabilities both before and after each transaction described. Further assume that Depoole has positive profits during the year and a credit balance throughout the year in its retained earnings account.

14. Depoole's issuance of new shares in a five-for-one split of common stock

- A. Decreases the book value per share of common stock.
- B. Increases the book value per share of common stock.
- C. Increases total equity.
- D. Decreases total equity.

15. Book value per common share represents the amount of equity assigned to each outstanding share of common stock. Which one of the following statements about book value per common share is true?

- A. Market price per common share usually approximates book value per common share.
- B. Book value per common share can be misleading because it is based on historical cost.
- C. A market price per common share that is greater than book value per common share is an indication of an overvalued stock.
- D. Book value per common share is the amount that would be paid to shareholders if the company were sold to another company.

16. The book value per share calculation of a corporation is usually significantly different from the market value of the stock's selling price due to the

- A. Use of accrual accounting in preparing financial statements.
- B. Omission of the number of preferred shares outstanding at year-end in the calculation.
- C. Use of historical costs in preparing financial statements.
- D. Omission of total assets from the numerator in the calculation.

Answer (A) is correct. (CMA, adapted)

**REQUIRED:** The effect of a five-for-one split of common stock.

**DISCUSSION:** Given that five times as many shares of stock are outstanding, the book value per share of common stock is one-fifth of the former value after the split.

Answer (B) is incorrect. The book value per share is decreased. Answer (C) is incorrect. The stock split does not change the amount of equity. Answer (D) is incorrect. The stock split does not change the amount of equity.

Answer (B) is correct. (CMA, adapted)

**REQUIRED:** The true statement about book value per common share.

**DISCUSSION:** Book value is based on the financial statements, which are stated in terms of historical cost and nominal dollars. The figure can be misleading because fair values may differ substantially from book figures.

Answer (A) is incorrect. Market price may be more or less than book value. Answer (C) is incorrect. Fair value may be more accurate than the carrying values if the historical cost figures are out of date. Answer (D) is incorrect. The amount another company would pay would be based on fair values, not book values.

Answer (C) is correct. (CMA, adapted)

**REQUIRED:** The reason the book value of a corporation's stock is usually different from its market value.

**DISCUSSION:** A stock's book value is the amount of net assets available to the holders of a given type of stock, divided by the number of those shares outstanding. The market price is the amount that a stock market investor is willing to pay for the stock. The two values are normally different because the book value is based primarily on historical cost expressed in nominal dollars. Accordingly, the book value may be misleading because book values of assets may differ materially from the fair values of those same assets.

Answer (A) is incorrect. Stock market investors base their decisions on fair values, and accrual accounting contributes to the determination of fair values. Thus, both book value and market value rely on accrual accounting. Answer (B) is incorrect. Preferred shares are not omitted when book value per share of preferred stock is calculated. Answer (D) is incorrect. Net, not total, assets are available to shareholders. Hence, the numerator in the book value calculation is based on net assets.

17. The equity section of Jones Corporation's statement of financial position is presented below:

Preferred stock, 6%, \$100 par	\$40,000,000
Common stock, \$4 par	10,000,000
Additional paid-in capital	20,000,000
Retained earnings	10,000,000
Equity	<u>\$80,000,000</u>

The preferred stock is cumulative and nonparticipating. All preferred dividends have been paid, and liquidation value is \$110 per preferred share. What is the book value per share of Jones Corporation's common stock?

- A. \$100
- B. \$16
- C. \$14.40
- D. \$4

18. Consider the following financial statement:

Larsen Manufacturing, Inc.  
Statement of Financial Position  
December 31 (in thousands)

<u>Assets</u>	
Current assets	\$ 8,108
Long-term assets	10,308
Total assets	<u>\$18,326</u>
<u>Liabilities</u>	
Current liabilities	\$ 998
Long-term debt	3,394
Total liabilities	<u>\$ 4,392</u>
<u>Shareholders' equity</u>	
Preferred – 6% cumulative, \$100 par, authorized, issued, and outstanding 35,000 shares	\$ 3,500
Common – \$5 par, 3,000,000 shares authorized, 1,050,000 shares issued and outstanding	5,250
Additional paid-in capital – common	2,625
Retained earnings	2,559
Total shareholders' equity	<u>\$13,934</u>
Total liabilities and equity	<u>\$18,326</u>

Based on the above financial data and assuming that Larsen had no preferred stock dividends in arrears, the company's book value per share at December 31 of the current year is

- A. \$5.00
- B. \$7.50
- C. \$9.94
- D. \$13.27

Answer (C) is correct. (*Publisher, adapted*)

**REQUIRED:** The book value per share of common stock.

**DISCUSSION:** The liquidation value of the preferred stock is \$44,000,000 (1.1 × \$40,000,000). Hence, the book value per common share equals the net assets (equity) attributable to common shareholders divided by the common shares outstanding, or \$14.40 [(\$80,000,000 equity – 44,000,000) ÷ (\$10,000,000 ÷ \$4 par)].

Answer (A) is incorrect. The par value of a preferred share is \$100. Answer (B) is incorrect. The amount of \$16 fails to consider the liquidation value of the preferred stock in excess of its par value. Answer (D) is incorrect. The par value of a common share is \$4.

Answer (C) is correct. (*CMA, adapted*)

**REQUIRED:** The book value per share given the statement of financial position.

**DISCUSSION:** Book value per share is calculated as follows:

$$\text{Book value per share} = \frac{\text{Total equity} - \text{Preferred stock}}{\text{Common shares outstanding}}$$

For this firm, the calculation is:

$$\begin{aligned} \text{Book value per share} &= (\$13,934,000 - \$3,500,000) \div 1,050,000 \\ &= \$10,434,000 \div 1,050,000 \\ &= \$9.937 \end{aligned}$$

Answer (A) is incorrect. Improperly counting only the value of common stock in the numerator results in \$5.00. Answer (B) is incorrect. Improperly including only common stock and additional paid-in capital on common stock in the numerator results in \$7.50. Answer (D) is incorrect. Failing to deduct the liquidation value of preferred stock from the numerator results in \$13.27.

19. At the end of its fiscal year on December 31, Year 6, Merit Watches had total shareholders' equity of \$24,209,306. Of this total, \$3,554,405 was preferred equity. During Fiscal Year 7, Merit's net income after tax was \$2,861,003. During Year 7, Merit paid preferred share dividends of \$223,551 and common share dividends of \$412,917. At December 31, Year 7, Merit had 12,195,799 common shares outstanding, and the company did not sell any common shares during the year. What was Merit Watches' book value per share on December 31, Year 7?

- A. \$1.88
- B. \$2.17
- C. \$1.91
- D. \$2.20

20. Which one of the following statements about the price-earnings (P-E) ratio is true?

- A. A company with high growth opportunities ordinarily has a high P-E ratio.
- B. A P-E ratio has more meaning when a firm has losses than when it has profits.
- C. A P-E ratio has more meaning when a firm has abnormally low profits in relation to its asset base.
- D. A P-E ratio expresses the relationship between a firm's market price and its net sales.

21. Information concerning Hamilton's common stock is presented below for the fiscal year ended May 31, Year 2.

Common shares outstanding	750,000
Stated value per share	\$15.00
Market price per share	45.00
Year 1 dividends paid per share	4.50
Year 2 dividends paid per share	7.50
Basic earning per share	11.25
Diluted earnings per share	9.00

The price-earnings ratio for Hamilton's common stock is

- A. 3.0 times.
- B. 4.0 times.
- C. 5.0 times.
- D. 6.0 times.

Answer (A) is correct. (CMA, adapted)

**REQUIRED:** The book value per share.

**DISCUSSION:** Book value per share is calculated with the following ratio:

$$\frac{\text{Total equity} - \text{Liquidation value of preferred equity}}{\text{Common shares outstanding}}$$

Total shareholder's equity	\$24,209,306
Add: net income	2,861,003
Less: preferred stock	(3,554,405)
Less: preferred dividends	(223,551)
Less: common dividends	(412,917)
Total book value	<u>\$22,879,436</u>

$$\begin{aligned} \text{Book value per share} &= \$22,879,436 \div 12,195,799 \\ &= \$1.876 \end{aligned}$$

Answer (B) is incorrect. The amount of \$2.17 results from failing to deduct preferred stock from the numerator. Answer (C) is incorrect. The amount of \$1.91 results from failing to deduct common stock dividends from the numerator. Answer (D) is incorrect. The amount of \$2.20 results from failing to deduct preferred stock and common dividends from the numerator.

Answer (A) is correct. (CMA, adapted)

**REQUIRED:** The true statement about the P-E ratio.

**DISCUSSION:** A company with high growth opportunities typically has a high P-E ratio because investors are willing to pay a price for the stock higher than that justified by current earnings. In effect, they are trading current earnings for potential future earnings.

Answer (B) is incorrect. A P-E ratio cannot be computed when a firm has losses. Answer (C) is incorrect. A firm with abnormally low profits could have an extremely high, and thus meaningless, P-E ratio. Answer (D) is incorrect. The P-E ratio expresses the relationship between market price and a firm's EPS.

Answer (C) is correct. (CMA, adapted)

**REQUIRED:** The price-earnings ratio for the common stock.

**DISCUSSION:** The price-earnings ratio is calculated by dividing the current market price of the stock by the earnings per share. Diluted earnings per share is used if disclosed. Thus, Hamilton's price-earnings ratio is 5.0 (\$45 market price ÷ \$9 DEPS).

Answer (A) is incorrect. The figure of 3.0 is based on use of the stated value per share as the denominator. Answer (B) is incorrect. The figure of 4.0 is based on erroneously using the basic earnings per share as the denominator. Answer (D) is incorrect. The figure of 6.0 is derived by using Year 2 dividends per share as the denominator.

22. The following information is provided about the common stock of Evergreen, Inc. at the end of the fiscal year:

Number of shares outstanding	1,800,000
Par value per share	\$ 10.00
Dividends paid per share (last 12 months)	12.00
Market price per share	108.00
Basic earnings per share	36.00
Diluted earnings per share	24.00

The price-earnings ratio for Evergreen's common stock is

- A. 3.0 times.
- B. 4.5 times.
- C. 9.0 times.
- D. 10.8 times.

23. Information concerning the common stock of Morris Company as of November 30, the end of the company's current fiscal year, is presented below.

Number of shares outstanding	460,000
Par value per share	\$ 5.00
Dividends paid per share in current year	6.00
Market price per share	54.00
Basic earnings per share	18.00
Diluted earnings per share	12.00

The price-earnings ratio for Morris Company's common stock is

- A. 10.8 times.
- B. 3.0 times.
- C. 9.0 times.
- D. 4.5 times.

24. Kevlin, Inc. has 250,000 shares of \$10 par value common stock outstanding. For the current year, Kevlin paid a cash dividend of \$3.50 per share and had earnings per share of \$4.80. The market price of Kevlin's stock is \$34 per share. Kevlin's price/earnings ratio is

- A. 2.08
- B. 2.85
- C. 7.08
- D. 9.71

25. A steady drop in a firm's price/earnings ratio could indicate that

- A. Earnings per share has been increasing while the market price of the stock has held steady.
- B. Earnings per share has been steadily decreasing.
- C. The market price of the stock has been steadily rising.
- D. Both earnings per share and the market price of the stock are rising.

Answer (B) is correct. (CMA, adapted)

**REQUIRED:** The price-earnings ratio.

**DISCUSSION:** The price-earnings ratio is

$$\frac{\text{Market Price}}{\text{Diluted EPS}} = \frac{\$108}{\$24} = 4.5$$

Answer (A) is incorrect. The figure 3.0 is based on BEPS rather than DEPS in the denominator. Answer (C) is incorrect. The figure 9.0 is based on dividends rather than DEPS in the denominator. Answer (D) is incorrect. The figure 10.8 is based on par value rather than DEPS in the denominator.

Answer (D) is correct. (CMA, adapted)

**REQUIRED:** The price-earnings ratio at year-end.

**DISCUSSION:** Stock analysts usually determine the price-earnings ratio by dividing the current market price by diluted EPS, which may give a higher value than using basic EPS (DEPS is always equal to or less than BEPS). Thus, the price-earnings ratio is 4.5 times ( $\$54 \div \$12$ ).

Answer (A) is incorrect. The figure of 10.8 times is calculated using the \$5.00 par value instead of diluted earnings per share of \$12. Answer (B) is incorrect. The figure of 3.0 times is calculated using the \$18.00 basic earnings per share instead of diluted earnings per share. Answer (C) is incorrect. The figure of 9.0 times is calculated using the \$6.00 of dividends instead of diluted earnings per share.

Answer (C) is correct. (CMA, adapted)

**REQUIRED:** The price/earnings ratio.

**DISCUSSION:** The price/earnings ratio is the market price of the common stock per share divided by earnings per share. Kevlin's is thus 7.08 ( $\$34 \div \$4.80$ ).

Answer (A) is incorrect. The figure 2.08 results from using the par value, rather than the market price, in the numerator. Answer (B) is incorrect. The figure 2.85 results from improperly dividing the par value by the dividend per share. Answer (D) is incorrect. The figure 9.71 results from using dividend per share, rather than earnings per share, in the denominator.

Answer (A) is correct. (CMA, adapted)

**REQUIRED:** The proper conclusion given a fall in the P/E ratio.

**DISCUSSION:** Earnings per share is the denominator of the price/earnings ratio. An increase in the denominator while the numerator remains the same results in a fall in the overall ratio.

Answer (B) is incorrect. A decrease in earnings per share would cause an increase in the price/earnings ratio. Answer (C) is incorrect. A rise in the market price would cause an increase in the price/earnings ratio. Answer (D) is incorrect. If both numerator and denominator are rising, the overall ratio will increase.



26. At year end, Appleseed Company reported net income of \$588,000. The company has 10,000 shares of \$100 par value, 6% preferred stock and 120,000 shares of \$10 par value common stock outstanding and 5,000 shares of common stock in treasury. There are no dividend payments in arrears, and the market price per common share at the end of the year was \$40. Appleseed's price/earnings ratio is

- A. 9.47
- B. 9.09
- C. 8.50
- D. 8.16

27. Archer, Inc. has 500,000 shares of \$10 par value common stock outstanding. For the current year, Archer paid a cash dividend of \$4.00 per share and had earnings per share of \$3.20. The market price of Archer's stock is \$36 per share. The average price/earnings ratio for Archer's industry is 14.00. When compared to the industry average, Archer's stock appears to be

- A. Overvalued by approximately 25%.
- B. Overvalued by approximately 10%.
- C. Undervalued by approximately 10%.
- D. Undervalued by approximately 25%.

28. A company had 150,000 shares outstanding on January 1. On March 1, 75,000 additional shares were issued through a stock dividend. Then on November 1, the company issued 60,000 shares for cash. The number of shares to be used in the denominator of the EPS calculation for the year is

- A. 222,500 shares.
- B. 225,000 shares.
- C. 235,000 shares.
- D. 285,000 shares.

29. What type of ratio is earnings per share?

- A. Profitability ratio.
- B. Activity ratio.
- C. Liquidity ratio.
- D. Leverage ratio.

Answer (B) is correct. (CMA, adapted)

**REQUIRED:** The price/earnings ratio.

**DISCUSSION:** The price/earnings ratio is the market price of the common stock per share divided by earnings per share. To arrive at earnings available to common shareholders, dividends on preferred stock must be subtracted from net income [ $\$588,000 - (10,000 \text{ preferred shares} \times \$100 \text{ par value} \times 6\%) = \$528,000$ ], making the per-share amount \$4.40 ( $\$528,000 \div 120,000 \text{ common shares}$ ). Appleseed's price/earnings ratio is thus 9.09 ( $\$40 \div \$4.40$ ).

Answer (A) is incorrect. The figure 9.47 results from improperly including treasury stock in the computation of earnings per share. Answer (C) is incorrect. The figure 8.50 is based on an erroneous calculation of preferred dividends. Answer (D) is incorrect. The figure 8.16 results from failing to deduct dividends on preferred stock from net income.

Answer (D) is correct. (CMA, adapted)

**REQUIRED:** The correct conclusion based on financial data.

**DISCUSSION:** The price/earnings ratio is the market price of the common stock per share divided by earnings per share. Archer's price/earnings ratio is thus 11.25 ( $\$36 \div \$3.20$ ). The difference between this ratio and the industry average is 2.75, an undervaluation of 24.4% ( $2.75 \div 11.25$ ).

Answer (C) is correct. (CIA, adapted)

**REQUIRED:** The number of shares to be used in the denominator of the EPS calculation.

**DISCUSSION:** The weighted average of shares outstanding during the year is used in the EPS denominator. Shares issued in a stock dividend are assumed to have been outstanding as of the beginning of the earliest accounting period presented. Thus, the 75,000 shares issued on March 1 are deemed to have been outstanding on January 1. The EPS denominator equals 235,000 shares  $\{[150,000 \times (12 \text{ months} \div 12 \text{ months})] + [75,000 \times (12 \text{ months} \div 12 \text{ months})] + [60,000 \times (2 \text{ months} \div 12 \text{ months})]\}$ .

Answer (A) is incorrect. The weighted-average number of shares is 222,500 if the stock dividend is not treated as retroactive. Answer (B) is incorrect. The 225,000 number of shares ignores the November 1 issuance. Answer (D) is incorrect. The year-end number of outstanding shares is 285,000.

Answer (A) is correct. (Publisher, adapted)

**REQUIRED:** The proper classification of the earnings per-share ratio.

**DISCUSSION:** Earnings per share is a profitability ratio. It measures the level of profitability of the firm on a per-share basis.

Answer (B) is incorrect. Activity ratios measure management's efficiency in using specific resources. Answer (C) is incorrect. Liquidity ratios indicate the ability of a company to meet short-term obligations. Answer (D) is incorrect. Leverage or equity ratios concern the relationship of debt to equity and measure the impact of the debt on profitability and risk.

Questions 30 and 31 are based on the following information. Rinker Corporation had 40,000 shares of common stock outstanding on November 30, Year 1. On May 20, Year 2, a 10% stock dividend was declared and distributed. On June 1, Year 2, Rinker issued options to its existing stockholders giving them the immediate right to acquire one additional share of stock for each share of stock held. The option price of the additional share was \$6 per share, and no options have been exercised as of year-end. The average price of Rinker's common stock for the year was \$20 per share. The price of the stock as of November 30, Year 2, the end of the fiscal year, was \$30 per share, and the company's net income for the fiscal year was \$229,680. Rinker had no outstanding debt during the year, and its tax rate was 30%.

**30.** The basic earnings per share (rounded to the nearest cent) of Rinker common stock for the fiscal year ended November 30, Year 2, was

- A. \$5.22 per share.
- B. \$3.82 per share.
- C. \$5.74 per share.
- D. \$3.38 per share.

**31.** The diluted earnings per share (rounded to the nearest cent) of Rinker common stock for the fiscal year ended November 30, Year 2, was

- A. \$5.22 per share.
- B. \$3.19 per share.
- C. \$3.07 per share.
- D. \$3.73 per share.

Answer (A) is correct. (CMA, adapted)

**REQUIRED:** The basic earnings per share (BEPS).

**DISCUSSION:** BEPS is net income available to common shareholders divided by the weighted average shares outstanding during the year. The denominator will include the 40,000 shares already outstanding plus the 4,000-share stock dividend (stock dividends and stock splits are deemed to have occurred at the beginning of the earliest period presented). Thus, 44,000 shares are considered to have been outstanding throughout the year. The stock options have no effect on the weighted-average shares outstanding because they were not exercised in the current period. BEPS is \$5.22 ( $\$229,680 \div 44,000$ ).

Answer (D) is correct. (CMA, adapted)

**REQUIRED:** The diluted earnings per share (DEPS).

**DISCUSSION:** DEPS is net income available to common shareholders divided by the number of common shares outstanding after adjustment for all dilutive securities that could possibly be issued. DEPS is always equal to or less than BEPS. In this problem, the difference between BEPS and DEPS is the price used in the assumed treasury stock purchase. Under APB Opinion 15, the purchase of treasury stock from the hypothetical proceeds of the exercise of the 44,000 rights is presumed to be at the year-end market price, if higher than the average market price for the year. Thus, the \$264,000 ( $44,000 \text{ shares} \times \$6$ ) available for treasury stock purchases will buy only 8,800 shares at the year-end price of \$30 per share. Consequently, because 8,800 is 20% of the actual shares outstanding, no hypothetical proceeds must be used to reduce debt or purchase securities, and no numerator adjustment of net income is needed. The denominator will consist of the 44,000 actual shares assumed to be outstanding all year, plus 17,600 additional shares [ $(44,000 \text{ new shares} - 8,800 \text{ treasury shares}) \times (6/12)$ ]. The weighted average denominator of 61,600 shares is divided into the \$229,680 of net income to give DEPS of \$3.73.

**32.** Blackmer Company had 80,000 shares of common stock outstanding as of December 1, Year 1, the beginning of the company's fiscal year. The company also had \$200,000 of 8% convertible bonds outstanding that had been issued at \$1,000 par. The bonds were convertible into 20,000 shares of common stock. The company's tax rate is 34%. The company's net income for the year was \$107,000, and no bonds were converted during the year. The diluted earnings per share (rounded to the nearest cent) of Blackmer common stock for the fiscal year ended November 30, Year 2, was

- A. \$1.18 per share.
- B. \$1.07 per share.
- C. \$1.20 per share.
- D. \$1.23 per share.

**33.** The Dwyer Company balance sheet indicates that the company has \$2,000,000 of 7.5% convertible bonds, \$1,000,000 of 9% preferred stock, par value \$100, and \$1,000,000 common stock, par value \$10. The company reported net income of \$317,000. The bonds can be converted into 50,000 common shares. The income tax rate is 36%. Which one of the following would Dwyer report as diluted earnings per share?

- A. \$2.11
- B. \$2.15
- C. \$2.27
- D. \$2.51

Answer (A) is correct. (CMA, adapted)

**REQUIRED:** The diluted earnings per share.

**DISCUSSION:** DEPS is net income available to common shareholders plus amounts that would not have had to be paid if dilutive potential stock had been converted, divided by common shares outstanding plus the weighted-average number of additional shares of common stock that would have been outstanding if dilutive potential common stock had been converted. Thus, the denominator of the EPS calculation equals the 80,000 common shares on December 1, Year 1, plus the 20,000 shares that could be issued if the bonds were converted, or a total of 100,000 shares. The numerator is the \$107,000 of net income plus an adjustment for interest that would not have been paid if the bonds had been converted. The hypothetical interest saved is \$16,000 (\$200,000 of bonds  $\times$  8%). However, income would not be increased by \$16,000 because the interest was tax deductible. Thus, the after-tax increase in net income would have been \$10,560 [\$16,000 (1.0 - 34% tax rate)]. Adding the \$10,560 to the reported income of \$107,000 produces a numerator of \$117,560. Dividing the \$117,560 by the 100,000 shares presumed outstanding results in a DEPS of \$1.18 per share.

Answer (B) is incorrect. This figure is calculated using net income of \$107,000. Answer (C) is incorrect. This figure is calculated using 10% as the bond interest rate instead of 8%. Answer (D) is incorrect. This figure is calculated using \$107,000 net income plus the unadjusted \$16,000 interest that would have been paid if bonds had not been converted.

Answer (B) is correct. (CMA, adapted)

**REQUIRED:** The diluted earnings per share.

**DISCUSSION:** The diluted earnings per share numerator consists of income available to common shareholders, that is, net income adjusted for the effect of convertible securities. The preferred dividends (\$1,000,000  $\times$  9% = \$90,000) must be paid in any case because the preferred stock is not convertible. The after-tax effect of the bond interest (\$2,000,000  $\times$  7.5% = \$150,000) is added back because the bonds are convertible. The numerator is thus calculated as follows:

Net income	\$317,000
Less: preferred dividends	(90,000)
Add: savings on bond interest	
[\$150,000 $\times$ (1 - tax rate)]	<u>96,000</u>
Income available to common shareholders	<u>\$323,000</u>

The denominator consists of the number of common shares outstanding, taking into account the effects of all dilutive securities. There are 100,000 shares of common stock outstanding (\$1,000,000  $\div$  \$10 par). Adding the 50,000 shares that would be issued if the bonds were converted gives a denominator of 150,000 shares. Dwyer's diluted earnings per share is thus \$2.1533 (\$323,000  $\div$  150,000).

Answer (A) is incorrect. Failing to adjust the numerator for the payment of preferred dividends and the after-tax savings on bond interest results in \$2.11. Answer (C) is incorrect. Failing to account for the conversion of the bonds in both the numerator and denominator results in \$2.27. Answer (D) is incorrect. Failing to add back the tax savings on bond interest to the numerator results in \$2.51.

**34.** For the year ended May 31, Year 2, Cooper, Inc. had per share earnings of \$4.80. Cooper's outstanding stock for the Year 1-Year 2 fiscal year consisted of \$2,000,000 of 10% preferred with \$100 par value and 1,000,000 shares of common. On June 1, Year 2, the common stock split 3 for 1, and the company redeemed one-half of the preferred stock at par value. Cooper's net income for the year ended May 31, Year 3, was 10% higher than in Year 2. Earnings per share in Year 3 on Cooper's common stock were

- A. \$1.76
- B. \$1.80
- C. \$5.28
- D. \$5.40

**35.** Baylor Company paid out one-half of last year's earnings in dividends. Baylor's earnings increased by 20%, and the amount of its dividends increased by 15% in the current year. Baylor's dividend payout ratio for the current year was

- A. 50%
- B. 57.5%
- C. 47.9%
- D. 78%

**36.** Residco Inc. expects net income of \$800,000 for the next fiscal year. Its targeted and current capital structure is 40% debt and 60% common equity. The director of capital budgeting has determined that the optimal capital spending for next year is \$1.2 million. If Residco follows a strict residual dividend policy, what is the expected dividend payout ratio for next year?

- A. 90.0%
- B. 66.7%
- C. 40.0%
- D. 10.0%

Answer (B) is correct. (CMA, adapted)

**REQUIRED:** The earnings per common share after a stock split.

**DISCUSSION:** The EPS for Year 2 of \$4.80 indicates a net income available to common shareholders of \$4,800,000. Dividends on preferred stock would have been \$200,000 ( $\$2,000,000 \times 10\%$ ). Thus, the net income must have been \$5,000,000. A 10% increase for Year 3 would result in net income of \$5,500,000. Only \$100,000 ( $\$1,000,000 \times 10\%$ ) would be required for preferred dividends in Year 3, leaving \$5,400,000 for common shareholders. After the 3-for-1 split, EPS would be \$1.80 ( $\$5,400,000 \div 3,000,000$  shares).

Answer (A) is incorrect. Using Year 2 net income available to common shareholders increased by 10% for Year 3 instead of net income available to common shareholders for Year 3 results in \$1.76. Answer (C) is incorrect. Using Year 2 net income available to common shareholders increased by 10% for Year 3 instead of net income available to common shareholders for Year 3 results in \$5.28. It also results from not increasing the number of common shares outstanding to allow for the stock split. Answer (D) is incorrect. Not increasing the number of common shares outstanding to allow for the stock split results in \$5.40.

Answer (C) is correct. (CMA, adapted)

**REQUIRED:** The dividend payout ratio given earnings and dividend increases.

**DISCUSSION:** The prior-year dividend payout ratio was 50%. Hence, if prior-year net income was X, the total dividend payout would have been 50%X. If earnings increase by 20%, current year income will be 120%X. If dividends increase by 15%, the total dividends paid out will be 57.5%X ( $115\% \times 50\%X$ ), and the new dividend payout ratio will be 47.9% ( $57.5\%X \div 120\%X$ ).

Answer (A) is incorrect. The prior-year payout ratio is 50%. Answer (B) is incorrect. The figure of 57.5% is 115% of the prior-year payout ratio. Answer (D) is incorrect. The figure of 78% equals 65% of 120%.

Answer (D) is correct. (CMA, adapted)

**REQUIRED:** The expected dividend payout ratio assuming a strict residual dividend policy.

**DISCUSSION:** Under the residual theory of dividends, the residual of earnings paid as dividends depends on the available investments and the debt-equity ratio at which cost of capital is minimized. The rational investor should prefer reinvestment of retained earnings when the return exceeds what the investor could earn on investments of equal risk. However, the firm may prefer to pay dividends when investment returns are poor and the internal equity financing would move the firm away from its ideal capital structure. If Residco wants to maintain its current structure, 60% of investments should be financed from equity. Hence, it needs \$720,000 ( $\$1,200,000 \times 60\%$ ) of equity funds, leaving \$80,000 of net income ( $\$800,000$  NI – \$720,000) available for dividends. The dividend payout ratio is therefore 10% ( $\$80,000 \div \$800,000$  NI).

Answer (A) is incorrect. The reinvestment ratio is 90%. Answer (B) is incorrect. The ratio between earnings and investment is 66.7%. Answer (C) is incorrect. The ratio of debt in the ideal capital structure is 40.0%.

37. All else being equal, a company with a higher dividend-payout ratio will have a <List A> debt-to-assets ratio and a <List B> current ratio.

	<u>List A</u>	<u>List B</u>
A.	Higher	Higher
B.	Higher	Lower
C.	Lower	Higher
D.	Lower	Lower

38. Which of the following is correct for a firm with \$100,000 in net earnings, 10,000 shares, and a 30% payout ratio?

- A. Retained earnings will increase by \$30,000.
- B. Each share will receive a \$0.30 dividend.
- C. \$30,000 will be spent on new investment.
- D. The dividend per share will equal \$3.00.

39. A drop in the market price of a firm's common stock will immediately increase its

- A. Return on equity.
- B. Dividend payout ratio.
- C. Market-to-book ratio.
- D. Dividend yield.

40. Watson Corporation computed the following items from its financial records for the year:

Price-earnings ratio	12
Payout ratio	.6
Asset turnover ratio	.9

The dividend yield on Watson's common stock is

- A. 5.0%
- B. 7.2%
- C. 7.5%
- D. 10.8%

Answer (B) is correct. (CIA, adapted)

**REQUIRED:** The implications of a higher dividend payout ratio.

**DISCUSSION:** A company with a higher dividend-payout ratio is distributing more of its earnings as dividends to common shareholders. It will have less cash and less total assets than a comparable firm with a lower payout ratio. The debt-to-assets ratio will be higher because total assets are lower, and the current ratio will be lower because cash is lower.

Answer (A) is incorrect. The current ratio will be lower. Answer (C) is incorrect. The debt-to-assets ratio will be higher, and the current ratio will be lower. Answer (D) is incorrect. The debt-to-assets ratio will be higher.

Answer (D) is correct. (Publisher, adapted)

**REQUIRED:** The true statement.

**DISCUSSION:** Earnings per share is \$10 ( $\$100,000 \div 10,000$  shares). Of the \$10, 30% or \$3 is paid out as a dividend.

Answer (A) is incorrect. Retained earnings will increase by \$70,000. Answer (B) is incorrect. Each share will receive a \$3 dividend. Answer (C) is incorrect. The amount of \$70,000 is being retained for new investment.

Answer (D) is correct. (CMA, adapted)

**REQUIRED:** The effect of a drop in the market price of a firm's common stock.

**DISCUSSION:** Dividend yield equals dividends per common share divided by the market price per common share. Hence, a drop in the market price of the stock will increase this ratio, holding all else constant.

Answer (A) is incorrect. The return on equity is based on the book value in its calculation rather than the market price of the common stock. Answer (B) is incorrect. The dividend payout ratio is based on the book value in its calculation rather than the market price of the common stock. Answer (C) is incorrect. The market-to-book ratio is based on the book value in its calculation rather than the market price of the common stock.

Answer (A) is correct. (CMA, adapted)

**REQUIRED:** The dividend yield given the P-E ratio, payout ratio, and asset turnover ratio.

**DISCUSSION:** Dividend yield is computed by dividing the dividend per share by the market price per share. The payout ratio (.6) is computed by dividing dividends by net income per share (EPS). The P-E ratio (12) is computed by dividing the market price per share by net income per share. Thus, assuming that net income per share (EPS) is \$X, the market price must be \$12X and the dividends per share \$.6X (.6  $\times$  \$X net income per share). Consequently, the dividend yield is 5.0% ( $\$.6X$  dividend  $\div$  \$12X market price per share).

Answer (B) is incorrect. This percentage equals 12% times the payout ratio. Answer (C) is incorrect. This percentage equals asset turnover divided by the P-E ratio. Answer (D) is incorrect. This percentage equals 12% times the asset turnover ratio.

41. An increase in the market price of a company's common stock will immediately affect its

- A. Dividend yield.
- B. Debt-to-equity ratio.
- C. Earnings per share.
- D. Dividend payout ratio.

42. Schodack, Inc.'s common stock has a market price of \$25, a price-earnings ratio of 7.2, and a dividend yield of 5%. The earnings yield and dividend payout ratio, respectively, are closest to

	<u>Earnings Yield</u>	<u>Dividend Payout Ratio</u>
A.	9%	36%
B.	9%	64%
C.	14%	36%
D.	14%	64%

43. Douglas Company purchased 10,000 shares of its common stock at the beginning of the year for cash. This transaction will affect all of the following **except** the

- A. Debt to equity ratio.
- B. Earnings per share.
- C. Net profit margin.
- D. Current ratio.

44. Donovan Corporation recently declared and issued a 50% stock dividend. This transaction will reduce the company's

- A. Current ratio.
- B. Book value per common share.
- C. Debt to equity ratio.
- D. Return on operating assets.

Answer (A) is correct. (CMA, adapted)

**REQUIRED:** The effect on ratios of an increase in the market price of a company's stock.

**DISCUSSION:** The only common ratios that use market price as a part of the calculation are the price-earnings ratio and the dividend yield. The dividend yield is computed by dividing the annual dividend by the current market price. Thus, an increase in market price will decrease the dividend yield.

Answer (B) is incorrect. It is based on book value and is not influenced by market price. Answer (C) is incorrect. EPS equals income divided by the number of shares outstanding.

Answer (D) is incorrect. The dividend payout ratio equals the annual dividend divided by income.

Answer (C) is correct. (CMA, adapted)

**REQUIRED:** The earnings yield and dividend payout ratios.

**DISCUSSION:** Schodack's ratios can be calculated as follows:

$$\text{Price-earnings ratio} = 1 \div \text{Earnings yield}$$

$$\text{Earnings yield} = 1 \div \text{Price-earnings ratio}$$

$$= 1 \div 7.2$$

$$= 13.9\%$$

$$\text{Dividend yield} = \text{Dividends per share} \div \text{Market price per share}$$

$$\text{Dividends per share} = \text{Market price per share} \times \text{Dividend yield}$$

$$= \$25 \times 5\%$$

$$= \$1.25$$

$$\text{Earnings yield} = \text{Earnings per share} \div \text{Market price per share}$$

$$\text{Earnings per share} = \text{Market price per share} \times \text{Earnings yield}$$

$$= \$25 \times 0.13889$$

$$= \$3.472$$

$$\text{Dividend payout ratio} = \text{Dividends per share} \div \text{Earnings per share}$$

$$= \$1.25 \div \$3.472$$

$$= 36\%$$

Answer (A) is incorrect. The yield is almost 14% ( $1 \div 7.2$ ).

Answer (B) is incorrect. The payout ratio is only 36% ( $\$1.25 \div \$3.47$ ). Answer (D) is incorrect. The payout ratio is only 36% ( $\$1.25 \div \$3.47$ ).

Answer (C) is correct. (CMA, adapted)

**REQUIRED:** The measure unaffected by a cash purchase of common stock.

**DISCUSSION:** A firm's net profit margin is its net income divided by net sales. Both figures are derived from the income statement and are thus unaffected by a purchase of treasury stock.

Answer (A) is incorrect. A purchase of treasury stock changes a firm's capital structure and thus affects the debt to equity ratio. Answer (B) is incorrect. A purchase of treasury stock changes a firm's capital structure and thus affects earnings per share. Answer (D) is incorrect. A purchase of treasury stock requires the outlay of cash and thus affects the current ratio.

Answer (B) is correct. (CMA, adapted)

**REQUIRED:** The ratio reduced by the declaration and issue of a stock dividend.

**DISCUSSION:** A stock dividend capitalizes a portion of retained earnings, leaving the firm's book value unchanged. Since more shares are outstanding after the dividend is distributed, the denominator of the book value per common share ratio is higher, driving the overall ratio down.

Answer (A) is incorrect. Only equity accounts are affected by a stock dividend. Answer (C) is incorrect. A stock dividend merely involves moving an amount from one equity account to another, leaving the debt to equity ratio unchanged. Answer (D) is incorrect. Only equity accounts are affected by a stock dividend.

### 3.3 Ratios in General

45. If a company is profitable and is effectively using leverage, which one of the following ratios is likely to be the largest?

- A. Return on total assets.
- B. Return on operating assets.
- C. Return on common equity.
- D. Return on total equity.

46. The issuance of new shares in a five-for-one split of common stock

- A. Decreases the book value per share of common stock.
- B. Increases the book value per share of common stock.
- C. Increases total shareholders' equity.
- D. Decreases total shareholders' equity.

47. Marge Halifax, chief financial officer of Strickland Construction, has been tracking the activities of the company's nearest competitor for several years. Among other trends, Halifax has noticed that this competitor is able to take advantage of new technology and bring new products to market more quickly than Strickland. In order to determine the reason for this, Halifax has been reviewing the following data regarding the two companies:

	Strickland	Competitor
Accounts receivable turnover	6.85	7.35
Return on assets	15.34	14.74
Times interest earned	15.65	12.45
Current ratio	2.11	1.23
Debt/equity ratio	42.16	55.83
Degree of financial leverage	1.06	1.81
Price/earnings ratio	26.56	26.15

On the basis of this information, which one of the following is the **best** initial strategy for Halifax to follow in attempting to improve the flexibility of Strickland?

- A. Seek cost cutting measures that would increase Strickland's profitability.
- B. Investigate ways to improve asset efficiency and turnover times to improve liquidity.
- C. Seek additional sources of outside financing for new product introductions.
- D. Increase Strickland's investment in short-term securities to increase the current ratio.

Answer (C) is correct. (CMA, adapted)

**REQUIRED:** The ratio that is likely to be largest if a profitable company is effectively using leverage.

**DISCUSSION:** The purpose of leverage is to use creditor capital to earn income for shareholders. If the return on the resources provided by creditors or preferred shareholders exceeds the cost (interest or fixed dividends), leverage is used effectively, and the return to common equity will be higher than the other measures. The reason is that common equity provides a smaller proportion of the investment than in an unleveraged company.

Answer (A) is incorrect. Return on total assets will be lower than the return on common equity if the firm is profitable and using leverage effectively. Answer (B) is incorrect. Return on operating assets will be lower than the return on common equity if the firm is profitable and using leverage effectively. Answer (D) is incorrect. Return on total equity will be lower than the return on common equity if the firm is profitable and using leverage effectively.

Answer (A) is correct. (CMA, adapted)

**REQUIRED:** The effect of a five-for-one split of common stock.

**DISCUSSION:** Given that five times as many shares of stock are outstanding, the book value per share of common stock is one-fifth of the former value after the split.

Answer (B) is incorrect. The book value per share is decreased. Answer (C) is incorrect. The stock split does not change the amount of shareholders' equity. Answer (D) is incorrect. The stock split does not change the amount of shareholders' equity.

Answer (C) is correct. (CMA, adapted)

**REQUIRED:** The best initial strategy.

**DISCUSSION:** Strickland's times interest earned, debt/equity ratio, and degree of financial leverage all reveal that Strickland is less leveraged than its competitor. The two firms' price-earnings ratios are comparable, so Strickland should be able to raise new capital fairly easily, either debt or equity. Thus, Strickland should seek additional sources of outside financing for new product introductions.

Answer (A) is incorrect. Cutting costs makes it harder to take advantage of new opportunities or to innovate. Cost cutting is a last resort and Strickland's return on assets is already better than its competitor's. Answer (B) is incorrect. The receivables turnover is not much different than that of the competitor. Answer (D) is incorrect. Increasing investment in short-term securities would not change the current ratio.

48. The capacity of the firm's operations to produce cash inflows is

- A. Earnings quality.
- B. Earnings power.
- C. Solvency.
- D. Leverage.

49. A company issued long-term bonds and used the proceeds to repurchase 40% of the outstanding shares of its stock. This financial transaction will likely cause the

- A. Total assets turnover ratio to increase.
- B. Current ratio to decrease.
- C. Times-interest-earned ratio to decrease.
- D. Fixed charge coverage ratio to increase.

50. If a stock currently sells for \$40.00 and has annual earnings per share of \$3.00, the P-E ratio is

- A. 0.075
- B. 43
- C. 13.33
- D. 120

51. Grand Savings Bank has received loan applications from three companies in the plastics manufacturing business and currently has the funds to grant only one of these requests. Specific data shown below has been selected from these applications for review and comparison with industry averages.

	Springfield	Reston	Herndon	Industry
Total sales (millions)	\$4.27	\$3.91	\$4.86	\$4.30
Net profit margin	9.55%	9.85%	10.05%	9.65%
Current ratio	1.82	2.02	1.96	1.95
Return on assets	12.0%	12.6%	11.4%	12.4%
Debt/equity ratio	52.5%	44.6%	49.6%	48.3%
Financial leverage	1.30	1.02	1.56	1.33

Based on the information above, select the strategy that should be the **most** beneficial to Grand Savings.

- A. Grand should not grant any loans, as none of these companies represents a good credit risk.
- B. Grant the loan to Springfield, as all the company's data approximate the industry average.
- C. Grant the loan to Reston, as both the debt/equity ratio and degree of financial leverage are below the industry average.
- D. Grant the loan to Herndon, as the company has the highest net profit margin and degree of financial leverage.

Answer (B) is correct. (*Publisher, adapted*)

**REQUIRED:** The term for the capacity of a firm's operations to produce cash inflows.

**DISCUSSION:** Earnings power is the capacity of the firm's operations to produce cash inflows. A predictably stable pattern of earnings is the optimal source of funds for payment of long-term debt and other fixed charges.

Answer (A) is incorrect. Earnings quality is the precision of the "noise" term contained in earnings. It is the inverse of the variance in earnings. Answer (C) is incorrect. Solvency is a firm's long-term ability to meet its obligations. Answer (D) is incorrect. Leverage is the degree of debt used in financing a business.

Answer (C) is correct. (*CIA, adapted*)

**REQUIRED:** The effect of replacing equity with debt.

**DISCUSSION:** The times-interest-earned ratio equals income before interest and taxes divided by interest expense. If bonds replace some equity in the capital structure, interest expense will increase by the same amount in both the numerator and denominator, which has the effect of reducing a ratio in excess of 1.0. Moreover, income tax expense may decrease because interest is deductible.

Answer (A) is incorrect. The total assets turnover ratio is unaffected. Answer (B) is incorrect. The current ratio is unaffected. Answer (D) is incorrect. The fixed charge coverage ratio will decrease.

Answer (C) is correct. (*Publisher, adapted*)

**REQUIRED:** The price-earnings ratio.

**DISCUSSION:** The P-E ratio is computed by dividing the market price by EPS. Thus,  $\$40 \div \$3 = 13.33$ .

Answer (A) is incorrect. The numerator and denominator are reversed by 0.075. Answer (B) is incorrect. The two amounts are not added. Answer (D) is incorrect. The two amounts are not multiplied.

Answer (C) is correct. (*CMA, adapted*)

**REQUIRED:** The most beneficial strategy.

**DISCUSSION:** Grand's primary concern is the customer's ability to pay a loan back. Crucial in deciding the likelihood of payback is how much of the customer's capital structure is made up of debt currently, that is, before the loan is made. Reston's is well below the industry average (a few percentage points can mean the difference between a good credit risk and a poor one) and is the lowest of the three potential customers. Also, Reston is clearly the least leveraged of the three by far, as revealed by its low degree of financial leverage.

Answer (A) is incorrect. Reston is a good credit risk. Answer (B) is incorrect. Debt makes up more than half of Springfield's capital structure; "approximating industry averages" is meaningless when just a few percentage points can mean the difference between a good credit risk and a poor one. Answer (D) is incorrect. While a high profit margin may be indicative of the ability to pay back a loan, a high degree of financial leverage indicates the opposite, and Herndon's is well above the industry average.



52. When reviewing a credit application, the credit manager should be **most** concerned with the applicant's

- A. Profit margin and return on assets.
- B. Price-earnings ratio and current ratio.
- C. Working capital and return on equity.
- D. Working capital and current ratio.

### 3.4 Profitability Analysis

53. The following information pertains to Andrew Co. for the year ended December 31:

Sales	\$720,000
Net income	120,000
Average total assets	480,000

Which one of the following formulas depicts the use of the DuPont model to calculate Andrew's return on assets?

- A.  $(720,000 \div 480,000) \times (720,000 \div 120,000)$
- B.  $(480,000 \div 720,000) \times (720,000 \div 120,000)$
- C.  $(720,000 \div 480,000) \times (120,000 \div 720,000)$
- D.  $(480,000 \div 720,000) \times (120,000 \div 720,000)$

54. The Intelinet Corporation and Comp, Inc. have assets of \$100,000 each and a return on common equity of 17%. Intelinet has twice the debt of Comp while Comp has half the sales of Intelinet. If Intelinet has net income of \$10,000 and a total assets turnover ratio of 3.5, what is Comp Inc.'s profit margin?

- A. 3.31%
- B. 7.71%
- C. 10.00%
- D. 13.50%

Answer (D) is correct. (CMA, adapted)

**REQUIRED:** The measures of most use to a credit manager.

**DISCUSSION:** Liquidity is a firm's ability to pay its current obligations as they come due and thus remain in business in the short run. This is the area of most concern when considering granting credit to a customer.

Answer (A) is incorrect. Profit margin and return on assets are not the best indicators of liquidity, which is the area of most concern when considering granting credit to a customer.

Answer (B) is incorrect. The price-earnings ratio is not the best indicator of liquidity, which is the area of most concern when considering granting credit to a customer. Answer (C) is incorrect. Return on equity is not the best indicator of liquidity, which is the area of most concern when considering granting credit to a customer.

Answer (C) is correct. (Publisher, adapted)

**REQUIRED:** The formula used to compute ROI.

**DISCUSSION:** The DuPont model depicts return on assets as total asset turnover (sales divided by average total assets) times the profit margin (net income divided by sales). Therefore, Andrew's ROA calculation uses the formula  $[(\$720,000 \div \$480,000) \times (\$120,000 \div \$720,000)]$ .

Answer (B) is correct. (Publisher, adapted)

**REQUIRED:** The profit margin percentage for Comp.

**DISCUSSION:** Since Intelinet's ROCE, net income, assets, and debt (in terms of Comp's debt) are known, they can be plugged into the formula for return on common equity to determine Comp's debt level:

$$\begin{aligned} \text{ROCE} &= (\text{Net income} - \text{Preferred dividends}) \div \\ &\quad \text{Average common equity} \\ .17 &= (\$10,000 - \$0) \div (\$100,000 - 2D) \\ .17 \times (\$100,000 - 2D) &= \$10,000 \\ \$17,000 - .34D &= \$10,000 \\ .34D &= \$7,000 \\ D &= \$20,588 \end{aligned}$$

Now that Comp's debt is known, it can be substituted in the ROCE formula to find net income:

$$\begin{aligned} \text{ROCE} &= (\text{Net income} - \text{Preferred dividends}) \div \\ &\quad \text{Average common equity} \\ .17 &= (\text{NI} - \$0) \div (\$100,000 - \$20,588) \\ &= \text{NI} \div \$79,412 \\ \text{NI} &= \$13,500 \end{aligned}$$

Since Comp's sales are one-half those of Intelinet, they amount to \$175,000 ( $\$350,000 \div 2$ ). Therefore, Comp's profit margin percentage is  $\$13,500 \div \$175,000$ , or 7.71%.

Answer (A) is incorrect. This percentage is based on the wrong income. Answer (C) is incorrect. This percentage is the return on assets for Intelinet Corp. Answer (D) is incorrect. This percentage is the return on assets for Comp.

Question 55 is based on the following information. The information that follows pertains to Devlin Company.

Statement of Financial Position as of May 31 (in thousands)			Income Statement for the year ended May 31 (in thousands)		
	Year 2	Year 1		Year 2	Year 1
<b>Assets</b>			<b>Net sales</b>	\$480	\$460
Current assets			Costs and expenses		
Cash	\$ 45	\$ 38	Costs of goods sold	330	315
Trading securities	30	20	Selling, general, and administrative	52	51
Accounts receivable (net)	68	48	Interest expense	8	9
Inventory	90	80	Income before taxes	\$ 90	\$ 85
Prepaid expenses	22	30	Income taxes	36	34
Total current assets	\$255	\$216	Net income	\$ 54	\$ 51
Investments, at equity	38	30			
Property, plant, and equipment (net)	375	400			
Intangible assets (net)	80	45			
Total assets	\$748	\$691			
<b>Liabilities</b>					
Current liabilities					
Notes payable	\$ 35	\$ 18			
Accounts payable	70	42			
Accrued expenses	5	4			
Income taxes payable	15	16			
Total current liabilities	\$125	\$ 80			
Long-term debt	35	35			
Deferred taxes	3	2			
Total liabilities	\$163	\$117			
<b>Equity</b>					
Preferred stock, 6%, \$100 par value, cumulative	\$150	\$150			
Common stock, \$10 par value	225	195			
Additional paid-in capital -- common stock	114	100			
Retained earnings	96	129			
Total equity	\$585	\$574			
Total liabilities and equity	\$748	\$691			

55. Assuming there are no preferred stock dividends in arrears, Devlin Company's return on common equity for the year ended May 31, Year 2, was

- A. 6.3%
- B. 7.5%
- C. 7.8%
- D. 10.5%

Answer (D) is correct. (CMA, adapted)

**REQUIRED:** The return on common equity.

**DISCUSSION:** The return on common equity equals income available to common shareholders divided by average common equity. Income available to common shareholders is \$45 [\$54 net income - (\$150 par value of preferred stock × 6%)]. Average common equity is \$429.5 {[\$574 beginning total equity - \$150 beginning preferred stock] + [\$585 ending total equity - \$150 ending preferred stock] ÷ 2}. Thus, the return is 10.5% (\$45 ÷ \$429.5).

Answer (A) is incorrect. Average total assets are based on 6.3%. Answer (B) is incorrect. Net income divided by average total assets equals 7.5%. Answer (C) is incorrect. Net income divided by beginning total assets equals 7.8%.

56. If Company A has a higher rate of return on assets than Company B, the reason may be that Company A has a <List A> profit margin on sales, a <List B> asset-turnover ratio, or both.

- |    | List A | List B |
|----|--------|--------|
| A. | Higher | Higher |
| B. | Higher | Lower  |
| C. | Lower  | Higher |
| D. | Lower  | Lower  |

Answer (A) is correct. (CIA, adapted)

**REQUIRED:** The reason for a higher rate of return on assets.

**DISCUSSION:** The DuPont model treats the return on assets as the product of the profit margin and the asset turnover:

$$\text{Return on assets} = \text{Profit margin} \times \text{Asset turnover}$$

$$\frac{\text{Net income}}{\text{Assets}} = \frac{\text{Net income}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Assets}}$$

If one company has a higher return on assets than another, it may have a higher profit margin, a higher asset turnover, or both.

Question 57 is based on the following information. The Statement of Financial Position for King Products Corporation for the fiscal years ended June 30, Year 2, and June 30, Year 1, is presented below. Net sales and cost of goods sold for the year ended June 30, Year 2, were \$600,000 and \$440,000, respectively.

King Products Corporation  
Statement of Financial Position  
(in thousands)

	June 30	
	Year 2	Year 1
Cash	\$ 60	\$ 50
Marketable securities (at market)	40	30
Accounts receivable (net)	90	60
Inventories (at lower of cost or market)	120	100
Prepaid items	30	40
Total current assets	<u>\$ 340</u>	<u>\$280</u>
Land (at cost)	\$ 200	\$190
Building (net)	160	180
Equipment (net)	190	200
Patents (net)	70	34
Goodwill (net)	40	26
Total long-term assets	<u>\$ 660</u>	<u>\$630</u>
Total assets	<u><u>\$1,000</u></u>	<u><u>\$910</u></u>
Notes payable	\$ 46	\$ 24
Accounts payable	94	56
Accrued interest	30	30
Total current liabilities	<u>\$ 170</u>	<u>\$110</u>
Notes payable, 10% due 12/31/Year 7	\$ 20	\$ 20
Bonds payable, 12% due 6/30/Year 10	30	30
Total long-term debt	<u>\$ 50</u>	<u>\$ 50</u>
Total liabilities	<u>\$ 220</u>	<u>\$160</u>
Preferred stock -- 5% cumulative, \$100 par, nonparticipating, authorized, issued and outstanding, 2,000 shares	\$ 200	\$200
Common stock -- \$10 par, 40,000 shares authorized, 30,000 shares issued and outstanding	300	300
Additional paid-in capital -- common	150	150
Retained earnings	130	100
Total equity	<u>\$ 780</u>	<u>\$750</u>
Total liabilities & equity	<u><u>\$1,000</u></u>	<u><u>\$910</u></u>

57. Assuming that King Products Corporation's net income for the year ended June 30, Year 2, was \$70,000 and there are no preferred stock dividends in arrears, King Products Corporation's return on common equity was

- A. 7.8%
- B. 10.6%
- C. 10.9%
- D. 12.4%

Answer (B) is correct. (CMA, adapted)

**REQUIRED:** The return on common equity for Year 2.

**DISCUSSION:** The return on common equity equals income available to common shareholders divided by the average common equity. The preferred stock dividend requirement is \$10,000 (\$200,000 par value × 5%), so the income available to common shareholders is \$60,000 (\$70,000 NI – \$10,000). Given that preferred equity was \$200,000 at all relevant times, beginning and ending common equity was \$550,000 (\$750,000 total – \$200,000) and \$580,000 (\$780,000 total – \$200,000), an average of \$565,000 [(\$580,000 + \$550,000) ÷ 2]. The return on common equity was therefore 10.6% (\$60,000 ÷ \$565,000).

Answer (A) is incorrect. The percentage 7.8% includes preferred equity in the denominator. Answer (C) is incorrect. Using beginning-of-the-year equity results in 10.9%. Answer (D) is incorrect. Not subtracting the preferred dividend requirement from net income results in 12.4%.

Question 58 is based on the following information.

Lisa, Inc.  
Statement of Financial Position  
December 31, Year 2  
(in thousands)

	<u>Year 2</u>	<u>Year 1</u>
Assets		
Current assets		
Cash	\$ 30	\$ 25
Trading securities	20	15
Accounts receivable (net)	45	30
Inventories (at lower of cost or market)	60	50
Prepaid items	15	20
Total current assets	<u>170</u>	<u>140</u>
Long-term investments		
Securities (at cost)	25	20
Property, plant, & equipment		
Land (at cost)	75	75
Building (net)	80	90
Equipment (net)	95	100
Intangible assets		
Patents (net)	35	17
Goodwill (net)	20	13
Total long-term assets	<u>330</u>	<u>315</u>
Total assets	<u>\$500</u>	<u>\$455</u>
Liabilities & shareholders' equity		
Current liabilities		
Notes payable	\$ 23	\$ 12
Accounts payable	47	28
Accrued interest	15	15
Total current liabilities	<u>85</u>	<u>55</u>
Long-term debt		
Notes payable 10% due 12/31/Year 9	10	10
Bonds payable 12% due 12/31/Year 8	15	15
Total long-term debt	<u>25</u>	<u>25</u>
Total liabilities	<u>\$110</u>	<u>\$ 80</u>
Shareholders' equity		
Preferred - 5% cumulative, \$100 par, non-participating, 1,000 shares authorized, issued and outstanding	\$100	\$100
Common - \$10 par 20,000 shares authorized, 15,000 issued and outstanding shares	150	150
Additional paid-in capital - common	75	75
Retained earnings	65	50
Total shareholders' equity	<u>\$390</u>	<u>\$375</u>
Total liabilities & equity	<u>\$500</u>	<u>\$455</u>

58. Assuming that Lisa, Inc.'s net income for Year 2 was \$35,000, and there were no preferred stock dividends in arrears, Lisa's return on common equity for Year 2 was

- A. 7.8%
- B. 10.6%
- C. 10.9%
- D. 12.4%

Answer (B) is correct. (CMA, adapted)

**REQUIRED:** The return on common equity assuming no preferred stock dividends are in arrears.

**DISCUSSION:** The return on common equity equals income available to common shareholders divided by average common equity. The preferred stock dividend requirement is 5%, or \$5,000 (5% × \$100,000). Deducting the \$5,000 of preferred dividends from the \$35,000 of net income leaves \$30,000 for the common shareholders. The firm began the year with common equity of \$275,000 and ended with \$290,000. Thus, the average common equity during the year was \$282,500. The return on common equity was 10.6% (\$30,000 ÷ \$282,500).

Answer (A) is incorrect. Including the \$100,000 of preferred stock in the denominator results in 7.8%. Answer (C) is incorrect. The beginning shareholders' equity of \$275,000 is based on 10.9%. Answer (D) is incorrect. Total net income of \$35,000 is based on 12.4%.

Question 59 is based on the following information. A company reports the following account balances at year-end:

Account	Balance
Long-term debt	\$200,000
Cash	50,000
Net sales	600,000
Fixed assets (net)	320,000
Tax expense	67,500
Inventory	25,000
Common stock	100,000
Interest expense	20,000
Administrative expense	35,000
Retained earnings	150,000
Accounts payable	65,000
Accounts receivable	120,000
Cost of goods sold	400,000
Depreciation expense	10,000

Additional Information:

- The opening balance of common stock was \$100,000.
- The opening balance of retained earnings was \$82,500.
- The company had 10,000 common shares outstanding all year.
- No dividends were paid during the year.

59. For the year just ended, the company had a rate of return on common equity, rounded to two decimals, of

- A. 31.21%
- B. 58.06%
- C. 67.50%
- D. 71.68%

60. Interstate Motors has decided to make an additional investment in its operating assets that are financed by debt. Assuming all other factors remain constant, this increase in investment will have which one of the following effects?

	Operating Income Margin	Operating Asset Turnover	Return on Operating Assets
A.	Increase	No change	Increase
B.	No change	Decrease	Decrease
C.	No change	Increase	Decrease
D.	Decrease	Decrease	Decrease

Answer (A) is correct. (CIA, adapted)

**REQUIRED:** The rate of return on common equity for the year just ended.

**DISCUSSION:** The return on common equity equals income available to common shareholders divided by average common equity. Since the company has no preferred stock, income available to common shareholders is the same as net income (\$600,000 sales – \$400,000 cost of goods sold – \$35,000 administrative expenses – \$10,000 depreciation – \$20,000 interest expense – \$67,500 taxes = \$67,500). The opening balance of common equity was \$182,500 (\$100,000 common stock + \$82,500 retained earnings) and the closing balance was \$250,000 (\$182,500 opening balance + \$67,500 net income). Average common equity for the year was thus \$216,250  $[(\$182,500 + \$250,000) \div 2]$ . Return on common equity was 31.21%  $(\$67,500 \div \$216,250)$ .

Answer (B) is incorrect. This percentage excludes common stock from the denominator. Answer (C) is incorrect. This percentage excludes retained earnings from the denominator. Answer (D) is incorrect. This percentage excludes interest expense and tax expense from the numerator.

Answer (B) is correct. (CMA, adapted)

**REQUIRED:** The effects of debt financing on certain ratios.

**DISCUSSION:** If all else remains constant, an additional investment in operating assets will not change income but will affect the balance sheet. Asset turnover will decrease because you will be dividing an unchanged sales by an increased amount of fixed assets. Return on operating assets will decline because you will be dividing an unchanged income by greater assets.

Answer (A) is incorrect. Asset turnover will decrease.

Answer (C) is incorrect. Asset turnover will decrease.

Answer (D) is incorrect. Operating income will not change.