Section A: Financial Statement Analysis

1. **CSO: 2A1a   LOS: 2A1g**
   Gordon has had the following financial results for the last four years.

<table>
<thead>
<tr>
<th>Year</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>$1,250,000</td>
<td>$1,300,000</td>
<td>$1,359,000</td>
<td>$1,400,000</td>
</tr>
<tr>
<td>Cost of goods sold</td>
<td>750,000</td>
<td>785,000</td>
<td>825,000</td>
<td>850,000</td>
</tr>
<tr>
<td>Gross profit</td>
<td>500,000</td>
<td>515,000</td>
<td>534,000</td>
<td>550,000</td>
</tr>
<tr>
<td>Inflation factor</td>
<td>1.00</td>
<td>1.03</td>
<td>1.07</td>
<td>1.10</td>
</tr>
</tbody>
</table>

   Gordon has analyzed these results using vertical common-size analysis to determine trends. The performance of Gordon can best be characterized by which one of the following statements?

   a. The common-size gross profit percentage has decreased as a result of an increasing common-size trend in cost of goods sold.
   b. The common-size trend in sales is increasing and is resulting in an increasing trend in the common-size gross profit margin.
   c. The common-size trend in cost of goods sold is decreasing which is resulting in an increasing trend in the common-size gross profit margin.
   d. The increased trend in the common-size gross profit percentage is the result of both the increasing trend in sales and the decreasing trend in cost of goods sold.

2. **CSO: 2A1d   LOS: 2A1a**
   The financial statements included in the annual report to the shareholders are least useful to which one of the following?

   a. Stockbrokers.
   b. Bankers preparing to lend money.
   c. Competing businesses.
   d. Managers in charge of operating activities.

3. **CSO: 2A1d   LOS: 2A1f**
   Which one of the following would result in a decrease to cash flow in the indirect method of preparing a statement of cash flows?

   a. Amortization expense.
   b. Decrease in income taxes payable.
   c. Proceeds from the issuance of common stock.
   d. Decrease in inventories.
4. **CSO: 2A1d LOS: 2A1b**
The statement of shareholders’ equity shows a

a. reconciliation of the beginning and ending balances in shareholders’ equity accounts.
b. listing of all shareholders’ equity accounts and their corresponding dollar amounts.
c. computation of the number of shares outstanding used for earnings per share calculations.
d. reconciliation of the beginning and ending balances in the Retained Earnings account.

5. **CSO: 2A1d LOS: 2A1b**
When using the statement of cash flows to evaluate a company’s continuing solvency, the most important factor to consider is the cash

a. balance at the end of the period.
b. flows from (used for) operating activities.
c. flows from (used for) investing activities.
d. flows from (used for) financing activities.

A statement of financial position provides a basis for all of the following except

a. computing rates of return.
b. evaluating capital structure.
c. assessing liquidity and financial flexibility.
d. determining profitability and assessing past performance.

7. **CSO: 2A1d LOS: 2A1b**
The financial statement that provides a summary of the firm’s operations for a period of time is the

a. income statement.
b. statement of financial position.
c. statement of shareholders’ equity.
d. statement of retained earnings.

8. **CSO: 2A1d LOS: 2A1e**
Bertram Company had a balance of $100,000 in Retained Earnings at the beginning of the year and $125,000 at the end of the year. Net income for this time period was $40,000. Bertram’s Statement of Financial Position indicated that Dividends Payable had decreased by $5,000 throughout the year, despite the fact that both cash dividends and a
stock dividend were declared. The amount of the stock dividend was $8,000. When preparing its Statement of Cash Flows for the year, Bertram should show Cash Paid for Dividends as

a. $20,000.
b. $15,000.
c. $12,000.
d. $5,000.

All of the following are elements of an income statement except

a. expenses.
b. shareholders’ equity.
c. gains and losses.
d. revenue.

10.  \textit{CSO: 2A1d  LOS: 2A1c}
Dividends paid to company shareholders would be shown on the statement of cash flows as

a. operating cash inflows.
b. operating cash outflows.
c. cash flows from investing activities.
d. cash flows from financing activities.

11.  \textit{CSO: 2A1d  LOS: 2A1c}
All of the following are classifications on the Statement of Cash Flows except

a. operating activities.
b. equity activities.
c. investing activities.
d. financing activities.

12.  \textit{CSO: 2A1d  LOS: 2A1c}
The sale of available-for-sale securities should be accounted for on the statement of cash flows as a(n)

a. operating activity.
b. investing activity.
c. financing activity.
d. noncash investing and financing activity.
13. **CSO: 2A1d LOS: 2A1f**  
A statement of cash flows prepared using the indirect method would have cash activities listed in which one of the following orders?

a. Financing, investing, operating.  
b. Investing, financing, operating.  
c. Operating, financing, investing.  
d. Operating, investing, financing.

Kelli Company acquired land by assuming a mortgage for the full acquisition cost. This transaction should be disclosed on Kelli’s Statement of Cash Flows as a(n)

a. financing activity.  
b. investing activity.  
c. operating activity.  
d. noncash financing and investing activity.

15. **CSO: 2A1d LOS: 2A1c**  
Which one of the following should be classified as an operating activity on the statement of cash flows?

a. A decrease in accounts payable during the year.  
b. An increase in cash resulting from the issuance of previously authorized common stock.  
c. The purchase of additional equipment needed for current production.  
d. The payment of a cash dividend from money arising from current operations.

All of the following are limitations to the information provided on the statement of financial position except the

a. quality of the earnings reported for the enterprise.  
b. judgments and estimates used regarding the collectibility, salability, and longevity of assets.  
c. omission of items that are of financial value to the business such as the worth of the employees.  
d. lack of current valuation for most assets and liabilities.
17. **CSO: 2A1d   LOS: 2A1f**
The most commonly used method for calculating and reporting a company’s net cash flow from operating activities on its statement of cash flows is the

a. direct method.
b. indirect method.
c. single-step method.
d. multiple-step method.

18. **CSO: 2A1d   LOS: 2A1f**
The presentation of the major classes of operating cash receipts (such as receipts from customers) less the major classes of operating cash disbursements (such as cash paid for merchandise) is **best** described as the

a. direct method of calculating net cash provided or used by operating activities.
b. cash method of determining income in conformity with generally accepted accounting principles.
c. format of the statement of cash flows.
d. indirect method of calculating net cash provided or used by operating activities.

When a fixed asset is sold for less than book value, which one of the following will decrease?

a. Total current assets.
b. Current ratio.
c. Net profit.
d. Net working capital.

20. **CSO: 2A1d   LOS: 2A1e**
Stanford Company leased some special-purpose equipment from Vincent Inc. under a long-term lease that was treated as an operating lease by Stanford. After the financial statements for the year had been issued, it was discovered that the lease should have been treated as a capital lease by Stanford. All of the following measures relating to Stanford would be affected by this discovery **except** the

a. debt/equity ratio.
b. accounts receivable turnover.
c. fixed asset turnover.
d. net income percentage.
21. **CSO: 2A2a   LOS: 2A2a**  
Broomall Corporation has decided to include certain financial ratios in its year-end annual report to shareholders. Selected information relating to its most recent fiscal year is provided below.

- Cash $10,000
- Accounts receivable 20,000
- Prepaid expenses 8,000
- Inventory 30,000
- Available-for-sale securities
  - At cost 9,000
  - Fair value at year end 12,000
- Accounts payable 15,000
- Notes payable (due in 90 days) 25,000
- Bonds payable (due in 10 years) 35,000
- Net credit sales for year 220,000
- Cost of goods sold 140,000

Broomall’s working capital at year end is

a. $40,000.
b. $37,000.
c. $28,000.
d. $10,000.

22. **CSO: 2A2a   LOS: 2A2c**  
All of the following are affected when merchandise is purchased on credit except

a. total current assets.
b. net working capital.
c. total current liabilities.
d. current ratio.

23. **CSO: 2A2a   LOS: 2A2b**  
Birch Products Inc. has the following current assets.

<table>
<thead>
<tr>
<th>Asset</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>$ 250,000</td>
</tr>
<tr>
<td>Marketable securities</td>
<td>100,000</td>
</tr>
<tr>
<td>Accounts receivable</td>
<td>800,000</td>
</tr>
<tr>
<td>Inventories</td>
<td>1,450,000</td>
</tr>
<tr>
<td><strong>Total current assets</strong></td>
<td><strong>$2,600,000</strong></td>
</tr>
</tbody>
</table>
If Birch’s current liabilities are $1,300,000, the firm’s

a. current ratio will decrease if a payment of $100,000 cash is used to pay $100,000 of accounts payable.
b. current ratio will not change if a payment of $100,000 cash is used to pay $100,000 of accounts payable.
c. quick ratio will decrease if a payment of $100,000 cash is used to purchase inventory.
d. quick ratio will not change if a payment of $100,000 cash is used to purchase inventory.

24. **CSO: 2A2a    LOS: 2A2b**

Shown below are beginning and ending balances for certain of Grimaldi Inc.’s accounts.

<table>
<thead>
<tr>
<th>Account</th>
<th>January 1</th>
<th>December 31</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>$48,000</td>
<td>$62,000</td>
</tr>
<tr>
<td>Marketable securities</td>
<td>42,000</td>
<td>35,000</td>
</tr>
<tr>
<td>Accounts receivable</td>
<td>68,000</td>
<td>47,000</td>
</tr>
<tr>
<td>Inventory</td>
<td>125,000</td>
<td>138,000</td>
</tr>
<tr>
<td>Plant &amp; equipment</td>
<td>325,000</td>
<td>424,000</td>
</tr>
<tr>
<td>Accounts payable</td>
<td>32,000</td>
<td>84,000</td>
</tr>
<tr>
<td>Accrued liabilities</td>
<td>14,000</td>
<td>11,000</td>
</tr>
<tr>
<td>7% bonds payable</td>
<td>95,000</td>
<td>77,000</td>
</tr>
</tbody>
</table>

Grimaldi’s acid test ratio or quick ratio at the end of the year is

a. 0.83.
b. 1.02.
c. 1.15.
d. 1.52.

25. **CSO: 2A2a    LOS: 2A2c**

Davis Retail Inc. has total assets of $7,500,000 and a current ratio of 2.3 times before purchasing $750,000 of merchandise on credit for resale. After this purchase, the current ratio will

a. remain at 2.3 times.
b. be higher than 2.3 times.
c. be lower than 2.3 times.
d. be exactly 2.53 times.
26. **CSO: 2A2a LOS: 2A2c**  
Markowitz Company increased its allowance for uncollectable accounts. This adjustment will

a. increase the acid test ratio.  
b. increase working capital.  
c. reduce debt-to-asset ratio.  
d. reduce the current ratio.

27. **CSO: 2A2a LOS: 2A2a**  
Shown below are selected data from Fortune Company’s most recent financial statements.

<table>
<thead>
<tr>
<th>Account</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketable securities</td>
<td>$10,000</td>
</tr>
<tr>
<td>Accounts receivable</td>
<td>$60,000</td>
</tr>
<tr>
<td>Inventory</td>
<td>$25,000</td>
</tr>
<tr>
<td>Supplies</td>
<td>$5,000</td>
</tr>
<tr>
<td>Accounts payable</td>
<td>$40,000</td>
</tr>
<tr>
<td>Short-term debt payable</td>
<td>$10,000</td>
</tr>
<tr>
<td>Accruals</td>
<td>$5,000</td>
</tr>
</tbody>
</table>

What is Fortune’s net working capital?

a. $35,000.  
b. $45,000.  
c. $50,000.  
d. $80,000.

28. **CSO: 2A2a LOS: 2A2c**  
Garstka Auto Parts must increase its acid test ratio above the current 0.9 level in order to comply with the terms of a loan agreement. Which one of the following actions is most likely to produce the desired results?

a. Expediting collection of accounts receivable.  
b. Selling auto parts on account.  
c. Making a payment to trade accounts payable.  
d. Purchasing marketable securities for cash.

29. **CSO: 2A2a LOS: 2A2c**  
The owner of a chain of grocery stores has bought a large supply of mangoes and paid for the fruit with cash. This purchase will adversely impact which one of the following?

a. Working capital.  
b. Current ratio.  
c. Quick or acid test ratio.  
d. Price earnings ratio.
30.  **CSO: 2A2a   LOS: 2A2b**

Selected financial data for Boyd Corporation are shown below.

<table>
<thead>
<tr>
<th></th>
<th>January 1</th>
<th>December 31</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>$ 48,000</td>
<td>$ 62,000</td>
</tr>
<tr>
<td>Accounts receivable (net)</td>
<td>68,000</td>
<td>47,000</td>
</tr>
<tr>
<td>Trading securities</td>
<td>42,000</td>
<td>35,000</td>
</tr>
<tr>
<td>Inventory</td>
<td>125,000</td>
<td>138,000</td>
</tr>
<tr>
<td>Plant and equipment (net)</td>
<td>325,000</td>
<td>424,000</td>
</tr>
<tr>
<td>Accounts payable</td>
<td>32,000</td>
<td>84,000</td>
</tr>
<tr>
<td>Accrued liabilities</td>
<td>14,000</td>
<td>11,000</td>
</tr>
<tr>
<td>Deferred taxes</td>
<td>15,000</td>
<td>9,000</td>
</tr>
<tr>
<td>Long-term bonds payable</td>
<td>95,000</td>
<td>77,000</td>
</tr>
</tbody>
</table>

Boyd’s net income for the year was $96,000. Boyd’s current ratio at the end of the year is

a. 1.55.
b. 1.71.
c. 2.71.
d. 2.97.

31.  **CSO: 2A2a   LOS: 2A2a**

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.

32.  **CSO: 2A2a   LOS: 2A2c**

Both the current ratio and the quick ratio for Spartan Corporation have been slowly decreasing. For the past two years, the current ratio has been 2.3 to 1 and 2.0 to 1. During the same time period, the quick ratio has decreased from 1.2 to 1 to 1.0 to 1. The disparity between the current and quick ratios can be explained by which one of the following?

a. The current portion of long-term debt has been steadily increasing.
b. The cash balance is unusually low.
c. The accounts receivable balance has decreased.
d. The inventory balance is unusually high.
33. **CSO: 2A2a  LOS: 2A2a**
   The acid test ratio shows the ability of a company to pay its current liabilities without having to
   
   a. reduce its cash balance.
   b. borrow additional funds.
   c. collect its receivables.
   d. liquidate its inventory.

34. **CSO: 2A2a  LOS: 2A2b**
   All of the following are included when calculating the acid test ratio except
   
   a. six-month treasury bills.
   b. prepaid insurance.
   c. accounts receivable.
   d. 60-day certificates of deposit.

35. **CSO: 2A2a  LOS: 2A2b**
   Dedham Corporation has decided to include certain financial ratios in its year-end annual report to shareholders. Selected information relating to its most recent fiscal year is provided below.

   - Cash $10,000
   - Accounts receivable 20,000
   - Prepaid expenses 8,000
   - Inventory 30,000
   - Available-for-sale securities
     - At cost 9,000
     - Fair value at year end 12,000
   - Accounts payable 15,000
   - Notes payable (due in 90 days) 25,000
   - Bonds payable (due in 10 years) 35,000

   Dedham’s quick (acid-test) ratio at year end is
   
   a. 2.00 to 1.
   b. 1.925 to 1.
   c. 1.80 to 1.
   d. 1.05 to 1.
36. **CSO: 2A2a LOS: 2A2c**

If a company has a current ratio of 2.1 and pays off a portion of its accounts payable with cash, the current ratio will

a. decrease.
b. increase.
c. remain unchanged.
d. move closer to the quick ratio.

37. **CSO: 2A2b LOS: 2A2f**

The capital structure of four corporations is as follows.

<table>
<thead>
<tr>
<th>Corporation</th>
<th>Sterling</th>
<th>Cooper</th>
<th>Warwick</th>
<th>Pane</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short-term debt</td>
<td>10%</td>
<td>10%</td>
<td>15%</td>
<td>10%</td>
</tr>
<tr>
<td>Long-term debt</td>
<td>40%</td>
<td>35%</td>
<td>30%</td>
<td>30%</td>
</tr>
<tr>
<td>Preferred stock</td>
<td>30%</td>
<td>30%</td>
<td>30%</td>
<td>30%</td>
</tr>
<tr>
<td>Common equity</td>
<td>20%</td>
<td>25%</td>
<td>25%</td>
<td>30%</td>
</tr>
</tbody>
</table>

Which corporation is the most highly leveraged?

a. Sterling.
b. Cooper.
c. Warwick.
d. Pane.

38. **CSO: 2A2b LOS: 2A2g**

A summary of the Income Statement of Sahara Company is shown below.

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>$15,000,000</td>
</tr>
<tr>
<td>Cost of sales</td>
<td>9,000,000</td>
</tr>
<tr>
<td>Operating expenses</td>
<td>3,000,000</td>
</tr>
<tr>
<td>Interest expense</td>
<td>800,000</td>
</tr>
<tr>
<td>Taxes</td>
<td>880,000</td>
</tr>
<tr>
<td>Net income</td>
<td>$1,320,000</td>
</tr>
</tbody>
</table>

Based on the above information, Sahara’s degree of financial leverage is

a. 0.96.
b. 1.36.
c. 1.61.
d. 2.27.
39. **CSO: 2A2b LOS: 2A2g**
A degree of operating leverage of 3 at 5,000 units means that a

a. 3% change in earnings before interest and taxes will cause a 3% change in sales.
b. 3% change in sales will cause a 3% change in earnings before interest and taxes.
c. 1% change in sales will cause a 3% change in earnings before interest and taxes.
d. 1% change in earnings before interest and taxes will cause a 3% change in sales.

40. **CSO: 2A2b LOS: 2A2f**
Firms with high degrees of financial leverage would be best characterized as having

a. high debt-to-equity ratios.
b. zero coupon bonds in their capital structures.
c. low current ratios.
d. high fixed-charge coverage.

41. **CSO: 2A2b LOS: 2A2f**
The use of debt in the capital structure of a firm

a. increases its financial leverage.
b. increases its operating leverage.
c. decreases its financial leverage.
d. decreases its operating leverage.

42. **CSO: 2A2b LOS: 2A2h**
A financial analyst with Mineral Inc. calculated the company's degree of financial leverage as 1.5. If net income before interest increases by 5%, earnings to shareholders will increase by

a. 1.50%.
b. 3.33%.
c. 5.00%.
d. 7.50%.

43. **CSO: 2A2b LOS: 2A2h**
Which one of the following statements concerning the effects of leverage on earnings before interest and taxes (EBIT) and earnings per share (EPS) is correct?

a. For a firm using debt financing, a decrease in EBIT will result in a proportionally larger decrease in EPS.
b. A decrease in the financial leverage of a firm will increase the beta value of the firm.
c. If Firm A has a higher degree of operating leverage than Firm B, and Firm A offsets this by using less financial leverage, then both firms will have the same variability in EBIT.
d. Financial leverage affects both EPS and EBIT, while operating leverage only effects EBIT.
44. **CSO: 2A2b LOS: 2A2j**

The Liabilities and Shareholders’ Equity section of Mica Corporation’s Statement of Financial Position is shown below.

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

Mica’s debt/equity ratio is

a. 25.1%.

b. 25.6%.

c. 32.2%.

d. 33.9%.

45. **CSO: 2A2b LOS: 2A2z**

Borglum Corporation is considering the acquisition of one of its parts suppliers and has been reviewing the pertinent financial statements. Specific data, shown below, has been selected from these statements for review and comparison with industry averages.

<table>
<thead>
<tr>
<th></th>
<th>Bond</th>
<th>Rockland</th>
<th>Western</th>
<th>Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total sales (millions)</td>
<td>$4.27</td>
<td>$3.91</td>
<td>$4.86</td>
<td>$4.30</td>
</tr>
<tr>
<td>Net profit margin</td>
<td>9.55%</td>
<td>9.85%</td>
<td>10.05%</td>
<td>9.65%</td>
</tr>
<tr>
<td>Current ratio</td>
<td>1.32</td>
<td>2.02</td>
<td>1.96</td>
<td>1.95</td>
</tr>
<tr>
<td>Return on assets</td>
<td>11.0%</td>
<td>12.6%</td>
<td>11.4%</td>
<td>12.4%</td>
</tr>
<tr>
<td>Debt/equity ratio</td>
<td>62.5%</td>
<td>44.6%</td>
<td>49.6%</td>
<td>48.3%</td>
</tr>
<tr>
<td>Financial leverage</td>
<td>1.40</td>
<td>1.02</td>
<td>1.86</td>
<td>1.33</td>
</tr>
</tbody>
</table>

Borglum’s objective for this acquisition is assuring a steady source of supply from a stable company. Based on the information above, select the strategy that would fulfill Borglum’s objective.

a. Borglum should not acquire any of these firms as none of them represents a good risk.

b. Acquire Bond as both the debt/equity ratio and degree of financial leverage exceed the industry average.

c. Acquire Rockland as both the debt/equity ratio and degree of financial leverage are below the industry average.

d. Acquire Western as the company has the highest net profit margin and degree of financial leverage.
46. CSO: 2A2b LOS: 2A2j
Which one of the following is the best indicator of long-term debt paying ability?

a. Working capital turnover.
b. Asset turnover.
c. Current ratio.
d. Debt-to-total assets ratio.

47. CSO: 2A2b LOS: 2A2z
Easton Bank has received loan applications from three companies in the computer service business and will grant a loan to the company with the best prospect of fulfilling the loan obligations. Specific data, shown below, has been selected from these applications for review and comparison with industry averages.

<table>
<thead>
<tr>
<th>Company</th>
<th>Total sales (millions)</th>
<th>Net profit margin</th>
<th>Current ratio</th>
<th>Return on assets</th>
<th>Debt/equity ratio</th>
<th>Financial leverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>CompGo</td>
<td>$4.27</td>
<td>9.55%</td>
<td>1.82</td>
<td>12.0%</td>
<td>52.5%</td>
<td>1.30</td>
</tr>
<tr>
<td>Astor</td>
<td>$3.91</td>
<td>9.85%</td>
<td>2.02</td>
<td>12.6%</td>
<td>44.6%</td>
<td>1.02</td>
</tr>
<tr>
<td>SysGen</td>
<td>$4.86</td>
<td>10.05%</td>
<td>1.96</td>
<td>11.4%</td>
<td>49.6%</td>
<td>1.56</td>
</tr>
<tr>
<td>Industry</td>
<td>$4.30</td>
<td>9.65%</td>
<td>1.95</td>
<td>12.4%</td>
<td>48.3%</td>
<td>1.33</td>
</tr>
</tbody>
</table>

Based on the information above, select the strategy that would fulfill Easton’s objective.

a. Easton should not grant any loans as none of these companies represents a good credit risk.
b. Grant the loan to CompGo as all the company’s data approximate the industry average.
c. Grant the loan to Astor as both the debt/equity ratio and degree of financial leverage are below the industry average.
d. Grant the loan to SysGen as the company has the highest net profit margin and degree of financial leverage.

48. CSO: 2A2b LOS: 2A2j
The following information has been derived from the financial statements of Boutwell Company.

- Current assets: $640,000
- Total assets: 990,000
- Long-term liabilities: 130,000
- Current ratio: 3.2 Times
The company’s debt-to-equity ratio is

a. 0.50 to 1.
b. 0.37 to 1.
c. 0.33 to 1.
d. 0.13 to 1.

49. **CSO: 2A2b  LOS: 2A2k**
The interest expense for a company is equal to its earnings before interest and taxes (EBIT). The company's tax rate is 40%. The company's times-interest earned ratio is equal to

a. 2.0.
b. 1.0.
c. 0.6.
d. 1.2.

50. **CSO: 2A2b  LOS: 2A2z**
Marble Savings Bank has received loan applications from three companies in the auto parts 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.

<table>
<thead>
<tr>
<th>Total sales (millions)</th>
<th>Bailey</th>
<th>Nutron</th>
<th>Sonex</th>
<th>Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.27</td>
<td>$4.27</td>
<td>$3.91</td>
<td>$4.86</td>
<td>$4.30</td>
</tr>
<tr>
<td>Net profit margin</td>
<td>9.55%</td>
<td>9.85%</td>
<td>10.05%</td>
<td>9.65%</td>
</tr>
<tr>
<td>Current ratio</td>
<td>1.82</td>
<td>2.02</td>
<td>1.96</td>
<td>1.95</td>
</tr>
<tr>
<td>Return on assets</td>
<td>12.0%</td>
<td>12.6%</td>
<td>11.4%</td>
<td>12.4%</td>
</tr>
<tr>
<td>Debt/equity ratio</td>
<td>52.5%</td>
<td>44.6%</td>
<td>49.6%</td>
<td>48.3%</td>
</tr>
<tr>
<td>Financial leverage</td>
<td>1.30</td>
<td>1.02</td>
<td>1.56</td>
<td>1.33</td>
</tr>
</tbody>
</table>

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

a. Marble Savings Bank should not grant any loans as none of these companies represents a good credit risk.
b. Grant the loan to Bailey as all the company’s data approximate the industry average.
c. Grant the loan to Nutron as both the debt/equity ratio and degree of financial leverage are below the industry average.
d. Grant the loan to Sonex as the company has the highest net profit margin and degree of financial leverage.
51. **CSO: 2A2b LOS: 2A2z**

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.

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

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.

52. **CSO: 2A2c LOS: 2A2m**

Lowell Corporation has decided to include certain financial ratios in its year-end annual report to shareholders. Selected information relating to its most recent fiscal year is provided below.

- Cash $ 10,000
- Accounts receivable (end of year) 20,000
- Accounts receivable (beginning of year) 24,000
- Inventory (end of year) 30,000
- Inventory (beginning of year) 26,000
- Notes payable (due in 90 days) 25,000
- Bonds payable (due in 10 years) 35,000
- Net credit sales for year 220,000
- Cost of goods sold 140,000
Using a 365-day year, compute Lowell’s accounts receivable turnover in days.

a. 26.1 days.
b. 33.2 days.
c. 36.5 days.
d. 39.8 days.

53.  

CSO: 2A2c  LOS: 2A2m

Maydale Inc.’s financial statements show the following information.

| Accounts receivable, end of Year 1 | $ 320,000 |
| Credit sales for Year 2 | 3,600,000 |
| Accounts receivable, end of Year 2 | 400,000 |

Maydale’s accounts receivable turnover ratio is

a. 0.10.
b. 9.00.
c. 10.00.
d. 11.25.

54.  

CSO: 2A2c  LOS: 2A2m

Zubin Corporation experiences a decrease in sales and the cost of good sold, an increase in accounts receivable, and no change in inventory. If all else is held constant, what is the total effect of these changes on the receivables turnover and inventory ratios?

| Inventory | Receivables |
| Turnover | Turnover |
| a. Increased; | Increased. |
| b. Increased; | Decreased. |
| c. Decreased; | Increased. |
| d. Decreased; | Decreased. |

55.  

CSO: 2A2c  LOS: 2A2m

Peggy Monahan, controller, has gathered the following information regarding Lampasso Company.

<table>
<thead>
<tr>
<th></th>
<th>Beginning of the year</th>
<th>End of the year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inventory</td>
<td>$6,400</td>
<td>$7,600</td>
</tr>
<tr>
<td>Accounts receivable</td>
<td>2,140</td>
<td>3,060</td>
</tr>
<tr>
<td>Accounts payable</td>
<td>3,320</td>
<td>3,680</td>
</tr>
</tbody>
</table>

Total sales for the year were $85,900, of which $62,400 were credit sales. The cost of goods sold was $24,500.
Lampasso’s inventory turnover ratio for the year was

a. 3.2 times.
b. 3.5 times.
c. 8.2 times.
d. 8.9 times.

56.  

Garland Corporation’s Income Statement for the year just ended is shown below.

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>$900,000</td>
</tr>
<tr>
<td>Cost of goods sold</td>
<td></td>
</tr>
<tr>
<td>Inventory - beginning</td>
<td>$125,000</td>
</tr>
<tr>
<td>Purchases</td>
<td>$540,000</td>
</tr>
<tr>
<td>Goods available for sale</td>
<td>$665,000</td>
</tr>
<tr>
<td>Inventory - ending</td>
<td>$138,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$527,000</strong></td>
</tr>
<tr>
<td><strong>Gross profit</strong></td>
<td><strong>$373,000</strong></td>
</tr>
<tr>
<td><strong>Operating expenses</strong></td>
<td><strong>$175,000</strong></td>
</tr>
<tr>
<td><strong>Income from operations</strong></td>
<td><strong>$198,000</strong></td>
</tr>
</tbody>
</table>

Garland’s average inventory turnover ratio is

a. 6.84.
b. 6.52.
c. 4.01.
d. 3.82.

57.  

Makay Corporation has decided to include certain financial ratios in its year-end annual report to shareholders. Selected information relating to its most recent fiscal year is provided below.

- Cash $10,000
- Accounts receivable (end of year) 20,000
- Accounts receivable (beginning of year) 24,000
- Inventory (end of year) 30,000
- Inventory (beginning of year) 26,000
- Notes payable (due in 90 days) 25,000
- Bonds payable (due in 10 years) 35,000
- Net credit sales for year 220,000
- Cost of goods sold 140,000
Makay’s average inventory turnover for the year was

a. 4.7 times.
b. 5.0 times.
c. 5.4 times.
d. 7.9 times.

58.  
CSO: 2A2c  LOS: 2A2m
Globetrade is a retailer that buys virtually all of its merchandise from manufacturers in a country experiencing significant inflation. Globetrade is considering changing its method of inventory costing from first-in, first-out (FIFO) to last-in, first-out (LIFO). What effect would the change from FIFO to LIFO have on Globetrade’s current ratio and inventory turnover ratio?

a. Both the current ratio and the inventory turnover ratio would increase.
b. The current ratio would increase but the inventory turnover ratio would decrease.
c. The current ratio would decrease but the inventory turnover ratio would increase.
d. Both the current ratio and the inventory turnover ratio would decrease.

59.  
CSO: 2A2c  LOS: 2A2m
Lancaster Inc. had net accounts receivable of $168,000 and $147,000 at the beginning and end of the year, respectively. The company’s net income for the year was $204,000 on $1,700,000 in total sales. Cash sales were 6% of total sales. Lancaster’s average accounts receivable turnover ratio for the year is

a. 9.51.
b. 10.15.
c. 10.79.
d. 10.87.

60.  
CSO: 2A2c  LOS: 2A2n
Cornwall Corporation’s net accounts receivable were $68,000 and $47,000 at the beginning and end of the year, respectively. Cornwall’s condensed Income Statement is shown below.

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>$900,000</td>
</tr>
<tr>
<td>Cost of goods sold</td>
<td>527,000</td>
</tr>
<tr>
<td>Operating expenses</td>
<td>175,000</td>
</tr>
<tr>
<td>Operating income</td>
<td>198,000</td>
</tr>
<tr>
<td>Income tax</td>
<td>79,000</td>
</tr>
<tr>
<td>Net income</td>
<td>$119,000</td>
</tr>
</tbody>
</table>
Cornwall’s average number of days’ sales in accounts receivable (using a 360-day year) is

a. 8 days.
b. 13 days.
c. 19 days.
d. 23 days.

61.  **CSO: 2A2c   LOS: 2A2n**  
The following financial information is given for Anjuli Corporation (in millions of dollars).

<table>
<thead>
<tr>
<th></th>
<th>Prior Year</th>
<th>Current Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>$10</td>
<td>$11</td>
</tr>
<tr>
<td>Cost of good sold</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Current Assets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Accounts receivable</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Inventory</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Between the prior year and the current year, did the days sales in inventory and days sales in receivables for Anjuli increase or decrease? Assume a 365-day year.

- a. Increased; Increased.
- b. Increased; Decreased.
- c. Decreased; Increased.
- d. Decreased; Decreased.

62.  **CSO: 2A2c   LOS: 2A2p**
On its year-end financial statements, Caper Corporation showed sales of $3,000,000, net fixed assets of $1,300,000, and total assets of $2,000,000. The company’s fixed asset turnover is

- a. 1.5 times.
- b. 43.3%.
- c. 2.3 times.
- d. 65%.
63.  **CSO: 2A2c   LOS: 2A2m**  
The following information was obtained from a company’s financial statements.

<table>
<thead>
<tr>
<th></th>
<th>Beginning of the year</th>
<th>End of the year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inventory</td>
<td>$6,400</td>
<td>$7,600</td>
</tr>
<tr>
<td>Accounts receivable</td>
<td>2,140</td>
<td>3,060</td>
</tr>
<tr>
<td>Accounts payable</td>
<td>3,320</td>
<td>3,680</td>
</tr>
</tbody>
</table>

Total sales for the year were $85,900, of which $62,400 were credit sales. The cost of goods sold was $24,500. The company’s payable turnover was

a. 6.7 times.  
b. 7.0 times.  
c. 16.9 times.  
d. 17.8 times.

64.  **CSO: 2A2d   LOS: 2A2q**  
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.

65.  **CSO: 2A2d   LOS: 2A2r**  
For the year just ended, Beechwood Corporation had income from operations of $198,000 and net income of $96,000. Additional financial information is given below.

<table>
<thead>
<tr>
<th></th>
<th>January 1</th>
<th>December 31</th>
</tr>
</thead>
<tbody>
<tr>
<td>7% bonds payable</td>
<td>$95,000</td>
<td>$77,000</td>
</tr>
<tr>
<td>Common stock (10 par value)</td>
<td>300,000</td>
<td>300,000</td>
</tr>
<tr>
<td>Reserve for bond retirement</td>
<td>12,000</td>
<td>28,000</td>
</tr>
<tr>
<td>Retained earnings</td>
<td>155,000</td>
<td>206,000</td>
</tr>
</tbody>
</table>

Beechwood has no other equity issues outstanding. Beechwood’s return on shareholders’ equity for the year just ended is

a. 19.2%.  
b. 19.9%.  
c. 32.0%.  
d. 39.5%.
66. CSO: 2A2d LOS: 2A2r
The assets of Moreland Corporation are presented below.

<table>
<thead>
<tr>
<th></th>
<th>January 1</th>
<th>December 31</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>$48,000</td>
<td>$62,000</td>
</tr>
<tr>
<td>Marketable securities</td>
<td>42,000</td>
<td>35,000</td>
</tr>
<tr>
<td>Accounts receivable</td>
<td>68,000</td>
<td>47,000</td>
</tr>
<tr>
<td>Inventory</td>
<td>125,000</td>
<td>138,000</td>
</tr>
<tr>
<td>Plant &amp; equipment</td>
<td>325,000</td>
<td>424,000</td>
</tr>
<tr>
<td>(net of accumulated depreciation)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For the year just ended, Moreland had net income of $96,000 on $900,000 of sales. Moreland’s total asset turnover ratio is

a. 1.27.
b. 1.37.
c. 1.48.
d. 1.50.

67. CSO: 2A2d LOS: 2A2r
Interstate Motors has decided to make an additional investment in its operating assets which are financed by debt. Assuming all other factors remain constant, this increase in investment will have which one of the following effects?

<table>
<thead>
<tr>
<th>Operating Income Margin</th>
<th>Operating Asset Turnover</th>
<th>Return on Operating Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Increase</td>
<td>No change</td>
<td>Increase</td>
</tr>
<tr>
<td>b. No change</td>
<td>Decrease</td>
<td>Decrease</td>
</tr>
<tr>
<td>c. No change</td>
<td>Increase</td>
<td>Decrease</td>
</tr>
<tr>
<td>d. Decrease</td>
<td>Decrease</td>
<td>Decrease</td>
</tr>
</tbody>
</table>

68. CSO: 2A2d LOS: 2A2r
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?

<table>
<thead>
<tr>
<th>Inventory Turnover</th>
<th>Use of Equity Financing</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Increase;</td>
<td>Increase</td>
</tr>
<tr>
<td>b. Increase;</td>
<td>Decrease</td>
</tr>
<tr>
<td>c. Decrease;</td>
<td>Increase</td>
</tr>
<tr>
<td>d. Decrease;</td>
<td>Decrease</td>
</tr>
</tbody>
</table>
69. **CSO: 2A2e LOS: 2A2t**

At the end of its fiscal year on December 31, 2000, Merit Watches had total shareholders' equity of $24,209,306. Of this total, $3,554,405 was preferred equity. During the 2001 fiscal year, Merit's net income after tax was $2,861,003. During 2001, Merit paid preferred share dividends of $223,551 and common share dividends of $412,917. At December 31, 2001, Merit had 12,195,799 common shares outstanding and the company did not sell any common shares during the year. What was Merit Watch's book value per share on December 31, 2001?

a. $1.88.
b. $2.17.
c. $1.91.
d. $2.20.

70. **CSO: 2A2e LOS: 2A2t**

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.

71. **CSO: 2A2e LOS: 2A2s**

The following information concerning Arnold Company’s common stock was included in the company’s financial reports for the last two years.

<table>
<thead>
<tr>
<th></th>
<th>Year 2</th>
<th>Year 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market price per share on December 31</td>
<td>$60</td>
<td>$50</td>
</tr>
<tr>
<td>Par value per share</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Earnings per share</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Dividends per share</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Book value per share on December 31</td>
<td>36</td>
<td>34</td>
</tr>
</tbody>
</table>

Based on the price-earnings information, investors would **most likely** consider Arnold’s common stock to

a. be overvalued at the end of Year 2.
b. indicate inferior investment decisions by management in Year 2.
c. show a positive trend in growth opportunities in Year 2 compared to Year 1.
d. show a decline in growth opportunities in Year 2 compared to Year 1.
72. **CSO: 2A2e  LOS: 2A2w**
Bull & Bear Investment Banking is working with the management of Clark Inc. in order to take the company public in an initial public offering. Selected financial information for Clark is as follows.

- Long-term debt (8% interest rate) $10,000,000
- Common equity: Par value ($1 per share) 3,000,000
  - Additional paid-in-capital 24,000,000
  - Retained earnings 6,000,000
- Total assets 55,000,000
- Net income 3,750,000
- Dividend (annual) 1,500,000

If public companies in Clark’s industry are trading at twelve times earnings, what is the estimated value per share of Clark?

a. $9.00.
b. $12.00.
c. $15.00.
d. $24.00.

73. **CSO: 2A2e  LOS: 2A2s**
Morton Starley Investment Banking is working with the management of Kell Inc. in order to take the company public in an initial public offering. Selected information for the year just ended for Kell is as follows.

- Long-term debt (8% interest rate) $10,000,000
- Common equity: Par value ($1 per share) 3,000,000
  - Additional paid-in-capital 24,000,000
  - Retained earnings 6,000,000
- Total assets 55,000,000
- Net income 3,750,000
- Dividend (annual) 1,500,000

If public companies in Kell’s industry are trading at a market to book ratio of 1.5, what is the estimated value per share of Kell?

a. $13.50.
b. $16.50.
c. $21.50.
d. $27.50.
74.  *CSO: 2A2e  LOS: 2A2v*

At the beginning of the year, Lewis Corporation had 100,000 shares of common stock outstanding. During the year, the following transactions occurred.

<table>
<thead>
<tr>
<th>Date</th>
<th>Transaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 1</td>
<td>Issued 10,000 shares in exchange for land</td>
</tr>
<tr>
<td>July 1</td>
<td>Declared and distributed a 10% stock dividend</td>
</tr>
<tr>
<td>October 1</td>
<td>Purchased 5,000 shares of treasury stock</td>
</tr>
</tbody>
</table>

The number of shares that Lewis should use when computing earnings per share at the end of the year is

a.  117,000.
b.  116,000.
c.  111,750.
d.  106,250.

75.  *CSO: 2A2e  LOS: 2A2v*

Selected financial data for ABC Company is presented below.

- For the year just ended ABC has net income of $5,300,000.
- $5,500,000 of 7% convertible bonds were issued in the prior year at a face value of $1,000. Each bond is convertible into 50 shares of common stock. No bonds were converted during the current year.
- 50,000 shares of 10% cumulative preferred stock, par value $100, were issued in the prior year. Preferred dividends were not declared in the current year, but were current at the end of the prior year.
- At the beginning of the current year 1,060,000 shares of common stock were outstanding.
- On June 1 of the current year 60,000 shares of common stock were issued and sold.
- ABC's average income tax rate is 40%.

ABC Company's basic earnings per share for the current fiscal year is

a.  $3.67.
b.  $4.29.
c.  $4.38.
d.  $4.73.
76. **CSO: 2A2e LOS: 2A2s**
Devlin Inc. has 250,000 shares of $10 par value common stock outstanding. For the current year, Devlin paid a cash dividend of $3.50 per share and had earnings per share of $4.80. The market price of Devlin’s stock is $34 per share. Devlin’s price/earnings ratio is

a. 2.08.
b. 2.85.
c. 7.08.
d. 9.71.

77. **CSO: 2A2e LOS: 2A2s**
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.

78. **CSO: 2A2e LOS: 2A2s**
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%.

79. **CSO: 2A2e LOS: 2A2s**
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.
80. Collins Company reported net income of $350,000 for the year. The company had 10,000 shares of $100 par value, non-cumulative, 6% preferred stock and 100,000 shares of $10 par value common stock outstanding. There were also 5,000 shares of common stock in treasury during the year. Collins declared and paid all preferred dividends as well as a $1 per share dividend on common stock. Collins’ earnings per share of common stock for the year was

a. $3.50.
b. $3.33.
c. $2.90.
d. $2.76.

81. Ray Company has 530,000 common shares outstanding at year-end. At December 31, for basic earnings per share purposes, Ray computed its weighted average number of shares as 500,000. Prior to issuing its annual financial statements, but after year-end, Ray split its stock 2 for 1. Ray's weighted average number of shares to be used for computing annual basic earnings per share is

a. 500,000.
b. 530,000.
c. 1,000,000.
d. 1,060,000.

82. On January 1, Esther Pharmaceuticals had a balance of 10,000 shares of common stock outstanding. On June 1, the company issued an additional 2,000 shares of common stock for cash. A total of 5,000 shares of 6%, $100 par, nonconvertible preferred stock was outstanding all year. Esther’s net income was $120,000 for the year. The earnings per share for the year were

a. $7.50.
b. $8.06.
c. $10.00.
d. $10.75.

83. Roy company had 120,000 common shares and 100,000 preferred shares outstanding at the close of the prior year. During the current year Roy repurchased 12,000 common shares on March 1, sold 30,000 common shares on June 1, and sold an additional 60,000 common shares on November 1. No change in preferred shares outstanding occurred during the year. The number of shares of stock outstanding to be used in the calculation of basic earnings per share at the end of the current year is
84.  **CSO: 2A2e   LOS: 2A2w**  
Selected information regarding Dyle Corporation’s outstanding equity is shown below.

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common stock, $10 par value,</td>
<td>$3,500,000</td>
</tr>
<tr>
<td>350,000 shares outstanding</td>
<td></td>
</tr>
<tr>
<td>Preferred stock, $100 par value,</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>10,000 shares outstanding</td>
<td></td>
</tr>
<tr>
<td>Preferred stock dividend paid</td>
<td>60,000</td>
</tr>
<tr>
<td>Common stock dividend paid</td>
<td>700,000</td>
</tr>
<tr>
<td>Earnings per common share</td>
<td>3</td>
</tr>
<tr>
<td>Market price per common share</td>
<td>18</td>
</tr>
</tbody>
</table>

Dyle’s yield on common stock is

a.  11.11%.
b.  16.66%.
c.  16.88%.
d.  20.00%.

85.  **CSO: 2A2e   LOS: 2A2w**  
For the most recent fiscal period, Oakland Inc. paid a regular quarterly dividend of $0.20 per share and had earnings of $3.20 per share. The market price of Oakland stock at the end of the period was $40.00 per share. Oakland’s dividend yield was

a.  0.50%.
b.  1.00%.
c.  2.00%.
d.  6.25%.

86.  **CSO: 2A2e   LOS: 2A2w**  
The dividend yield ratio is calculated by which one of the following methods?

a.  Market price per share divided by dividends per share.
b.  Earnings per share divided by dividends per share.
c.  Dividends per share divided by market price per share.
d.  Dividends per share divided by earnings per share.
87.  **CSO: 2A2e LOS: 2A2w**
Mayson Company reported net income of $350,000 for last year. The company had 100,000 shares of $10 par value common stock outstanding and 5,000 shares of common stock in treasury during the year. Mayson declared and paid $1 per share dividends on common stock. The market price per common share at the end of last year was $30. The company’s dividend yield for the year was

a. 30.03%.
b. 28.57%.
c. 11.11%.
d. 3.33%.

88.  **CSO: 2A2e LOS: 2A2w**
The following information concerning Arnold Company’s common stock was included in the company’s financial reports for the last two years.

<table>
<thead>
<tr>
<th></th>
<th>Year 2</th>
<th>Year 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market price per share on December 31</td>
<td>$60</td>
<td>$50</td>
</tr>
<tr>
<td>Par value per share</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Earnings per share</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Dividends per share</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Book value per share on December 31</td>
<td>36</td>
<td>34</td>
</tr>
</tbody>
</table>

Arnold’s dividend yield in Year 2

a. has increased compared to Year 1.
b. is indicative of the company’s failure to provide a positive return to the investors.
c. is the same as Year 1.
d. has declined compared to Year 1.

89.  **CSO: 2A4a LOS: 2A4a.2**
A firm’s functional currency should be

a. selected on the basis of several economic factors including cash flow, sales price, and financing indicators.
b. the currency of the foreign environment in which the firm primarily generates and expends cash.
c. selected on the basis of cost-benefit analysis and ease of preparing consolidated financial statements.
d. the currency of the parent organization as the firm operates as an extension of the parent’s operations.
90. **CSO: 2A4a  LOS: 2A4a.2**
The functional currency of an entity is defined as the currency

a. of the entity’s parent company.
b. of the primary country in which the entity is physically located.
c. in which the books of record are maintained for all entity operations.
d. of the primary economic environment in which the entity operates.

91. **CSO: 2A4c  LOS: 2A4c.1**
If a company uses off-balance-sheet financing, assets have been acquired

a. for cash.
b. with operating leases.
c. with financing leases.
d. with a line of credit.

92. **CSO: 2A4d  LOS: 2A4d**
Larry Mitchell, Bailey Company’s controller, is gathering data for the Statement of Cash Flows for the most recent year end. Mitchell is planning to use the direct method to prepare this statement, and has made the following list of cash inflows for the period.

- Collections of $100,000 for goods sold to customers.
- Securities purchased for investment purposes with an original cost of $100,000 sold for $125,000.
- Proceeds from the issuance of additional company stock totaling $10,000.

The correct amount to be shown as cash inflows from operating activities is

a. $100,000.
b. $135,000.
c. $225,000.
d. $235,000.

93. **CSO: 2A4d  LOS: 2A4d**
During the year, Deltech Inc. acquired a long-term productive asset for $5,000 and also borrowed $10,000 from a local bank. These transactions should be reported on Deltech’s Statement of Cash Flows as

a. Outflows for Investing Activities, $5,000; Inflows from Financial Activities, $10,000.
b. Inflows from Investing Activities, $10,000; Outflows for Financing Activities, $5,000.
c. Outflows for Operating Activities, $5,000; Inflows from Financing Activities, $10,000.
d. Outflows for Financing Activities, $5,000; Inflows from Investing Activities, $10,000.
94.  
**Atwater Company** has recorded the following payments for the current period.

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase Trillium stock</td>
<td>$300,000</td>
</tr>
<tr>
<td>Dividends paid to Atwater shareholders</td>
<td>$200,000</td>
</tr>
<tr>
<td>Repurchase of Atwater Company stock</td>
<td>$400,000</td>
</tr>
</tbody>
</table>

The amount to be shown in the Investing Activities Section of Atwater’s Cash Flow Statement should be

- a. $300,000.
- b. $500,000.
- c. $700,000.
- d. $900,000.

95.  
**Carlson Company** has the following payments recorded for the current period.

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dividends paid to Carlson shareholders</td>
<td>$150,000</td>
</tr>
<tr>
<td>Interest paid on bank loan</td>
<td>$250,000</td>
</tr>
<tr>
<td>Purchase of equipment</td>
<td>$350,000</td>
</tr>
</tbody>
</table>

The total amount of the above items to be shown in the Operating Activities Section of Carlson’s Cash Flow Statement should be

- a. $150,000.
- b. $250,000.
- c. $350,000.
- d. $750,000.

96.  
**Barber Company** has recorded the following payments for the current period.

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest paid on bank loan</td>
<td>$300,000</td>
</tr>
<tr>
<td>Dividends paid to Barber shareholders</td>
<td>$200,000</td>
</tr>
<tr>
<td>Repurchase of Barber Company stock</td>
<td>$400,000</td>
</tr>
</tbody>
</table>

The amount to be shown in the Financing Activities Section of Barber’s Cash Flow Statement should be

- a. $300,000.
- b. $500,000.
- c. $600,000.
- d. $900,000.
97. **CSO: 2A4d  LOS: 2A4d**
Selected financial information for Kristina Company for the year just ended is shown below.

<table>
<thead>
<tr>
<th>Transaction</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net income</td>
<td>$2,000,000</td>
</tr>
<tr>
<td>Increase in accounts receivable</td>
<td>300,000</td>
</tr>
<tr>
<td>Decrease in inventory</td>
<td>100,000</td>
</tr>
<tr>
<td>Increase in accounts payable</td>
<td>200,000</td>
</tr>
<tr>
<td>Depreciation expense</td>
<td>400,000</td>
</tr>
<tr>
<td>Gain on the sale of available-for-sale securities</td>
<td>700,000</td>
</tr>
<tr>
<td>Cash receivable from the issue of common stock</td>
<td>800,000</td>
</tr>
<tr>
<td>Cash paid for dividends</td>
<td>80,000</td>
</tr>
<tr>
<td>Cash paid for the acquisition of land</td>
<td>1,500,000</td>
</tr>
<tr>
<td>Cash received from the sale of available-for-sale</td>
<td>2,800,000</td>
</tr>
</tbody>
</table>

Kristina’s cash flow from financing activities for the year is

a. $(80,000).
b. $720,000.
c. $800,000.
d. $3,520,000.

98. **CSO: 2A4d  LOS: 2A4d**
Selected financial information for Kristina Company for the year just ended is shown below.

<table>
<thead>
<tr>
<th>Transaction</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net income</td>
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</tr>
<tr>
<td>Increase in accounts receivable</td>
<td>300,000</td>
</tr>
<tr>
<td>Decrease in inventory</td>
<td>100,000</td>
</tr>
<tr>
<td>Increase in accounts payable</td>
<td>200,000</td>
</tr>
<tr>
<td>Depreciation expense</td>
<td>400,000</td>
</tr>
<tr>
<td>Gain on the sale of available-for-sale securities</td>
<td>700,000</td>
</tr>
<tr>
<td>Cash receivable from the issue of common stock</td>
<td>800,000</td>
</tr>
<tr>
<td>Cash paid for dividends</td>
<td>80,000</td>
</tr>
<tr>
<td>Cash paid for the acquisition of land</td>
<td>1,500,000</td>
</tr>
<tr>
<td>Cash received from the sale of available-for-sale</td>
<td>2,800,000</td>
</tr>
</tbody>
</table>

Kristina’s cash flow from investing activities for the year is

a. $(1,500,000).
b. $1,220,000.
c. $1,300,000.
d. $2,800,000.
99. **CSO: 2A4d LOS: 2A4d**
For the fiscal year just ended, Dora n Electronics had the following results.

- Net income: $920,000
- Depreciation expense: $110,000
- Increase in accounts payable: $45,000
- Increase in accounts receivable: $73,000
- Increase in deferred income tax liability: $16,000

Doran’s net cash flow from operating activities is

a. $928,000.
b. $986,000.
c. $1,018,000.
d. $1,074,000.

100. **CSO: 2A4d LOS: 2A4d**
Three years ago, James Company purchased stock in Zebra Inc. at a cost of $100,000. This stock was sold for $150,000 during the current fiscal year. The result of this transaction should be shown in the Investing Activities Section of James’ Statement of Cash Flows as

a. Zero.
b. $50,000.
c. $100,000.
d. $150,000.

101. **CSO: 2A4d LOS: 2A4d**
Madden Corporation’s controller has gathered the following information as a basis for preparing the Statement of Cash Flows. Net income for the current year was $82,000. During the year, old equipment with a cost of $60,000 and a net carrying value of $53,000 was sold for cash at a gain of $10,000. New equipment was purchased for $100,000. Shown below are selected closing balances for last year and the current year.

<table>
<thead>
<tr>
<th>Description</th>
<th>Last Year</th>
<th>Current Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>$39,000</td>
<td>$85,000</td>
</tr>
<tr>
<td>Accounts receivable net</td>
<td>$43,000</td>
<td>$37,000</td>
</tr>
<tr>
<td>Inventories</td>
<td>$93,000</td>
<td>$105,000</td>
</tr>
<tr>
<td>Equipment</td>
<td>$360,000</td>
<td>$400,000</td>
</tr>
<tr>
<td>Accumulated depreciation - equipment</td>
<td>$70,000</td>
<td>$83,000</td>
</tr>
<tr>
<td>Accounts payable</td>
<td>$22,000</td>
<td>$19,000</td>
</tr>
<tr>
<td>Notes payable</td>
<td>$100,000</td>
<td>$100,000</td>
</tr>
<tr>
<td>Common stock</td>
<td>$250,000</td>
<td>$250,000</td>
</tr>
<tr>
<td>Retained earnings</td>
<td>$93,000</td>
<td>$175,000</td>
</tr>
</tbody>
</table>
Madden’s cash inflow from operating activities for the current year is

a. $63,000.
b. $73,000.
c. $83,000.
d. $93,000.

104.  **CSO: 2A4d   LOS: 2A4d**
Selected financial information for Kristina Company for the year just ended is shown below.

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net income</td>
<td>$2,000,000</td>
</tr>
<tr>
<td>Increase in accounts receivable</td>
<td>300,000</td>
</tr>
<tr>
<td>Decrease in inventory</td>
<td>100,000</td>
</tr>
<tr>
<td>Increase in accounts payable</td>
<td>200,000</td>
</tr>
<tr>
<td>Depreciation expense</td>
<td>400,000</td>
</tr>
<tr>
<td>Gain on the sale of available-for-sale securities</td>
<td>700,000</td>
</tr>
<tr>
<td>Cash receivable from the issue of common stock</td>
<td>800,000</td>
</tr>
<tr>
<td>Cash paid for dividends</td>
<td>80,000</td>
</tr>
<tr>
<td>Cash paid for the acquisition of land</td>
<td>1,500,000</td>
</tr>
<tr>
<td>Cash received from the sale of available-for-sale securities</td>
<td>2,800,000</td>
</tr>
</tbody>
</table>

Assuming the indirect method is used, Kristina’s cash flow from operating activities for the year is

a. $1,700,000.
b. $2,000,000.
c. $2,400,000.
d. $3,100,000.

103.  **CSO: 2A4e   LOS: 2A4e**
A change in the estimate for bad debts should be

a. treated as an error.
b. handled retroactively.
c. considered as an extraordinary item.
d. treated as affecting only the period of the change.

104.  **CSO: 2A4e   LOS: 2A4e**
Finer Foods Inc., a chain of supermarkets specializing in gourmet food, has been using the average cost method to value its inventory. During the current year, the company changed to the first-in, first-out method of inventory valuation. The president of the company reasoned that this change was appropriate since it would more closely match the flow of physical goods. This change should be reported on the financial statements as a
a. cumulative-effect type accounting change.
b. retroactive-effect type accounting change
c. change in an accounting estimate.
d. correction of an error.

105. CSO: 2A4h  LOS: 2A4h
The concept of economic profit is best defined as total

a. revenue minus all accounting costs.
b. income minus the sum of total fixed and variable costs.
c. revenue minus the sum of total fixed and variable costs.
d. revenue minus all explicit and implicit costs.

106. CSO: 2A4h  LOS: 2A4h
“Economic costs” often differ from costs shown in a firm’s financial statements. For a corporation, a major difference would arise due to

a. interest costs.
b. salary and wage costs.
c. opportunity costs.
d. state and local tax costs.

107. CSO: 2A4h  LOS: 2A4h
Which of the following costs, when subtracted from total revenue, yields economic profit?

a. Variable costs.
b. Recurring operating costs.
c. Fixed and variable costs.
d. Opportunity costs of all inputs.

108. CSO: 2A4h  LOS: 2A4h
Williams makes $35,000 a year as an accounting clerk. He decides to quit his job to enter an MBA program full-time. Assume Williams doesn’t work in the summer or hold any part-time jobs. His tuition, books, living expenses, and fees total $25,000 a year. Given this information, the annual total economic cost of Williams’ MBA studies is

a. $10,000.
b. $35,000.
c. $25,000.
d. $60,000.
CSO: 2A4h  LOS: 2A4h
The financial statements of Lark Inc. for last year are shown below.

<table>
<thead>
<tr>
<th>Income Statement ($000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
</tr>
<tr>
<td>Cost of sales</td>
</tr>
<tr>
<td>Gross margin</td>
</tr>
<tr>
<td>General &amp; administrative</td>
</tr>
<tr>
<td>Interest</td>
</tr>
<tr>
<td>Taxes</td>
</tr>
<tr>
<td>Net income</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Balance Sheet ($000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current assets</td>
</tr>
<tr>
<td>Current liabilities</td>
</tr>
<tr>
<td>Plant &amp; equipment</td>
</tr>
<tr>
<td>Long-term debt</td>
</tr>
<tr>
<td>Common equity</td>
</tr>
<tr>
<td>Totals</td>
</tr>
</tbody>
</table>

If Lark’s book values approximate market values and if the opportunity costs of debt and equity are 10% and 15%, respectively, what was the economic profit for Lark last year?

a. ($125,000).
b. ($25,000).
c. $0.
d. $350,000.
Section B: Corporate Finance

110. **CSO: 2B1b  LOS: 2B1b**

The systematic risk of an individual security is measured by the

a. standard deviation of the security’s rate of return.

b. covariance between the security’s returns and the general market.

c. security’s contribution to the portfolio risk.

d. standard deviation of the security’s returns and other similar securities.

111. **CSO: 2B1b  LOS: 2B1c**

Which one of the following provides the best measure of interest rate risk for a corporate bond?

a. Duration.

b. Yield to maturity.

c. Bond rating.

d. Maturity.

112. **CSO: 2B1f  LOS: 2B1i**

Frasier Products has been growing at a rate of 10% per year and expects this growth to continue and produce earnings per share of $4.00 next year. The firm has a dividend payout ratio of 35% and a beta value of 1.25. If the risk-free rate is 7% and the return on the market is 15%, what is the expected current market value of Frasier’s common stock?

a. $14.00.

b. $16.00.

c. $20.00.

d. $28.00.

113. **CSO: 2B1f  LOS: 2B1h**

Which one of the following would have the least impact on a firm’s beta value?

a. Debt-to-equity ratio.

b. Industry characteristics.

c. Operating leverage.

d. Payout ratio.
114. **CSO: 2B1f LOS: 2B1h**
If Dexter Industries has a beta value of 1.0, then its

a. return should equal the risk-free rate.
b. price is relatively stable.
c. expected return should approximate the overall market.
d. volatility is low.

Buying a wheat futures contract to protect against price fluctuation of wheat would be classified as a

a. fair value hedge.
b. cash flow hedge.
c. foreign currency hedge.
d. swap.

116. **CSO: 2B3b LOS: 2B3c**
The call provision in some bond indentures allows

a. the issuer to exercise an option to redeem the bonds.
b. the bondholder to exchange the bond, at no additional cost, for common shares.
c. the bondholder to redeem the bond early by paying a call premium.
d. the issuer to pay a premium in order to prevent bondholders from redeeming bonds.

117. **CSO: 2B3b LOS: 2B3c**
Protective clauses set forth in an indenture are known as

a. provisions.
b. requirements.
c. addenda.
d. covenants.

118. **CSO: 2B3b LOS: 2B3c**
A requirement specified in an indenture agreement which states that a company cannot acquire or sell major assets without prior creditor approval is known as a

a. protective covenant.
b. call provision.
c. warrant.
d. put option.
119. **CSO: 2B3b LOS: 2b3c**  
Dorsy Manufacturing plans to issue mortgage bonds subject to an indenture. Which of the following restrictions or requirements are likely to be contained in the indenture?

I. Receiving the trustee’s permission prior to selling the property.
II. Maintain the property in good operating condition.
III. Insuring plant and equipment at certain minimum levels.
IV. Including a negative pledge clause.

a. I and IV only.
b. II and III only.
c. I, III, and IV only.
d. I, II, III and IV.

120. **CSO: 2B3c LOS: 2B3d**  
Which one of the following statements concerning debt instruments is correct?

a. The coupon rate and yield of an outstanding long-term bond will change over time as economic factors change.
b. A 25-year bond with a coupon rate of 9% and one year to maturity has more interest rate risk than a 10-year bond with a 9% coupon issued by the same firm with one year to maturity.
c. For long-term bonds, price sensitivity to a given change in interest rates is greater the longer the maturity of the bond.
d. A bond with one year to maturity would have more interest rate risk than a bond with 15 years to maturity.

121. **CSO: 2B3c LOS: 2B3d**  
Which one of the following situations would prompt a firm to issue debt, as opposed to equity, the next time it raises external capital?

a. High breakeven point.
b. Significant percentage of assets under capital lease.
c. Low fixed-charge coverage.
d. High effective tax rate.

122. **CSO: 2B3c LOS: 2B3c**  
Which one of the following is a debt instrument that generally has a maturity of ten years or more?

a. A bond.
b. A note.
c. A chattel mortgage.
d. A financial lease.
123. **CSO: 2B3d LOS: 2B3b**
James Hemming, the chief financial officer of a mid-western machine parts manufacturer, is considering splitting the company’s stock, which is currently selling at $80.00 per share. The stock currently pays a $1.00 per share dividend. If the split is two-for-one, Mr. Hemming may expect the post split price to be

a. exactly $40.00, regardless of dividend policy.
b. greater than $40.00, if the dividend is changed to $0.45 per new share.
c. greater than $40.00, if the dividend is changed to $0.55 per new share.
d. less than $40.00, regardless of dividend policy.

124. **CSO: 2B3d LOS: 2B3b**
Which one of the following best describes the record date as it pertains to common stock?

a. Four business days prior to the payment of a dividend.
b. The 52-week high for a stock published in the Wall Street Journal.
c. The date that is chosen to determine the ownership of shares.
d. The date on which a prospectus is declared effective by the Securities and Exchange Commission.

125. **CSO: 2B3e LOS: 2B3b**
Preferred stock may be retired through the use of any one of the following except a

a. conversion.
b. call provision.
c. refunding.
d. sinking fund.

126. **CSO: 2B3e LOS: 2B3b**
All of the following are characteristics of preferred stock except that

a. it may be callable at the option of the corporation.
b. it may be converted into common stock.
c. its dividends are tax deductible to the issuer.
d. it usually has no voting rights.

127. **CSO: 2B3e LOS: 2B3b**
Which one of the following describes a disadvantage to a firm that issues preferred stock?

a. Preferred stock dividends are legal obligations of the corporation.
b. Preferred stock typically has no maturity date.
c. Preferred stock is usually sold on a higher yield basis than bonds.
d. Most preferred stock is owned by corporate investors.
128.  

Which of the following, when considered individually, would generally have the effect of increasing a firm’s cost of capital?

I. The firm reduces its operating leverage.
II. The corporate tax rate is increased.
III. The firm pays off its only outstanding debt.
IV. The Treasury Bond yield increases.

a. I and III.
b. II and IV.
c. III and IV.
d. I, III and IV.

129.  

An accountant for Stability Inc. must calculate the weighted average cost of capital of the corporation using the following information.

| Interest Rate | Accounts payable | $35,000,000 | -0-
| Long-term debt | 10,000,000 | 8%
| Common stock | 10,000,000 | 15%
| Retained earnings | 5,000,000 | 18%

What is the weighted average cost of capital of Stability?

a. 6.88%.
b. 8.00%.
c. 10.25%.
d. 12.80%.

130.  

Kielly Machines Inc. is planning an expansion program estimated to cost $100 million. Kielly is going to raise funds according to its target capital structure shown below.

| Debt | .30 |
| Preferred stock | .24 |
| Equity | .46 |

Kielly had net income available to common shareholders of $184 million last year of which 75% was paid out in dividends. The company has a marginal tax rate of 40%.

Additional data:

- The before-tax cost of debt is estimated to be 11%.
The market yield of preferred stock is estimated to be 12%.
The after-tax cost of common stock is estimated to be 16%.

What is Kielly’s weighted average cost of capital?

a. 12.22%.
b. 13.00%.
c. 13.54%.
d. 14.00%.

131. CSO: 2B4a  LOS: 2B4b
Following is an excerpt from Albion Corporation’s balance sheet.

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-term debt (9% interest rate)</td>
<td>$30,000,000</td>
</tr>
<tr>
<td>Preferred stock (100,000 shares, 12% dividend)</td>
<td>$10,000,000</td>
</tr>
<tr>
<td>Common stock (5,000,000 shares outstanding)</td>
<td>$60,000,000</td>
</tr>
</tbody>
</table>

Albion’s bonds are currently trading at $1,083.34, reflecting a yield to maturity of 8%. The preferred stock is trading at $125 per share. Common stock is selling at $16 per share, and Albion’s treasurer estimates that the firm’s cost of equity is 17%. If Albion’s effective income tax rate is 40%, what is the firm’s cost of capital?

a. 12.6%.
b. 13.0%.
c. 13.9%.
d. 14.1%.

132. CSO: 2B4a  LOS: 2B4b
Thomas Company’s capital structure consists of 30% long-term debt, 25% preferred stock, and 45% common equity. The cost of capital for each component is shown below.

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-term debt</td>
<td>8%</td>
</tr>
<tr>
<td>Preferred stock</td>
<td>11%</td>
</tr>
<tr>
<td>Common equity</td>
<td>15%</td>
</tr>
</tbody>
</table>

If Thomas pays taxes at the rate of 40%, what is the company’s after-tax weighted average cost of capital?

a. 7.14%.
b. 9.84%.
c. 10.94%.
d. 11.90%.
133.  

**CSO: 2B4a   LOS: 2B4b**  
Joint Products Inc., a corporation with a 40% marginal tax rate, plans to issue $1,000,000 of 8% preferred stock in exchange for $1,000,000 of its 8% bonds currently outstanding. The firm’s total liabilities and equity are equal to $10,000,000. The effect of this exchange on the firm’s weighted average cost of capital is likely to be

a. no change, since it involves equal amounts of capital in the exchange and both instruments have the same rate.
b. a decrease, since a portion of the debt payments are tax deductible.
c. a decrease, since preferred stock payments do not need to be made each year, whereas debt payments must be made.
d. an increase, since a portion of the debt payments are tax deductible.

134.  

**COS: 2B4b   LOS: 2B4b**  
Cox Company has sold 1,000 shares of $100 par, 8% preferred stock at an issue price of $92 per share. Stock issue costs were $5 per share. Cox pays taxes at the rate of 40%. What is Cox’s cost of preferred stock capital?

a. 8.00%.
b. 8.25%.
c. 8.70%.
d. 9.20%.

135.  

**CSO: 2B4b   LOS: 2B4b**  
In calculating the component costs of long-term funds, the appropriate cost of retained earnings, ignoring flotation costs, is equal to

a. the cost of common stock.
b. the same as the cost of preferred stock.
c. the weighted average cost of capital for the firm.
d. zero, or no cost.

136.  

**CSO: 2B4b   LOS: 2B4b**  
The Hatch Sausage Company is projecting an annual growth rate for the foreseeable future of 9%. The most recent dividend paid was $3.00 per share. New common stock can be issued at $36 per share. Using the constant growth model, what is the approximate cost of capital for retained earnings?

a. 9.08%.
b. 17.33%.
c. 18.08%.
d. 19.88%.
137. **CSO: 2B4b LOS: 2B4b**
The management of Old Fenske Company (OFC) has been reviewing the company’s financing arrangements. The current financing mix is $750,000 of common stock, $200,000 of preferred stock ($50 par) and $300,000 of debt. OFC currently pays a common stock cash dividend of $2. The common stock sells for $38, and dividends have been growing at about 10% per year. Debt currently provides a yield to maturity to the investor of 12%, and preferred stock pays a dividend of 9% to yield 11%. Any new issue of securities will have a flotation cost of approximately 3%. OFC has retained earnings available for the equity requirement. The company’s effective income tax rate is 40%. Based on this information, the cost of capital for retained earnings is

a. 9.5%.
b. 14.2%.
c. 15.8%.
d. 16.0%.

138. **CSO: 2B4c LOS: 2B4b**
Angela Company’s capital structure consists entirely of long-term debt and common equity. The cost of capital for each component is shown below.

<table>
<thead>
<tr>
<th>Component</th>
<th>Cost of Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-term debt</td>
<td>8%</td>
</tr>
<tr>
<td>Common equity</td>
<td>15%</td>
</tr>
</tbody>
</table>

Angela pays taxes at a rate of 40%. If Angela’s weighted average cost of capital is 10.41%, what proportion of the company’s capital structure is in the form of long-term debt?

a. 34%.
b. 45%.
c. 55%.
d. 66%.

139. **CSO: 2B5b LOS: 2B5d**
A firm uses the following model to determine the optimal average cash balance (Q).

\[
Q = \sqrt{\frac{2 \times \text{annual cash disbursement}}{\text{x cost per sale of T-Bill}}} \times \frac{\text{interest rate}}{
\]

An increase in which one of the following would result in a decrease in the optimal cash balance?

a. Uncertainty of cash outflows.
b. Cost of a security trade.
c. Return on marketable securities.
d. Cash requirements for the year.
140. **CSO: 2B5b  LOS: 2B5d**
All of the following are reasons for holding cash **except** for the

a. precautionary motive.
b. transactions motive.
c. motive to make a profit.
d. motive to meet future needs.

141. **CSO: 2B5b  LOS: 2B5f**
All of the following can be utilized by a firm in managing its cash outflows **except**

a. zero-balance accounts.
b. centralization of payables.
c. controlled disbursement accounts.
d. lock-box system.

142. **CSO: 2B5b  LOS: 2B5g**
Powell Industries deals with customers throughout the country and is attempting to more efficiently collect its accounts receivable. A major bank has offered to develop and operate a lock-box system for Powell at a cost of $90,000 per year. Powell averages 300 receipts per day at an average of $2,500 each. Its short-term interest cost is 8% per year. Using a 360-day year, what reduction in average collection time would be needed in order to justify the lock-box system?

a. 0.67 days.
b. 1.20 days.
c. 1.25 days.
d. 1.50 days.

143. **CSO: 2B5b  LOS: 2B5g**
Mandel Inc. has a zero-balance account with a commercial bank. The bank sweeps any excess cash into a commercial investment account earning interest at the rate of 4% per year, payable monthly. When Mandel has a cash deficit, a line of credit is used which has an interest rate of 8% per year, payable monthly based on the amount used. Mandel expects to have a $2 million cash balance on January 1 of next year. Net cash flows for the first half of the year, excluding the effects of interest received or paid, are forecasted (in millions of dollars) as follows.

<table>
<thead>
<tr>
<th></th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net cash inflows ($)</td>
<td>+2</td>
<td>+1</td>
<td>-5</td>
<td>-3</td>
<td>-2</td>
<td>+6</td>
</tr>
</tbody>
</table>

Assuming all cash-flows occur at the end of each month, approximately how much interest will Mandel incur for this period?
a. $16,000 net interest paid.
b. $53,000 net interest paid.
c. $76,000 net interest paid.
d. $195,000 net interest paid.

144. **CSO: 2B5b  LOS: 2B5g**
Dexter Products receives $25,000 worth of merchandise from its major supplier on the 15th and 30th of each month. The goods are sold on terms of 1/15, net 45, and Dexter has been paying on the net due date and foregoing the discount. A local bank offered Dexter a loan at an interest rate of 10%. What will be the net annual savings to Dexter if it borrows from the bank and utilizes the funds to take advantage of the trade discount?

a. $525.
b. $1,050.
c. $1,575.
d. $2,250.

145. **CSO: 2B5b  LOS: 2B5f**
The Rolling Stone Corporation, an entertainment ticketing service, is considering the following means of speeding cash flow for the corporation.

- **Lock Box System.** This would cost $25 per month for each of its 170 banks and would result in interest savings of $5,240 per month.
- **Drafts.** Drafts would be used to pay for ticket refunds based on 4,000 refunds per month at a cost of $2.00 per draft, which would result in interest savings of $6,500 per month.
- **Bank Float.** Bank float would be used for the $1,000,000 in checks written each month. The bank would charge a 2% fee for this service, but the corporation will earn $22,000 in interest on the float.
- **Electronic Transfer.** Items over $25,000 would be electronically transferred; it is estimated that 700 items of this type would be made each month at a cost of $18 each, which would result in increased interest earnings of $14,000 per month.

Which of these methods of speeding cash flow should Rolling Stone Corporation adopt?

a. Lock box and electronic transfer only.
b. Bank float and electronic transfer only.
c. Lock box, drafts, and electronic transfer only.
d. Lock box, bank float, and electronic transfer only.

146. **CSO: 2B5b  LOS: 2B5f**
JKL Industries requires its branch offices to transfer cash balances once per week to the central corporate account. A wire transfer costs $12 and assures the cash is available the same day. A depository transfer check (DTC) costs $1.50 and generally results in funds being available in 2 days. JKL’s cost of short-term
funds averages 9%, and they use a 360-day year in all calculations. What is the minimum transfer amount that would justify the cost of a wire transfer as opposed to a DTC?

a. $21,000.
b. $24,000.
c. $27,000.
d. $42,000.

147. **CSO: 2B5b LOS: 2B5l**
The establishment and maintenance of a zero-balance account (ZBA) typically reduces all of the following except

a. the cost of cash management.
b. the disbursement float.
c. excess bank balances.
d. management time.

148. **CSO: 2B5c LOS: 2B5o**
Which one of the following instruments would be least appropriate for a corporate treasurer to utilize for temporary investment of cash?

b. Money market mutual funds.
c. Commercial paper.
d. Municipal bonds.

149. **CSO: 2B5c LOS: 2B5n**
Which one of the following statements best characterizes U.S. Treasury bills?

a. They have no coupon rate, no interest rate risk, and are issued at par.
b. They have an active secondary market, one to twenty-four month maturities, and monthly interest payments.
c. They have an active secondary market, the interest received is exempt from federal income tax, and there is no interest rate risk.
d. They have no coupon rate, no default risk, and interest received is subject to federal income tax.

150. **CSO: 2B5c LOS: 2B5n**
The Duoplan Company is determining the most appropriate source of short-term funding. Trade credit terms from suppliers are 2/30, net 90. The rate for borrowing at the bank is 12%. The company has also been approached by an investment banker offering to issue Duoplan’s commercial paper. The commercial paper would be issued quarterly in
increments of $9.1 million with net proceeds of $8.8 million. Which option should the firm select?

a. The trade discount, because it provides the lowest cost of funds.
b. Bank borrowing, because it provides the lowest cost of funds.
c. Commercial paper, because it provides the lowest cost of funds.
d. The costs are so similar that the decision is a matter of convenience.

151. **CSO: 2B5d LOS: 2B5q**
Clauson Inc. grants credit terms of 1/15, net 30 and projects gross sales for the year of $2,000,000. The credit manager estimates that 40% of customers pay on the 15th day, 40% of the 30th day and 20% on the 45th day. Assuming uniform sales and a 360-day year, what is the projected amount of overdue receivables?

a. $50,000.
b. $83,333.
c. $116,676.
d. $400,000.

152. **CSO: 2B5d LOS: 2B5u**
Northville Products is changing its credit terms from net 30 to 2/10, net 30. The least likely effect of this change would be a(n)

a. increase in sales.
b. shortening of the cash conversion cycle.
c. increase in short-term borrowings.
d. lower number of days sales outstanding.

153. **CSO: 2B5d LOS: 2B5u**
Snug-fit, a maker of bowling gloves, is investigating the possibility of liberalizing its credit policy. Currently, payment is made on a cash-on-delivery basis. Under a new program, sales would increase by $80,000. The company has a gross profit margin of 40%. The estimated bad debt loss rate on the incremental sales would be 6%. Ignoring the cost of money, what would be the return on sales before taxes for the new sales?

a. 34.0%.
b. 36.2%.
c. 40.0%.
d. 42.5%.
154.  **CSO: 2B5d  LOS: 2B5s**
A credit manager considering whether to grant trade credit to a new customer is **most** likely to place primary emphasis on

a. profitability ratios.
b. valuation ratios.
c. growth ratios.
d. liquidity ratios.

155.  **CSO: 2B5d  LOS: 2B5hh**
Foster Products is reviewing its trade credit policy with respect to the small retailers to which it sells. Four plans have been studied and the results are as follows.

<table>
<thead>
<tr>
<th>Plan</th>
<th>Annual Revenue</th>
<th>Bad Debt</th>
<th>Collection Costs</th>
<th>Accounts Receivable</th>
<th>Inventory</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>$200,000</td>
<td>$1,000</td>
<td>$1,000</td>
<td>$20,000</td>
<td>$40,000</td>
</tr>
<tr>
<td>B</td>
<td>250,000</td>
<td>3,000</td>
<td>2,000</td>
<td>40,000</td>
<td>50,000</td>
</tr>
<tr>
<td>C</td>
<td>300,000</td>
<td>6,000</td>
<td>5,000</td>
<td>60,000</td>
<td>60,000</td>
</tr>
<tr>
<td>D</td>
<td>350,000</td>
<td>12,000</td>
<td>8,000</td>
<td>80,000</td>
<td>70,000</td>
</tr>
</tbody>
</table>

The information shows how various annual expenses such as bad debts and the cost of collections change as sales change. The average balance of accounts receivable and inventory have also been projected. The cost of the product to Foster is 80% of the selling price, after-tax cost of capital is 15%, and Foster’s effective income tax rate is 30%. What is the optimal plan for Foster to implement?

a. Plan A.
b. Plan B.
c. Plan C.
d. Plan D.

156.  **CSO: 2B5d  LOS: 2B5u**
Consider the following factors affecting a company as it is reviewing its trade credit policy.

I. Operating at full capacity.
II. Low cost of borrowing.
III. Opportunity for repeat sales.
IV. Low gross margin per unit.

Which of the above factors would indicate that the company should liberalize its credit policy?

a. I and II only.
b. I, II and III only.
c. II and III only.
d. III and IV only.
157. **CSO: 2B5d   LOS: 2B5u**

Computer Services is an established firm that sells computer hardware, software and services. The firm is considering a change in its credit policy. It has been determined that such a change would not change the payment patterns of the current customers. To determine whether such a change would be beneficial, the firm has identified the proposed new credit terms, the expected additional sales, the expected contribution margin on the sales, the expected bad debt losses, and the investment in additional receivables and the period of the investment. What additional information, if any, does the firm require to determine the profitability of the proposed new policy as compared to the current credit policy?

a. The credit standards that presently exist.
b. The new credit standards.
c. The opportunity cost of funds.
d. No additional information is needed.

158. **CSO: 2B5d   LOS: 2B5hh**

Harson Products currently has a conservative credit policy and is in the process of reviewing three other credit policies. The current credit policy (Policy A) results in sales of $12 million per year. Policies B and C involve higher sales, accounts receivable and inventory balances, as well as higher bad debt and collection costs. Policy D grants longer payment terms than Policy C, but charges customers interest if they take advantage of the lengthy payment terms. The policies are outlined below.

<table>
<thead>
<tr>
<th>Policy (000)</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>$12,000</td>
<td>$13,000</td>
<td>$14,000</td>
<td>$14,000</td>
</tr>
<tr>
<td>Average accounts receivable</td>
<td>1,500</td>
<td>2,000</td>
<td>3,500</td>
<td>5,000</td>
</tr>
<tr>
<td>Average inventory</td>
<td>2,000</td>
<td>2,300</td>
<td>2,500</td>
<td>2,500</td>
</tr>
<tr>
<td>Interest income</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>500</td>
</tr>
<tr>
<td>Bad debt expense</td>
<td>100</td>
<td>125</td>
<td>300</td>
<td>400</td>
</tr>
<tr>
<td>Collection cost</td>
<td>100</td>
<td>125</td>
<td>250</td>
<td>350</td>
</tr>
</tbody>
</table>

If the direct cost of products is 80% of sales and the cost of short-term funds is 10%, what is the optimal policy for Harson?

a. Policy A.
b. Policy B.
c. Policy C.
d. Policy D.
159. **CSO: 2B5d LOS: 2B5u**
Global Manufacturing Company has a cost of borrowing of 12%. One of the firm’s suppliers has just offered new terms for purchases. The old terms were cash on delivery and the new terms are 2/10, net 45. Should Global pay within the first ten days?

a. Yes, the cost of not taking the trade discount exceeds the cost of borrowing.
b. No, the cost of trade credit exceeds the cost of borrowing.
c. No, the use of debt should be avoided if possible.
d. The answer depends on whether the firm borrows money.

160. **CSO: 2B5d LOS: 2B5r**
Locar Corporation had net sales last year of $18,600,000 (of which 20% were installment sales). It also had an average accounts receivable balance of $1,380,000. Credit terms are 2/10, net 30. Based on a 360-day year, Locar’s average collection period last year was

a. 26.2 days.
b. 26.7 days.
c. 27.3 days.
d. 33.4 days.

161. **CSO: 2B5e LOS: 2B5hh**
Atlantic Distributors is expanding and wants to increase its level of inventory to support an aggressive sales target. They would like to finance this expansion using debt. Atlantic currently has loan covenants that require the working capital ratio to be at least 1.2. The average cost of the current liabilities is 12% and the cost of the long-term debt is 8%. Below is the current balance sheet for Atlantic.

| Current assets | $200,000 | Current liabilities | $165,000 |
| Fixed assets   | 100,000  | Long-term debt      | 100,000  |
| Total assets   | $300,000 | Equity               | 35,000   |
|                |          | Total debt & equity  | $300,000 |

Which one of the following alternatives will provide the resources to expand the inventory while lowering the total cost of debt and satisfying the loan covenant?

a. Increase both accounts payable and inventory by $25,000.
b. Sell fixed assets with a book value of $20,000 for $25,000 and use the proceeds to increase inventory.
c. Borrow short-term funds of $25,000, and purchase inventory of $25,000.
d. Collect $25,000 accounts receivable; use $10,000 to purchase inventory and use the balance to reduce short-term debt.
162. **CSO: 2B5e  LOS: 2B5w**  
All of the following are carrying costs of inventory except  

a. storage costs.  
b. insurance.  
c. shipping costs.  
d. opportunity costs.  

163. **CSO: 2B5e  LOS: 2B5w**  
Valley Inc. uses 400 lbs. of a rare isotope per year. The isotope costs $500 per lb., but the supplier is offering a quantity discount of 2% for order sizes between 30 and 79 lbs., and a 6% discount for order sizes of 80 lbs. or more. The ordering costs are $200. Carrying costs are $100 per lb. of material and are not affected by the discounts. If the purchasing manager places eight orders of 50 lbs. each, the total cost of ordering and carrying inventory, including discounts lost, will be  

a. $1,600.  
b. $4,100.  
c. $6,600.  
d. $12,100.  

164. **CSO: 2B5e  LOS: 2B5w**  
A review of the inventories of Cedar Grove Company shows the following cost data for entertainment centers.  

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invoice price</td>
<td>$400.00 per unit</td>
</tr>
<tr>
<td>Freight and insurance on shipment</td>
<td>20.00 per unit</td>
</tr>
<tr>
<td>Insurance on inventory</td>
<td>15.00 per unit</td>
</tr>
<tr>
<td>Unloading</td>
<td>140.00 per order</td>
</tr>
<tr>
<td>Cost of placing orders</td>
<td>10.00 per order</td>
</tr>
<tr>
<td>Cost of capital</td>
<td>25%</td>
</tr>
</tbody>
</table>

What are the total carrying costs of inventory for an entertainment center?  

a. $105.  
b. $115.  
c. $120.  
d. $420.  

165. **CSO: 2B5e  LOS: 2B5w**  
Paint Corporation expects to use 48,000 gallons of paint per year costing $12 per gallon. Inventory carrying cost is equal to 20% of the purchase price. The company uses its inventory at a constant rate. The lead time for placing the order is 3 days, and Paint
Corporation holds 2,400 gallons of paint as safety stock. If the company orders 2,000 gallons of paint per order, what is the cost of carrying inventory?

a. $2,400.
b. $5,280.
c. $5,760.
d. $8,160.

166. **CSO: 2B5e  LOS: 2B5x**
James Smith is the new manager of inventory at American Electronics, a major retailer. He is developing an inventory control system, and knows he should consider establishing a safety stock level. The safety stock can protect against all of the following risks, **except** for the possibility that

a. customers cannot find the merchandise they want, and they will go to the competition.
b. shipments of merchandise from the manufacturers is delayed by as much as one week.
c. the distribution of daily sales will have a large variance, due to holidays, weather, advertising, and weekly shopping habits.
d. new competition may open in the company’s market area.

167. **CSO: 2B5e  LOS: 2B5y**
Carnes Industries uses the Economic Order Quantity (EOQ) model as part of its inventory control program. An **increase** in which one of the following variables would **increase** the EOQ?

a. Carrying cost rate.
b. Purchase price per unit.
c. Ordering costs.
d. Safety stock level.

168. **CSO: 2B5e  LOS: 2B5y**
Which one of the following is **not** explicitly considered in the standard calculation of Economic Order Quantity (EOQ)?

a. Level of sales.
b. Fixed ordering costs.
c. Carrying costs.
d. Quantity discounts.
169. **CSO: 2B5e  LOS: 2B5y**
Which one of the following statements concerning the economic order quantity (EOQ) is **correct**?

a. The EOQ results in the minimum ordering cost and minimum carrying cost.
b. Increasing the EOQ is the best way to avoid stockouts.
c. The EOQ model assumes constantly increasing usage over the year.
d. The EOQ model assumes that order delivery times are consistent.

170. **CSO: 2B5e  LOS: 2B5y**
Moss Products uses the Economic Order Quantity (EOQ) model as part of its inventory management process. A **decrease** in which one of the following variables would **increase** the EOQ?

a. Annual sales.
b. Cost per order.
c. Safety stock level.
d. Carrying costs.

171. **CSO: 2B5f  LOS: 2B5gg**
Burke Industries has a revolving credit arrangement with its bank which specifies that Burke can borrow up to $5 million at an annual interest rate of 9% payable monthly. In addition, Burke must pay a commitment fee of 0.25% per month on the unused portion of the line, payable monthly. Burke expects to have a $2 million cash balance and no borrowings against this line of credit on April 1, net cash inflows of $2 million in April, net outflows of $7 million in May, and net inflows of $4 million in June. If all cash-flows occur at the end of the month, approximately how much will Burke pay to the bank during the second quarter related to this revolving credit arrangement?

a. $47,700.
b. $52,600.
c. $60,200.
d. $62,500.

172. **CSO: 2B5f  LOS: 2B5aa**
Of the following, the working capital financing policy that would subject a firm to the **greatest** level of risk is the one where the firm finances

a. fluctuating current assets with short-term debt.
b. permanent current assets with long-term debt.
c. fluctuating current assets with long-term debt.
d. permanent current assets with short-term debt.
173. **CSO: 2B5f LOS: 2B5cc**

The Texas Corporation is considering the following opportunities to purchase an investment at the following amounts and discounts.

<table>
<thead>
<tr>
<th>Term</th>
<th>Amount</th>
<th>Discount</th>
</tr>
</thead>
<tbody>
<tr>
<td>90 days</td>
<td>$ 80,000</td>
<td>5%</td>
</tr>
<tr>
<td>180 days</td>
<td>75,000</td>
<td>6%</td>
</tr>
<tr>
<td>270 days</td>
<td>100,000</td>
<td>5%</td>
</tr>
<tr>
<td>360 days</td>
<td>60,000</td>
<td>10%</td>
</tr>
</tbody>
</table>

Which opportunity offers the Texas Corporation the highest annual yield?

a. 90-day investment.
b. 180-day investment.
c. 270-day investment.
d. 360-day investment.

174. **CSO: 2B5f LOS: 2B5bb**

A manufacturer with seasonal sales would be **most likely** to obtain which one of the following types of loans from a commercial bank to finance the need for a fixed amount of additional capital during the busy season?

a. Transaction loan.
b. Insurance company term loan.
c. Installment loan.
d. Unsecured short-term term loan.

175. **CSO: 2B5f LOS: 2B5bb**

Which of the following financing vehicles would a commercial bank be likely to offer to its customers?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>I.</td>
<td>Discounted notes</td>
</tr>
<tr>
<td>II.</td>
<td>Term loans</td>
</tr>
<tr>
<td>III.</td>
<td>Lines of credit</td>
</tr>
<tr>
<td>IV.</td>
<td>Self-liquidating loans</td>
</tr>
</tbody>
</table>

a. I and II.
b. III and IV.
c. I, III and IV.
d. I, II, III and IV.
176. **CSO: 2B5f  LOS: 2B5hh**
Megatech Inc. is a large publicly-held firm. The treasurer is making an analysis of the short-term financing options available for the third quarter, as the company will need an average of $8 million for the month of July, $12 million for August, and $10 million for September. The following options are available.

I. Issue commercial paper on July 1 in an amount sufficient to net Megatech $12 million at an effective rate of 7% per year. Any temporarily excess funds will be deposited in Megatech’s investment account at First City Bank and earn interest at an annual rate of 4%.

II. Utilize a line of credit from First City Bank with interest accruing monthly on the amount utilized at the prime rate, which is estimated to be 8% in July and August and 8.5% in September.

Based on this information, which one of the following actions should the treasurer take?

a. Issue commercial paper, since it is approximately $35,000 less expensive than the line of credit.
b. Issue commercial paper, since it is approximately $14,200 less expensive than the line of credit.
c. Use the line of credit, since it is approximately $15,000 less expensive than issuing commercial paper.
d. Use the line of credit, since it is approximately $5,800 less expensive than issuing commercial paper.

177. **CSO: 2B5f  LOS: 2B5bb**
Dudley Products is given terms of 2/10, net 45 by its suppliers. If Dudley forgoes the cash discount and instead pays the suppliers 5 days after the net due date, what is the annual interest rate cost (using a 360-day year)?

a. 18.0%.
b. 18.4%.
c. 21.0%.
d. 24.5%.

178. **CSO: 2B5f  LOS: 2B5cc**
A firm is given payment terms of 3/10, net 90 and forgoes the discount paying on the net due date. Using a 360-day year and ignoring the effects of compounding, what is the effective annual interest rate cost?

a. 12.0%.
b. 12.4%.
c. 13.5%.
d. 13.9%.
179.  
**CSO: 2B5f   LOS: 2B5dd**  
Lang National Bank offered a one-year loan to a commercial customer. The instrument is a discounted note with a nominal rate of 12%. What is the effective interest rate to the borrower?

a.  10.71%.  
b.  12.00%.  
c.  13.20%.  
d.  13.64%.  

180.  
**CSO: 2B5f   LOS: 2B5dd**  
Gates Inc. has been offered a one-year loan by its commercial bank. The instrument is a discounted note with a stated interest rate of 9%. If Gates needs $300,000 for use in the business, what should the face value of the note be?

a.  $275,229.  
b.  $327,000.  
c.  $327,154.  
d.  $329,670.  

181.  
**CSO: 2B5f   LOS: 2B5dd**  
Keller Products needs $150,000 of additional funds over the next year in order to satisfy a significant increase in demand. A commercial bank has offered Keller a one-year loan at a nominal rate of 8%, which requires a 15% compensating balance. How much would Keller have to borrow, assuming it would need to cover the compensating balance with the loan proceeds?

a.  $130,435.  
b.  $172,500.  
c.  $176,471.  
d.  $194,805.  

182.  
**CSO: 2B5f   LOS: 2B5dd**  
Approximately what amount of compensating balance would be required for a stated interest rate of 10% to equal an effective interest rate of 10.31% on a $100,000,000 one-year loan?

a.  $310,000.  
b.  $3,000,000.  
c.  $3,100,000.  
d.  Not enough information is given.
183. **CSO: 2B5f  LOS: 2B5dd**  
The effective annual interest rate to the borrower of a $100,000 one-year loan with a stated rate of 7% and a 20% compensating balance is

a. 7.0%.  
b. 8.4%.  
c. 8.75%.  
d. 13.0%.  

184. **CSO: 2B5f  LOS: 2B5dd**  
Todd Manufacturing Company needs a $100 million loan for one year. Todd’s banker has presented two alternatives as follows:

Option #1 - Loan with a stated interest rate of 10.25%. No compensating balance required.

Option #2 - Loan with a stated interest rate of 10.00%. Non-interest bearing compensating balance required.

Which of the following compensating balances, withheld from the loan proceeds, would result in Option #2 having an effective interest rate equal to the 10.25% rate of Option #1?

a. $250,000.  
b. $2,440,000.  
c. $2,500,000.  
d. $10,250,000.  

185. **CSO: 2B5f  LOS: 2B5dd**  
Frame Industries has arranged a revolving line of credit for the upcoming year with a commercial bank. The arrangement is for $20 million, with interest payable monthly on the amount utilized at the bank’s prime rate and an annual commitment fee of one-half of 1 percent, computed and payable monthly on the unused portion of the line. Frame estimates that the prime rate for the upcoming year will be 8%, and expects the following average amount to be borrowed by quarter.

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Amount Borrowed</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>$10,000,000</td>
</tr>
<tr>
<td>Second</td>
<td>20,000,000</td>
</tr>
<tr>
<td>Third</td>
<td>20,000,000</td>
</tr>
<tr>
<td>Fourth</td>
<td>5,000,000</td>
</tr>
</tbody>
</table>

How much will Frame pay to the bank next year in interest and fees?

a. $1,118,750.  
b. $1,131,250.  
c. $1,168,750.  
d. $1,200,000.
186. **CSO: 2B5f LOS: 2B5dd**

What is the effective annual interest rate for a one-year $100 million loan with a stated interest rate of 8.00%, if the lending bank requires a non-interest bearing compensating balance in the amount of $5 million?

a. 7.62%
b. 8.00%
c. 8.42%
d. 13.00%

187. **CSO: 2B5f LOS: 2B5gg**

Megatech Inc. is a large publicly-held firm. The treasurer is making an analysis of the short-term financing options available for the third quarter, as the company will need an average of $8 million for the month of July, $12 million for August, and $10 million for September. The following options are available.

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Based on this information, which one of the following actions should the treasurer take?

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d. Use the line of credit, since it is approximately $5,800 less expensive than issuing commercial paper.

188. **CSO: 2B6f LOS: 2B6l**

The residual theory of dividends argues that dividends

a. are necessary to maintain the market price of the common stock.
b. are irrelevant.
c. can be foregone unless there is an excess demand for cash dividends.
d. can be paid if there is income remaining after funding all attractive investment opportunities.
Mason Inc. is considering four alternative opportunities. Required investment outlays and expected rates of return for these investments are given below.

<table>
<thead>
<tr>
<th>Project</th>
<th>Investment Cost</th>
<th>IRR</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>$200,000</td>
<td>12.5</td>
</tr>
<tr>
<td>B</td>
<td>$350,000</td>
<td>14.2</td>
</tr>
<tr>
<td>C</td>
<td>$570,000</td>
<td>16.5</td>
</tr>
<tr>
<td>D</td>
<td>$390,000</td>
<td>10.6</td>
</tr>
</tbody>
</table>

The investments will be financed through 40% debt and 60% common equity. Internally generated funds totaling $1,000,000 are available for reinvestment. If the cost of capital is 11%, and Mason strictly follows the residual dividend policy, how much in dividends would the company likely pay?

a. $120,000.
b. $328,000.
c. $430,000.
d. $650,000.

When determining the amount of dividends to be declared, the most important factor to consider is the

a. expectations of the shareholders.
b. future planned uses of retained earnings.
c. impact of inflation on replacement costs.
d. future planned uses of cash.

Underhall Inc.’s common stock is currently selling for $108 per share. Underhall is planning a new stock issue in the near future and would like to stimulate interest in the company. The Board, however, does not want to distribute capital at this time. Therefore, Underhall is considering whether to offer a 2-for-1 common stock split or a 100% stock dividend on its common stock. The best reason for opting for the stock split is that

a. it will not decrease shareholders’ equity.
b. it will not impair the company’s ability to pay dividends in the future.
c. the impact on earnings per share will not be as great.
d. the par value per share will remain unchanged.
192. **CSO: 2B6f  LOS: 2B6m**
Kalamazoo Inc. has issued 25,000 shares of its authorized 50,000 shares of common stock. There are 5,000 shares of common stock that have been repurchased and are classified as treasury stock. Kalamazoo has 10,000 shares of preferred stock. If a $0.60 per share dividend has been authorized on its common stock, what will be the total common stock dividend payment?

a. $12,000.
b. $15,000.
c. $21,000.
d. $30,000.

193. **CSO: 2B8a  LOS: 2B8b**
Under a floating exchange rate system, which one of the following should result in a depreciation of the Swiss franc?

a. U.S. inflation declines relative to the Swiss inflation.
b. U.S. income levels improve relative to the Swiss.
c. Swiss interest rate rise relative to the U.S. rates.
d. Decrease in outflows of Swiss capital to the U.S.

194. **CSO: 2B8a  LOS: 2B8b**
If the U.S. dollar appreciated against the British pound, other things being equal, we would expect that

a. the British demand for U.S. products would increase.
b. U.S. demand for British products would decrease.
c. U.S. demand for British products would increase.
d. trade between the U.S. and Britain would decrease.

195. **CSO: 2B8a  LOS: 2B8b**
Country A’s currency would tend to appreciate relative to Country B’s currency when

a. Country A has a higher rate of inflation than Country B.
b. Country B has real interest rates that are greater than real interest rates in Country A.
c. Country A has a slower rate of growth in income that causes its imports to lag behind its exports.
d. Country B switches to a more restrictive monetary policy.

196. **CSO: 2B8a  LOS: 2B8b**
Country R’s currency would tend to depreciate relative to Country T’s currency when

a. Country R switches to a more restrictive monetary policy.
b. Country T has a rapid rate of growth in income that causes imports to lag behind exports.
c. Country R has a rate of inflation that is lower than the rate of inflation in Country T.
d. Country R has real interest rates that are lower than real interest rates in Country T.
Section C: Decision Analysis and Risk Management

197.  
Garner Products is considering a new accounts payable and cash disbursement process which is projected to add 3 days to the disbursement schedule without having significant negative effects on supplier relations. Daily cash outflows average $1,500,000. Garner is in a short-term borrowing position for 8 months of the year and in an investment position for 4 months. On an annual basis, bank lending rates are expected to average 7% and marketable securities yields are expected to average 4%. What is the maximum annual expense that Garner could incur for this new process and still break even?

a. $90,000.
b. $180,000.
c. $270,000.
d. $315,000.

198.  
Bolger and Co. manufactures large gaskets for the turbine industry. Bolger’s per unit sales price and variable costs for the current year are as follows.

<table>
<thead>
<tr>
<th>Sales price per unit</th>
<th>$300</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable costs per unit</td>
<td>210</td>
</tr>
</tbody>
</table>

Bolger’s total fixed costs aggregate $360,000. As Bolger’s labor agreement is expiring at the end of the year, management is concerned about the effect a new agreement will have on its unit breakeven point. The controller performed a sensitivity analysis to ascertain the estimated effect of a $10 per unit direct labor increase and a $10,000 reduction in fixed costs. Based on these data, it was determined that the breakeven point would

a. decrease by 1,000 units.
b. decrease by 125 units.
c. increase by 375 units.
d. increase by 500 units.

199.  
Phillips & Company produces educational software. Its unit cost structure, based upon an anticipated production volume of 150,000 units, is as follows.

| Sales price | $160 |
| Variable costs | 60 |
| Fixed costs | 55 |

The marketing department has estimated sales for the coming year at 175,000 units, which is within the relevant range of Phillip’s cost structure. Phillip’s break-even volume (in units) and anticipated operating income for the coming year would amount to
a. 82,500 units and $7,875,000 of operating income.
b. 82,500 units and $9,250,000 of operating income.
c. 96,250 units and $3,543,750 of operating income.
d. 96,250 units and $7,875,000 of operating income.

200. **CSO: 2C1a   LOS: 2C1a**
All of the following are assumptions of cost-volume-profit analysis except

a. total fixed costs do not change with a change in volume.
b. revenues change proportionately with volume.
c. variable costs per unit change proportionately with volume.
d. sales mix for multi-product situations do not vary with volume changes.

201. **CSO: 2C1a   LOS: 2C1g**
Ace Manufacturing plans to produce two products, Product C and Product F, during the next year, with the following characteristics.

<table>
<thead>
<tr>
<th></th>
<th>Product C</th>
<th>Product F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selling price per unit</td>
<td>$10</td>
<td>$15</td>
</tr>
<tr>
<td>Variable cost per unit</td>
<td>$8</td>
<td>$10</td>
</tr>
<tr>
<td>Expected sales (units)</td>
<td>20,000</td>
<td>5,000</td>
</tr>
</tbody>
</table>

Total projected fixed costs for the company are $30,000. Assume that the product mix would be the same at the breakeven point as at the expected level of sales of both products. What is the projected number of units (rounded) of Product C to be sold at the breakeven point?

a. 2,308 units.
b. 9,231 units.
c. 11,538 units.
d. 15,000 units.

202. **CSO: 2C1a   LOS: 2C1g**
Starlight Theater stages a number of summer musicals at its theater in northern Ohio. Preliminary planning has just begun for the upcoming season, and Starlight has developed the following estimated data.

<table>
<thead>
<tr>
<th>Production</th>
<th>Number of Performances</th>
<th>Average Number of Attendance per Performance</th>
<th>Ticket Price</th>
<th>Variable Costs</th>
<th>Fixed Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Wonderful</td>
<td>12</td>
<td>3,500</td>
<td>$18</td>
<td>$3</td>
<td>$165,000</td>
</tr>
<tr>
<td>That’s Life</td>
<td>20</td>
<td>3,000</td>
<td>15</td>
<td>1</td>
<td>249,000</td>
</tr>
<tr>
<td>All That Jazz</td>
<td>12</td>
<td>4,000</td>
<td>20</td>
<td>0</td>
<td>316,000</td>
</tr>
</tbody>
</table>

1 Represent payments to production companies and are based on tickets sold.
Costs directly associated with the entire run of each production for costumes, sets, and artist fees.

Starlight will also incur $565,000 of common fixed operating charges (administrative overhead, facility costs, and advertising) for the entire season, and is subject to a 30% income tax rate.

If Starlight’s schedule of musicals is held, as planned, how many patrons would have to attend for Starlight to break even during the summer season?

a. 77,918.
b. 79,302.
c. 79,938.
d. 81,344.

203.  
Carson Inc. manufactures only one product and is preparing its budget for next year based on the following information.

<table>
<thead>
<tr>
<th>Selling price per unit</th>
<th>$ 100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable costs per unit</td>
<td>75</td>
</tr>
<tr>
<td>Fixed costs</td>
<td>250,000</td>
</tr>
<tr>
<td>Effective tax rate</td>
<td>35%</td>
</tr>
</tbody>
</table>

If Carson wants to achieve a net income of $1.3 million next year, its sales must be

a. 62,000 units.
b. 70,200 units.
c. 80,000 units.
d. 90,000 units.

204.  
MetalCraft produces three inexpensive socket wrench sets that are popular with do-it-yourselfers. Budgeted information for the upcoming year is as follows.

<table>
<thead>
<tr>
<th>Model</th>
<th>Selling Price</th>
<th>Variable Cost</th>
<th>Sales Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 109</td>
<td>$10.00</td>
<td>$ 5.50</td>
<td>30,000 sets</td>
</tr>
<tr>
<td>No. 145</td>
<td>15.00</td>
<td>8.00</td>
<td>75,000 sets</td>
</tr>
<tr>
<td>No. 153</td>
<td>20.00</td>
<td>14.00</td>
<td>45,000 sets</td>
</tr>
</tbody>
</table>

Total fixed costs for the socket wrench product line is $961,000. If the company’s actual experience remains consistent with the estimated sales volume percentage distribution, and the firm desires to generate total operating income of $161,200, how many Model No. 153 socket sets will MetalCraft have to sell?
205. **CSO: 2C1a   LOS: 2C1g**  
Starlight Theater stages a number of summer musicals at its theater in northern Ohio. Preliminary planning has just begun for the upcoming season, and Starlight has developed the following estimated data.

<table>
<thead>
<tr>
<th>Production</th>
<th>Number of Performances</th>
<th>Average Attendance per Performance</th>
<th>Ticket Price</th>
<th>Variable Costs¹</th>
<th>Fixed Costs²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Wonderful</td>
<td>12</td>
<td>3,500</td>
<td>$18</td>
<td>$3</td>
<td>$165,000</td>
</tr>
<tr>
<td>That’s Life</td>
<td>20</td>
<td>3,000</td>
<td>15</td>
<td>1</td>
<td>249,000</td>
</tr>
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<td>All That Jazz</td>
<td>12</td>
<td>4,000</td>
<td>20</td>
<td>0</td>
<td>316,000</td>
</tr>
</tbody>
</table>

¹ Represent payments to production companies and are based on tickets sold.  
² Costs directly associated with the entire run of each production for costumes, sets, and artist fees.

Starlight will also incur $565,000 of common fixed operating charges (administrative overhead, facility costs, and advertising) for the entire season, and is subject to a 30% income tax rate.

If management desires Mr. Wonderful to produce an after-tax contribution of $210,000 toward the firm’s overall operating income for the year, total attendance for the production would have to be

a. 20,800.  
b. 25,000.  
c. 25,833.  
d. 31,000.

206. **CSO: 2C1a   LOS: 2C1g**  
Robin Company wants to earn a 6% return on sales after taxes. The company’s effective income tax rate is 40%, and its contribution margin is 30%. If Robin has fixed costs of $240,000, the amount of sales required to earn the desired return is

a. $375,000.  
b. $400,000.  
c. $1,000,000.  
d. $1,200,000.
207.  *CSO: 2C1a  LOS: 2C1g*

Bargain Press is considering publishing a new textbook. The publisher has developed the following cost data related to a production run of 6,000, the minimum possible production run. Bargain Press will sell the textbook for $45 per copy. How many textbooks must Bargain Press sell in order to generate operating earnings (earnings before interest and taxes) of 20% on sales? (Round your answer up to the nearest whole textbook.)

<table>
<thead>
<tr>
<th>Estimated cost</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Development (reviews, class testing, editing)</td>
<td>$35,000</td>
</tr>
<tr>
<td>Typesetting</td>
<td>18,500</td>
</tr>
<tr>
<td>Depreciation on Equipment</td>
<td>9,320</td>
</tr>
<tr>
<td>General and Administrative</td>
<td>7,500</td>
</tr>
<tr>
<td>Miscellaneous Fixed Costs</td>
<td>4,400</td>
</tr>
<tr>
<td>Printing and Binding</td>
<td>30,000</td>
</tr>
<tr>
<td>Sales staff commissions (2% of selling price)</td>
<td>5,400</td>
</tr>
<tr>
<td>Bookstore commissions (25% of selling price)</td>
<td>67,500</td>
</tr>
<tr>
<td>Author’s Royalties (10% of selling price)</td>
<td>27,000</td>
</tr>
</tbody>
</table>

Total costs at production of 6,000 copies $204,620

a. 2,076 copies.

b. 5,207 copies.

c. 5,412 copies.

d. 6,199 copies.

208.  *CSO: 2C1a  LOS: 2C1g*

Zipper Company invested $300,000 in a new machine to produce cones for the textile industry. Zipper’s variable costs are 30% of the selling price, and its fixed costs are $600,000. Zipper has an effective income tax rate of 40%. The amount of sales required to earn an 8% after-tax return on its investment would be

a. $891,429.

b. $914,286.

c. $2,080,000.

d. $2,133,333.

209.  *CSO: 2C1a  LOS: 2C1a*

Breakeven quantity is defined as the volume of output at which revenues are equal to

a. marginal costs.

b. total costs.

c. variable costs.

d. fixed costs.
210. **CSO: 2C1a  LOS: 2C1b**
Eagle Brand Inc. produces two products. Data regarding these products are presented below.

<table>
<thead>
<tr>
<th></th>
<th>Product X</th>
<th>Product Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selling price per unit</td>
<td>$100</td>
<td>$130</td>
</tr>
<tr>
<td>Variable costs per unit</td>
<td>$80</td>
<td>$100</td>
</tr>
<tr>
<td>Raw materials used per unit</td>
<td>4 lbs.</td>
<td>10 lbs.</td>
</tr>
</tbody>
</table>

Eagle Brand has 1,000 lbs. of raw materials which can be used to produce Products X and Y.

Which one of the alternatives below should Eagle Brand accept in order to maximize contribution margin?

a. 100 units of product Y.
b. 250 units of product X.
c. 200 units of product X and 20 units of product Y.
d. 200 units of product X and 50 units of product Y.

211. **CSO: 2C1b  LOS: 2C1b**
For the year just ended, Silverstone Company’s sales revenue was $450,000. Silverstone’s fixed costs were $120,000 and its variable costs amounted to $270,000. For the current year sales are forecasted at $500,000. If the fixed costs do not change, Silverstone’s profits this year will be

a. $60,000.
b. $80,000.
c. $110,000.
d. $200,000.

212. **CSO: 2C1b  LOS: 2C1f**
Breeze Company has a contribution margin of $4,000 and fixed costs of $1,000. If the total contribution margin increases by $1,000, operating profit would

a. decrease by $1,000.
b. increase by more than $1,000.
c. increase by $1,000.
d. remain unchanged.
213.  **CSO: 2C1b  LOS: 2C1b**
Wilkinson Company sells its single product for $30 per unit. The contribution margin ratio is 45% and Wilkinson has fixed costs of $10,000 per month. If 3,000 units are sold in the current month, Wilkinson’s income would be

a.  $30,500.
b.  $49,500.
c.  $40,500.
d.  $90,000.

214.  **CSO: 2C1c  LOS: 2C1i**
Cervine Corporation makes motors for various products. Operating data and unit cost information for its products are presented below.

<table>
<thead>
<tr>
<th></th>
<th>Product A</th>
<th>Product B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual unit capacity</td>
<td>10,000</td>
<td>20,000</td>
</tr>
<tr>
<td>Annual unit demand</td>
<td>10,000</td>
<td>20,000</td>
</tr>
<tr>
<td>Selling price</td>
<td>$100</td>
<td>$80</td>
</tr>
<tr>
<td>Variable manufacturing cost</td>
<td>53</td>
<td>45</td>
</tr>
<tr>
<td>Fixed manufacturing cost</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Variable selling &amp; administrative</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>Fixed selling &amp; administrative</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Fixed other administrative</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Unit operating profit</td>
<td>$20</td>
<td>$10</td>
</tr>
<tr>
<td>Machine hours per unit</td>
<td>2.0</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Cervine has 40,000 productive machine hours available. What is the maximum total contribution margin that Cervine can generate in the coming year?

a.  $665,000.
b.  $689,992.
c.  $850,000.
d.  $980,000.
Specialty Cakes Inc. produces two types of cakes, a 2 lbs. round cake and a 3 lbs. heart-shaped cake. Total fixed costs for the firm are $94,000. Variable costs and sales data for the two types of cakes are presented below.

<table>
<thead>
<tr>
<th></th>
<th>2 lbs. Round Cake</th>
<th>3 lbs. Heart-shape Cake</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selling price per unit</td>
<td>$12</td>
<td>$20</td>
</tr>
<tr>
<td>Variable cost per unit</td>
<td>$8</td>
<td>$15</td>
</tr>
<tr>
<td>Current sales (units)</td>
<td>10,000</td>
<td>15,000</td>
</tr>
</tbody>
</table>

If the product sales mix were to change to three heart-shaped cakes for each round cake, the breakeven volume for each of these products would be

a. 8,174 round cakes, 12,261 heart-shaped cakes.
b. 12,261 round cakes, 8,174 heart-shaped cakes.
c. 4,947 round cakes, 14,842 heart-shaped cakes.
d. 15,326 round cakes, 8,109 heart-shaped cakes.

Lazar Industries produces two products, Crates and Boxes. Per unit selling prices, costs, and resource utilization for these products are as follows.

<table>
<thead>
<tr>
<th></th>
<th>Crates</th>
<th>Boxes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selling price</td>
<td>$20</td>
<td>$30</td>
</tr>
<tr>
<td>Direct material costs</td>
<td>$5</td>
<td>$5</td>
</tr>
<tr>
<td>Direct labor costs</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>Variable overhead costs</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Variable selling costs</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Machine hours per unit</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>

Production of Crates and Boxes involves joint processes and use of the same facilities. The total fixed factory overhead cost is $2,000,000 and total fixed selling and administrative costs are $840,000. Production and sales are scheduled for 500,000 units of Crates and 700,000 units of Boxes. Lazar maintains no direct materials, work-in-process, or finished goods inventory.

Lazar can reduce direct material costs for Crates by 50% per unit, with no change in direct labor costs. However, it would increase machine-hour production time by 1-1/2 hours per unit. For Crates, variable overhead costs are allocated based on machine hours. What would be the effect on the total contribution margin if this change was implemented?

a. $125,000 increase.
b. $250,000 decrease.
c. $300,000 increase.
d. $1,250,000 increase.
217. **CSO: 2C1c  LOS: 2C1h**
Ticker Company sells two products. Product A provides a contribution margin of $3 per unit, and Product B provides a contribution margin of $4 per unit. If Ticker’s sales mix shifts toward Product A, which one of the following statements is **correct**?

- a. The total number of units necessary to break even will decrease.
- b. The overall contribution margin ratio will increase.
- c. Operating income will decrease if the total number of units sold remains constant.
- d. The contribution margin ratios for Products A and B will change.

218. **CSO: 2C1c  LOS: 2C1i**
Lazar Industries produces two products, Crates and Trunks. Per unit selling prices, costs, and resource utilization for these products are as follows.

<table>
<thead>
<tr>
<th></th>
<th>Crates</th>
<th>Trunks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selling price</td>
<td>$20</td>
<td>$30</td>
</tr>
<tr>
<td>Direct material costs</td>
<td>$ 5</td>
<td>$ 5</td>
</tr>
<tr>
<td>Direct labor costs</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>Variable overhead costs</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Variable selling costs</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Machine hours per unit</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>

Production of Crates and Trunks involves joint processes and use of the same facilities. The total fixed factory overhead cost is $2,000,000 and total fixed selling and administrative costs are $840,000. Production and sales are scheduled for 500,000 Crates and 700,000 Trunks. Lazar has a normal capacity to produce a total of 2,000,000 units in any combination of Crates and Trunks, and maintains no direct materials, work-in-process, or finished goods inventory.

Due to plant renovations Lazar Industries will be limited to 1,000,000 machine hours. What is the maximum amount of contribution margin Lazar can generate during the renovation period?

- a. $1,500,000.
- b. $2,000,000.
- c. $3,000,000.
- d. $7,000,000.
219. **CSO: 2C2a  LOS: 2C2c**
Johnson waits two hours in line to buy a ticket to an NCAA Final Four Tournament. The opportunity cost of buying the $200 ticket is:
   b. Johnson’s best alternative use of the two hours it took to wait in line.
   c. the value of the $200 to the ticket agent.
   d. Johnson’s best alternative use of both the $200 and the two hours spent in line.

220. **CSO: 2C2a  LOS: 2C2a**
In a management decision process, the cost measurement of the benefits sacrificed due to selecting an alternative use of resources is **most** often referred to as a(n):
   a. relevant cost.
   b. sunk cost.
   c. opportunity cost.
   d. differential cost.

221. **CSO: 2C2a  LOS: 2C2a**
In order to avoid pitfalls in relevant-cost analysis, management should focus on:
   a. variable cost items that differ for each alternative.
   b. long-run fixed costs of each alternative.
   c. anticipated fixed costs and variable costs of all alternatives.
   d. anticipated revenues and costs that differ for each alternative.

222. **CSO: 2C2a  LOS: 2C2a**
In a joint manufacturing process, joint costs incurred prior to a decision as to whether to process the products after the split-off point should be viewed as:
   a. sunk costs.
   b. relevant costs.
   c. standard costs.
   d. differential costs.

223. **CSO: 2C2a  LOS: 2C2a**
Jack Blaze wants to rent store space in a new shopping mall for the three month holiday shopping season. Blaze believes he has a new product available which has the potential for good sales. The product can be obtained on consignment at the cost of $20 per unit and he expects to sell the item for $100 per unit. Due to other business ventures, Blaze’s risk tolerance is low. He recognizes that, as the product is entirely new, there is an element of risk. The mall management has offered Blaze three rental options: (1) a fixed fee of $8,000 per month, (2) a fixed fee of $3,990 per month plus 10% of Blaze’s revenue, or (3) 30% of Blaze’s revenues. Which one of the following actions would you recommend to Jack Blaze?
a. Choose the first option no matter what Blaze expects the revenues to be.
b. Choose the second option no matter what Blaze expects the revenues to be.
c. Choose the second option only if Blaze expects revenues to exceed $5,700.
d. Choose the third option no matter what Blaze expects the revenues to be.

224. **CSO: 2C2a          LOS: 2C2a**
Profits that are lost by moving an input from one use to another are referred to as

a. out-of-pocket costs.
b. cannibalization charges.
c. replacement costs.
d. opportunity costs.

225. **CSO: 2C2a          LOS: 2C2a**
In differential cost analysis, which one of the following **best** fits the description of a sunk cost?

a. Direct materials required in the manufacture of a table.
b. Purchasing department costs incurred in acquiring material.
c. Cost of the forklift driver to move the material to the manufacturing floor.
d. Cost of a large crane used to move materials.

226. **CSO: 2C2a          LOS: 2C2d**
Refrigerator Company manufactures ice-makers for installation in refrigerators. The costs per unit, for 20,000 units of ice-makers, are as follows.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct materials</td>
<td>$ 7</td>
</tr>
<tr>
<td>Direct labor</td>
<td>12</td>
</tr>
<tr>
<td>Variable overhead</td>
<td>5</td>
</tr>
<tr>
<td>Fixed overhead</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total costs</strong></td>
<td><strong>$34</strong></td>
</tr>
</tbody>
</table>

Cool Compartments Inc. has offered to sell 20,000 ice-makers to Refrigerator Company for $28 per unit. If Refrigerator accepts Cool Compartments’ offer the plant would be idled and fixed overhead amounting to $6 per unit could be eliminated. The total relevant costs associated with the manufacture of ice-makers amount to

a. $480,000.
b. $560,000.
c. $600,000.
d. $680,000.
Edwards Products has just developed a new product with a manufacturing cost of $30. The Marketing Director has identified three marketing approaches for this new product.

**Approach X** Set a selling price of $36 and have the firm’s sales staff sell the product at a 10% commission with no advertising program. Estimated annual sales would be 10,000 units.

**Approach Y** Set a selling price of $38, have the firm’s sales staff sell the product at a 10% commission, and back them up with a $30,000 advertising program. Estimated annual sales would be 12,000 units.

**Approach Z** Rely on wholesalers to handle the product. Edwards would sell the new product to the wholesalers at $32 per unit and incur no selling expenses. Estimated annual sales would be 14,000 units.

Rank the three alternatives in order of net profit, from highest net profit to lowest.

a. X, Y, Z.

b. Y, Z, X.

c. Z, X, Y.

d. Z, Y, X.

Auburn Products Inc. has compiled the following daily cost information for its manufacturing operation.

<table>
<thead>
<tr>
<th>Output (units)</th>
<th>Fixed Cost</th>
<th>Variable Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>$2,000</td>
<td>$ 0</td>
</tr>
<tr>
<td>1</td>
<td>2,000</td>
<td>200</td>
</tr>
<tr>
<td>2</td>
<td>2,000</td>
<td>380</td>
</tr>
<tr>
<td>3</td>
<td>2,000</td>
<td>550</td>
</tr>
<tr>
<td>4</td>
<td>2,000</td>
<td>700</td>
</tr>
<tr>
<td>5</td>
<td>2,000</td>
<td>860</td>
</tr>
<tr>
<td>6</td>
<td>2,000</td>
<td>1,040</td>
</tr>
<tr>
<td>7</td>
<td>2,000</td>
<td>1,250</td>
</tr>
<tr>
<td>8</td>
<td>2,000</td>
<td>1,500</td>
</tr>
</tbody>
</table>

Auburn’s average total cost at an output level of 3 units is

a. $667.

b. $850.

c. $1,217.

d. $2,550.
229. **CSO: 2C2b LOS: 2C2g**  
Daily costs for Kelso Manufacturing include $1,000 of fixed costs and total variable costs are shown below.

<table>
<thead>
<tr>
<th>Unit Output</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td>$125</td>
<td>$250</td>
<td>$400</td>
<td>$525</td>
<td>$700</td>
<td>$825</td>
</tr>
</tbody>
</table>

The average total cost at an output level of 11 units is

a. $113.64.  
b. $125.00.  
c. $215.91.  
d. $250.00.

230. **CSO: 2C2b LOS: 2C2f**  
Harper Products’ cost information for the normal range of output in a month is shown below.

<table>
<thead>
<tr>
<th>Output in units</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>20,000</td>
<td>$3,000,000</td>
</tr>
<tr>
<td>22,500</td>
<td>$3,325,000</td>
</tr>
<tr>
<td>25,000</td>
<td>$3,650,000</td>
</tr>
</tbody>
</table>

What is Harper’s short-run marginal cost?

b. $130.  
c. $146.  
d. $150.

231. **CSO: 2C2b LOS: 2C2f**  
Auburn Products Inc. has compiled the following daily cost information for its manufacturing operation.

<table>
<thead>
<tr>
<th>Output (units)</th>
<th>Fixed Cost</th>
<th>Variable Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>$2,000</td>
<td>$ 0</td>
</tr>
<tr>
<td>1</td>
<td>2,000</td>
<td>200</td>
</tr>
<tr>
<td>2</td>
<td>2,000</td>
<td>380</td>
</tr>
<tr>
<td>3</td>
<td>2,000</td>
<td>550</td>
</tr>
<tr>
<td>4</td>
<td>2,000</td>
<td>700</td>
</tr>
<tr>
<td>5</td>
<td>2,000</td>
<td>860</td>
</tr>
<tr>
<td>6</td>
<td>2,000</td>
<td>1,040</td>
</tr>
<tr>
<td>7</td>
<td>2,000</td>
<td>1,250</td>
</tr>
<tr>
<td>8</td>
<td>2,000</td>
<td>1,500</td>
</tr>
</tbody>
</table>
Auburn’s marginal cost for the 7th unit is

a. $179.
c. $286.
d. $464.

232. **CSO: 2C2b  LOS: 2C2f**

Daily costs for Kelso Manufacturing include $1,250 in fixed costs and total variable costs are shown below.

<table>
<thead>
<tr>
<th>Unit Output</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td>$150</td>
<td>$300</td>
<td>$480</td>
<td>$620</td>
<td>$750</td>
<td>$900</td>
</tr>
</tbody>
</table>

The marginal cost of the 12th unit is

a. $180.00.
b. $140.00.
c. $104.16.
d. $40.00.

233. **CSO: 2C2b  LOS: 2C2g**

The total cost of producing 100 units of a good is $800. If a firm’s average variable cost is $5 per unit, then the firm’s

a. average fixed cost is $3.
b. total variable cost is $300.
c. marginal cost is $3.
d. marginal cost is $8.

234. **CSO: 2C2b  LOS: 2C2f**

Daily sales and cost data for Crawford Industries are shown below.

<table>
<thead>
<tr>
<th>Units</th>
<th>Sales</th>
<th>Total Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>$2,000</td>
<td>$1,200</td>
</tr>
<tr>
<td>21</td>
<td>2,090</td>
<td>1,250</td>
</tr>
<tr>
<td>22</td>
<td>2,170</td>
<td>1,290</td>
</tr>
<tr>
<td>23</td>
<td>2,240</td>
<td>1,330</td>
</tr>
<tr>
<td>24</td>
<td>2,300</td>
<td>1,380</td>
</tr>
<tr>
<td>25</td>
<td>2,350</td>
<td>1,440</td>
</tr>
</tbody>
</table>

The marginal cost of the 23rd unit is
Parker Manufacturing is analyzing the market potential for its specialty turbines. Parker developed its pricing and cost structures for their specialty turbines over various relevant ranges. The pricing and cost data for each relevant range are presented below.

<table>
<thead>
<tr>
<th>Units produced and sold</th>
<th>1 - 5</th>
<th>6 - 10</th>
<th>11 - 15</th>
<th>16 - 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total fixed costs</td>
<td>$200,000</td>
<td>$400,000</td>
<td>$600,000</td>
<td>$800,000</td>
</tr>
<tr>
<td>Unit variable cost</td>
<td>50,000</td>
<td>50,000</td>
<td>45,000</td>
<td>45,000</td>
</tr>
<tr>
<td>Unit selling price</td>
<td>100,000</td>
<td>100,000</td>
<td>100,000</td>
<td>100,000</td>
</tr>
</tbody>
</table>

Which one of the following production/sales levels would produce the highest operating income for Parker?

a. 8 units.
b. 10 units.
c. 14 units.
d. 17 units.

Johnson Company manufactures a variety of shoes, and has received a special one-time-only order directly from a wholesaler. Johnson has sufficient idle capacity to accept the special order to manufacture 15,000 pairs of sneakers at a price of $7.50 per pair. Johnson’s normal selling price is $11.50 per pair of sneakers. Variable manufacturing costs are $5.00 per pair and fixed manufacturing costs are $3.00 a pair. Johnson’s variable selling expense for its normal line of sneakers is $1.00 per pair. What would the effect on Johnson’s operating income be if the company accepted the special order?

a. Decrease by $60,000.
b. Increase by $22,500.
c. Increase by $37,500.
d. Increase by $52,500.

The Robo Division, a decentralized division of GMT Industries, has been approached to submit a bid for a potential project for the RSP Company. Robo Division has been informed by RSP that they will not consider bids over $8,000,000. Robo Division purchases its materials from the Cross Division of GMT Industries. There would be no additional fixed costs for either the Robo or Cross Divisions. Information regarding this project is as follows.
<table>
<thead>
<tr>
<th></th>
<th>Cross Division</th>
<th>Robo Division</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable Costs</td>
<td>$1,500,000</td>
<td>$4,800,000</td>
</tr>
<tr>
<td>Transfer Price</td>
<td>3,700,000</td>
<td>-</td>
</tr>
</tbody>
</table>

If Robo Division submits a bid for $8,000,000, the amount of contribution margin recognized by the Robo Division and GMT Industries, respectively, is

a. $(500,000) and $(2,000,000).
b. $3,200,000 and $(500,000).
c. $(500,000) and $1,700,000.
d. $3,200,000 and $1,700,000.

238. **CSO: 2C2c   LOS: 2C2i**

Basic Computer Company (BCC) sells its micro-computers using bid pricing. It develops bids on a full cost basis. Full cost includes estimated material, labor, variable overheads, fixed manufacturing overheads, and reasonable incremental computer assembly administrative costs, plus a 10% return on full cost. BCC believes bids in excess of $925 per computer are not likely to be considered.

BCC’s current cost structure, based on its normal production levels, is $500 for materials per computer and $20 per labor hour. Assembly and testing of each computer requires 12 labor hours. BCC’s variable manufacturing overhead is $2 per labor hour, fixed manufacturing overhead is $3 per labor hour, and incremental administrative costs are $8 per computer assembled.

The company has received a request from the School Board for 500 computers. BCC’s management expects heavy competition in bidding for this job. As this is a very large order for BCC, and could lead to other educational institution orders, management is extremely interested in submitting a bid which would win the job, but at a price high enough so that current net income will not be unfavorably impacted. Management believes this order can be absorbed within its current manufacturing facility. Which one of the following bid prices should be recommended to BCC’s management?

a. $764.00.
b. $772.00.
c. $849.20.
d. $888.80.
The loss of a key customer has temporarily caused Bedford Machining to have some excess manufacturing capacity. Bedford is considering the acceptance of a special order, one that involves Bedford’s most popular product. Consider the following types of costs.

I. Variable costs of the product  
II. Fixed costs of the product  
III. Direct fixed costs associated with the order  
IV. Opportunity cost of the temporarily idle capacity

Which one of the following combinations of cost types should be considered in the special order acceptance decision?

a. I and II.  
b. I and IV.  
c. II and III.  
d. I, III, and IV.

Raymund Inc. currently sells its only product to Mall-Stores. Raymund has received a one-time-only order for 2,000 units from another buyer. Sale of the special order items will not require any additional selling effort. Raymund has a manufacturing capacity to produce 7,000 units. Raymund has an effective income tax rate of 40%. Raymund’s Income Statement, before consideration of the one-time-only order, is as follows.

Sales (5,000 units at $20 per unit) $100,000  
Variable manufacturing costs $50,000  
Variable selling costs 15,000 65,000  
Contribution margin 35,000  
Fixed manufacturing costs 16,000  
Fixed selling costs 4,000 20,000  
Operating income 15,000  
Income taxes 6,000  
Net income $9,000

In negotiating a price for the special order, Raymund should set the minimum per unit selling price at

a. $10.  
b. $13.  
c. $17.  
d. $18.
241. **CSO: 2C2c LOS: 2C2d**

Two months ago, Hickory Corporation purchased 4,500 pounds of Kaylene at a cost of $15,300. The market for this product has become very strong, with the price jumping to $4.05 per pound. Because of the demand, Hickory can buy or sell Kaylene at this price. Hickory recently received a special order inquiry that would require the use of 4,200 pounds of Kaylene. In deciding whether to accept the order, management must evaluate a number of decision factors. Without regard to income taxes, which one of the following combination of factors correctly depicts relevant and irrelevant decision factors, respectively?

<table>
<thead>
<tr>
<th>Relevant Decision Factor</th>
<th>Irrelevant Decision Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Remaining 300 pounds of Kaylene</td>
<td>Market price of $4.05 per lb.</td>
</tr>
<tr>
<td>b. Market price of $4.05 per lb.</td>
<td>Purchase price of $3.40 per lb.</td>
</tr>
<tr>
<td>c. Purchase price of $3.40 per lb.</td>
<td>Market price of $4.05 per lb.</td>
</tr>
<tr>
<td>d. 4,500 pounds of Kaylene</td>
<td>Remaining 300 pounds of Kaylene.</td>
</tr>
</tbody>
</table>

242. **CSO: 2C2c LOS: 2C2i**

Gardener Company currently is using its full capacity of 25,000 machine hours to manufacture product XR-2000. LJB Corporation placed an order with Gardener for the manufacture of 1,000 units of KT-6500. LJB would normally manufacture this component. However, due to a fire at its plant, LJB needs to purchase these units to continue manufacturing other products. This is a one time special order. The following reflects unit cost data, and selling prices.

<table>
<thead>
<tr>
<th></th>
<th>KT-6500</th>
<th>XR-2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>$27</td>
<td>$24</td>
</tr>
<tr>
<td>Direct labor</td>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td>Variable overhead</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Fixed overhead</td>
<td>48</td>
<td>40</td>
</tr>
<tr>
<td>Variable selling &amp; administrative</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Fixed selling &amp; administrative</td>
<td>12</td>
<td>10</td>
</tr>
</tbody>
</table>

| Normal selling price | $125 | $105 |
| Machine hours required | 3 | 4 |

What is the minimum unit price that Gardener should charge LJB to manufacture 1,000 units of KT-6500?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>$93.00.</td>
</tr>
<tr>
<td>b.</td>
<td>$96.50.</td>
</tr>
<tr>
<td>c.</td>
<td>$110.00.</td>
</tr>
<tr>
<td>d.</td>
<td>$125.00.</td>
</tr>
</tbody>
</table>
Green Corporation builds custom-designed machinery. A review of selected data and the company’s pricing policies revealed the following.

- A 10% commission is paid on all sales orders.
- Variable and fixed factory overheads total 40% and 20%, respectively, of direct labor.
- Corporate administrative costs amount to 10% of direct labor.
- When bidding on jobs, Green adds a 25% markup to the total of all factory and administrative costs to cover income taxes and produce a profit.
- The firm’s income tax rate is 40%.

The company expects to operate at a maximum of 80% of practical capacity.

Green recently received an invitation to bid on the manufacture of some custom machinery for Kennendale, Inc. For this project, Green’s production accountants estimate the material and labor costs will be $66,000 and $120,000, respectively. Accordingly, Green submitted a bid to Kennendale in the amount of $375,000. Feeling Green’s bid was too high, Kennendale countered with a price of $280,000. Which one of the following options should be recommended to Green’s management?

a. Accept the counteroffer because the order will increase operating income.
b. Accept the counteroffer even though the order will decrease operating income.
c. Reject the counteroffer even though the order will increase operating income.
d. Reject the counteroffer because the order will decrease operating income.

Synergy Inc. produces a component that is popular in many refrigeration systems. Data on three of the five different models of this component are as follows.

<table>
<thead>
<tr>
<th>Model</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume needed (units)</td>
<td>5,000</td>
<td>6,000</td>
<td>3,000</td>
</tr>
<tr>
<td>Manufacturing costs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variable direct costs</td>
<td>$10</td>
<td>$24</td>
<td>$20</td>
</tr>
<tr>
<td>Variable overhead</td>
<td>5</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>Fixed overhead</td>
<td>11</td>
<td>20</td>
<td>17</td>
</tr>
<tr>
<td>Total manufacturing costs</td>
<td>$26</td>
<td>$54</td>
<td>$52</td>
</tr>
<tr>
<td>Cost if purchased</td>
<td>$21</td>
<td>$42</td>
<td>$39</td>
</tr>
</tbody>
</table>

Synergy applies variable overhead on the basis of machine hours at the rate of $2.50 per hour. Models A and B are manufactured in the Freezer Department, which has a capacity of 28,000 machine processing hours. Which one of the following options should be recommended to Synergy's management?
a. Purchase all three products in the quantities required.
b. Manufacture all three products in the quantities required.
c. The Freezer Department's manufacturing plan should include 5,000 units of Model A and 4,500 units of Model B.
d. The Freezer Department's manufacturing plan should include 2,000 units of Model A and 6,000 units of Model B.

245. **CSO: 2C2d  LOS: 2C2d**

Refrigerator Company manufactures ice-makers for installation in refrigerators. The costs per unit, for 20,000 units of ice-makers, are as follows.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct materials</td>
<td>$ 7</td>
</tr>
<tr>
<td>Direct labor</td>
<td>12</td>
</tr>
<tr>
<td>Variable overhead</td>
<td>5</td>
</tr>
<tr>
<td>Fixed overhead</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total costs</strong></td>
<td><strong>$34</strong></td>
</tr>
</tbody>
</table>

Cool Compartments Inc. has offered to sell 20,000 ice-makers to Refrigerator Company for $28 per unit. If Refrigerator accepts Cool Compartments’ offer, the facilities used to manufacture ice-makers could be used to produce water filtration units. Revenues from the sale of water filtration units are estimated at $80,000, with variable costs amounting to 60% of sales. In addition, $6 per unit of the fixed overhead associated with the manufacture of ice-makers could be eliminated.

For Refrigerator Company to determine the **most** appropriate action to take in this situation, the total relevant costs of make vs. buy, respectively, are

a. $600,000 vs. $560,000.
b. $648,000 vs. $528,000.
c. $600,000 vs. $528,000.
d. $680,000 vs. $440,000.

246. **CSO: 2C2d  LOS: 2C2d**

Sunshine Corporation is considering the purchase of a new machine for $800,000. The machine is capable of producing 1.6 million units of product over its useful life. The manufacturer’s engineering specifications state that the machine-related cost of producing each unit of product should be $.50. Sunshine’s total anticipated demand over the asset’s useful life is 1.2 million units. The average cost of materials and labor for each unit is $.40. In considering whether to buy the new machine, would you recommend that Sunshine use the manufacturer’s engineering specification of machine-related unit production cost?

a. No, the machine-related cost of producing each unit is $2.00.
b. No, the machine-related cost of producing each unit is $.67.
c. No, the machine-related cost of producing each unit is $.90.
d. Yes, the machine-related cost of producing each unit is $.50.
247.  **CSO: 2C2d    LOS: 2C2h**
Aril Industries is a multiproduct company that currently manufactures 30,000 units of Part 730 each month for use in production. The facilities now being used to produce Part 730 have fixed monthly overhead costs of $150,000, and a theoretical capacity to produce 60,000 units per month. If Aril were to buy Part 730 from an outside supplier, the facilities would be idle and 40% of fixed costs would continue to be incurred. There are no alternative uses for the facilities. The variable production costs of Part 730 are $11 per unit. Fixed overhead is allocated based on planned production levels.

If Aril Industries continues to use 30,000 units of Part 730 each month, it would realize a net benefit by purchasing Part 730 from an outside supplier only if the supplier’s unit price is less than

a.  $12.00.
b.  $12.50.
c.  $13.00.
d.  $14.00.

248.  **CSO: 2C2d    LOS: 2C2a**
Verla Industries is trying to decide which one of the following two options to pursue. Either option will take effect on January 1st of the next year.

**Option One - Acquire a New Finishing Machine.**
The cost of the machine is $1,000,000 and will have a useful life of five years. Net pre-tax cash flows arising from savings in labor costs will amount to $100,000 per year for five years. Depreciation expense will be calculated using the straight-line method for both financial and tax reporting purposes. As an incentive to purchase, Verla will receive a trade-in allowance of $50,000 on their current fully depreciated finishing machine.

**Option Two - Outsource the Finishing Work.**
Verla can outsource the work to LM Inc. at a cost of $200,000 per year for five years. If they outsource, Verla will scrap their current fully depreciated finishing machine.

Verla’s effective income tax rate is 40%. The weighted-average cost of capital is 10%.

When comparing the two options, the $50,000 trade-in allowance would be considered

a. irrelevant because it does not affect taxes.
b. relevant because it is a decrease in cash outflow.
c. irrelevant because it does not affect cash.
d. relevant because it is an increase in cash outflows.
249. **CSO: 2C2e  LOS: 2C2o**

Jones Enterprises manufactures 3 products, A, B, and C. During the month of May, Jones’ production, costs, and sales data were as follows.

<table>
<thead>
<tr>
<th>Products</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Units of production</td>
<td>30,000</td>
<td>20,000</td>
<td>70,000</td>
<td>120,000</td>
</tr>
<tr>
<td>Joint production costs to split-off point</td>
<td>$480,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Further processing costs</td>
<td>$ - $60,000 $140,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unit sales price At split-off</td>
<td>3.75 $5.50 10.25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>After further processing</td>
<td>- 8.00 12.50</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Based on the above information, which one of the following alternatives should be recommended to Jones’ management?

a. Sell both Product B and Product C at the split-off point.
b. Process Product B further but sell Product C at the split-off point.
c. Process Product C further but sell Product B at the split-off point.
d. Process both Products B and C further.

250. **CSO: 2C2e  LOS: 2C2l**

Oakes Inc. manufactured 40,000 gallons of Mononate and 60,000 gallons of Beracyl in a joint production process, incurring $250,000 of joint costs. Oakes allocates joint costs based on the physical volume of each product produced. Mononate and Beracyl can each be sold at the split-off point in a semifinished state or, alternatively, processed further. Additional data about the two products are as follows.

<table>
<thead>
<tr>
<th>Mononate</th>
<th>Beracyl</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales price per gallon at split-off</td>
<td>$7 $15</td>
</tr>
<tr>
<td>Sales price per gallon if processed further</td>
<td>$10 $18</td>
</tr>
<tr>
<td>Variable production costs if processed further</td>
<td>$125,000 $115,000</td>
</tr>
</tbody>
</table>

An assistant in the company’s cost accounting department was overheard saying “....that when both joint and separable costs are considered, the firm has no business processing either product beyond the split-off point. The extra revenue is simply not worth the effort.” Which of the following strategies should be recommended for Oakes?

<table>
<thead>
<tr>
<th>Mononate</th>
<th>Beracyl</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Sell at split-off</td>
<td>Sell at split-off.</td>
</tr>
<tr>
<td>b. Sell at split-off</td>
<td>Process further.</td>
</tr>
<tr>
<td>c. Process further</td>
<td>Sell at split-off.</td>
</tr>
<tr>
<td>d. Process further</td>
<td>Process further.</td>
</tr>
</tbody>
</table>
Management is contemplating the discontinuance of the Restaurant segment since “it is losing money.” If this segment is discontinued, $30,000 of its fixed costs will be eliminated. In addition, Merchandise and Automotive sales will decrease 5% from their current levels. What will Whitman’s total contribution margin be if the Restaurant segment is discontinued?

a. $160,000.
b. $220,000.
c. $367,650.
d. $380,000.

Management is contemplating the discontinuance of the Restaurant segment since “it is losing money.” If this segment is discontinued, $30,000 of its fixed costs will be eliminated. In addition, Merchandise and Automotive sales will decrease 5% from their current levels. When considering the decision, Whitman’s controller advised that one of the financial aspects Whitman should review is contribution margin. Which one of the following options reflects the current contribution margin ratios for each of Whitman’s business segments?

a. 60%  50%  30%.
b. 60%  50%  70%.
c. 40%  50%  70%.
d. 40%  50%  30%.
253.  **CSO: 2C2f  LOS: 2C2d**

Capital Company has decided to discontinue a product produced on a machine purchased four years ago at a cost of $70,000. The machine has a current book value of $30,000. Due to technologically improved machinery now available in the marketplace the existing machine has no current salvage value. The company is reviewing the various aspects involved in the production of a new product. The engineering staff advised that the existing machine can be used to produce the new product. Other costs involved in the production of the new product will be materials of $20,000 and labor priced at $5,000.

Ignoring income taxes, the costs relevant to the decision to produce or not to produce the new product would be

a. $25,000.  
b. $30,000.  
c. $55,000.  
d. $95,000.

254.  **CSO: 2C2f  LOS: 2C2d**

Reynolds Inc. manufactures several different products, including a premium lawn fertilizer and weed killer that is popular in hot, dry climates. Reynolds is currently operating at less than full capacity because of market saturation for lawn fertilizer. Sales and cost data for a 40-pound bag of Reynolds lawn fertilizer is as follows.

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selling price</td>
<td>$18.50</td>
</tr>
<tr>
<td>Production cost</td>
<td></td>
</tr>
<tr>
<td>Materials and labor</td>
<td>$12.25</td>
</tr>
<tr>
<td>Variable overhead</td>
<td>3.75</td>
</tr>
<tr>
<td>Allocated fixed overhead</td>
<td>4.00</td>
</tr>
<tr>
<td>Income (loss) per bag</td>
<td>20.00</td>
</tr>
<tr>
<td></td>
<td>$(1.50)</td>
</tr>
</tbody>
</table>

On the basis of this information, which one of the following alternatives should be recommended to Reynolds management?

a. Select a different cost driver to allocate its overhead.  
b. Drop this product from its product line.  
c. Continue to produce and market this product.  
d. Increase output and spread fixed overhead over a larger volume base.
255.  **CSO: 2C2f  LOS: 2C2l**

Following are the operating results of the two segments of Parklin Corporation.

<table>
<thead>
<tr>
<th>Segment</th>
<th>Segment A</th>
<th>Segment B</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>$10,000</td>
<td>$15,000</td>
<td>$25,000</td>
</tr>
<tr>
<td>Variable costs of goods sold</td>
<td>4,000</td>
<td>8,500</td>
<td>12,500</td>
</tr>
<tr>
<td>Fixed costs of goods sold</td>
<td>1,500</td>
<td>2,500</td>
<td>4,000</td>
</tr>
<tr>
<td>Gross margin</td>
<td>4,500</td>
<td>4,000</td>
<td>8,500</td>
</tr>
<tr>
<td>Variable selling and administrative</td>
<td>2,000</td>
<td>3,000</td>
<td>5,000</td>
</tr>
<tr>
<td>Fixed selling and administrative</td>
<td>1,500</td>
<td>1,500</td>
<td>3,000</td>
</tr>
<tr>
<td>Operating income (loss)</td>
<td>$ 1,000</td>
<td>$(500)</td>
<td>$ 500</td>
</tr>
</tbody>
</table>

Variable costs of goods sold are directly related to the operating segments. Fixed costs of goods sold are allocated to each segment based on the number of employees. Fixed selling and administrative expenses are allocated equally. If Segment B is eliminated, $1,500 of fixed costs of goods sold would be eliminated. Assuming Segment B is closed, the effect on operating income would be

a. an increase of $500.
b. an increase of $2,000.
c. a decrease of $2,000.
d. a decrease of $2,500.

---

256.  **CSO: 2C2f  LOS: 2C2d**

Grapevine Corporation produces two joint products, JP-1 and JP-2, and a single by-product, BP-1, in Department 2 of its manufacturing plant. JP-1 is subsequently transferred to Department 3 where it is refined into a more expensive, higher-priced product, JP-1R, and a by-product known as BP-2. Recently, Santa Fe Company introduced a product that would compete directly with JP-1R and, as a result, Grapevine must reevaluate its decision to process JP-1 further. The market for JP-1 will not be affected by Santa Fe’s product, and Grapevine plans to continue production of JP-1, even if further processing is terminated. Should this latter action be necessary, Department 3 will be dismantled.

Which of the following items should Grapevine consider in its decision to continue or terminate Department 3 operations?
1. The selling price per pound of JP-1.
2. The total hourly direct labor cost in Department 3.
3. Unit marketing and packaging costs for BP-2.
4. Supervisory salaries of Department 3 personnel who will be transferred elsewhere in the plant, if processing is terminated.
5. Department 2 joint cost allocated to JP-1 and transferred to Department 3.

a. 2, 3, 4.
b. 1, 2, 3.
c. 2, 3, 5, 6.
d. 1, 2, 3, 4, 5.

257. CSO: 2C2f  LOS: 2C2l
The Doll House, a very profitable company, plans to introduce a new type of doll to its product line. The sales price and costs for the new dolls are as follows.

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selling price per doll</td>
<td>$100</td>
</tr>
<tr>
<td>Variable cost per doll</td>
<td>$60</td>
</tr>
<tr>
<td>Incremental annual fixed costs</td>
<td>$456,000</td>
</tr>
<tr>
<td>Income tax rate</td>
<td>30%</td>
</tr>
</tbody>
</table>

If 10,000 new dolls are produced and sold, the effect on Doll House’s profit (loss) would be

a. $(176,000).
b. $(56,000).
c. $(39,200).
d. $280,000.

258. CSO: 2C2f  LOS: 2C2o
The Furniture Company currently has three divisions: Maple, Oak, and Cherry. The oak furniture line does not seem to be doing well and the president of the company is considering dropping this line. If it is dropped, the revenues associated with the Oak Division will be lost and the related variable costs saved. Also, 50% of the fixed costs allocated to the oak furniture line would be eliminated. The income statements, by divisions, are as follows.
### Maple, Oak, Cherry Sales

<table>
<thead>
<tr>
<th></th>
<th>Maple</th>
<th>Oak</th>
<th>Cherry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>$55,000</td>
<td>$85,000</td>
<td>$100,000</td>
</tr>
<tr>
<td>Variable Costs</td>
<td>40,000</td>
<td>72,000</td>
<td>82,000</td>
</tr>
<tr>
<td>Contribution Margin</td>
<td>15,000</td>
<td>13,000</td>
<td>18,000</td>
</tr>
<tr>
<td>Fixed costs</td>
<td>10,000</td>
<td>14,000</td>
<td>10,200</td>
</tr>
<tr>
<td>Operating profit (loss)</td>
<td>$5,000</td>
<td>$(1,000)</td>
<td>$7,800</td>
</tr>
</tbody>
</table>

Which one of the following options should be recommended to the president of the company?

a. Continue operating the Oak Division as discontinuance would result in a total operating loss of $1,200.
b. Continue operating the Oak Division as discontinuance would result in a $6,000 decline in operating profits.
c. Discontinue the Oak Division which would result in a $1,000 increase in operating profits.
d. Discontinue the Oak Division which would result in a $7,000 increase in operating profits.

### Milton Manufacturing

Milton Manufacturing occasionally has capacity problems in its metal shaping division, where the chief cost driver is machine hours. In evaluating the attractiveness of its individual products for decision-making purposes, which measurement tool should the firm select?

- If machine hours do not constrain the number of units to be produced: Contribution margin.
- If machine hours constrain the number of units to be produced: Contribution margin per machine hour.

### Elgers Company

Elgers Company produces valves for the plumbing industry. Elgers’ per unit sales price and variable costs are as follows.

- Sales price: $12
- Variable costs: 8

Elgers’ practical plant capacity is 40,000 units. Elgers’ total fixed costs aggregate $48,000 and it has a 40% effective tax rate. The maximum net profit that Elger can earn is
261. **CSO: 2C2g LOS: 2C2m**
Dayton Corporation manufactures pipe elbows for the plumbing industry. Dayton’s per unit sales price and variable costs are as follows.

Sales price $10  
Variable costs 7

Dayton’s practical plant capacity is 35,000 units. Dayton’s total fixed costs amount to $42,000, and the company has a 50% effective tax rate. If Dayton produced and sold 30,000 units, net income would be

a. $24,000.  
b. $45,000.  
c. $48,000.  
d. $90,000.

262. **CSO: 2C2g LOS: 2C2m**
Raymund Inc., a bearings manufacturer, has the capacity to produce 7,000 bearings per month. The company is planning to replace a portion of its labor intensive production process with a highly automated process, which would increase Raymund’s fixed manufacturing costs by $30,000 per month and reduce its variable costs by $5 per unit.

Raymund’s Income Statement for an average month is as follows.

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount (in thousands)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales (5,000 units at $20 per unit)</td>
<td>$100,000</td>
</tr>
<tr>
<td>Variable manufacturing costs</td>
<td>$50,000</td>
</tr>
<tr>
<td>Variable selling costs</td>
<td>15,000</td>
</tr>
<tr>
<td>Contribution margin</td>
<td>35,000</td>
</tr>
<tr>
<td>Fixed manufacturing costs</td>
<td>16,000</td>
</tr>
<tr>
<td>Fixed selling costs</td>
<td>4,000</td>
</tr>
<tr>
<td><strong>Operating income</strong></td>
<td>$ 15,000</td>
</tr>
</tbody>
</table>

If Raymund installs the automated process, the company’s monthly operating income would be

a. $5,000.  
b. $10,000.  
c. $30,000.  
d. $40,000.
Phillips and Company produces educational software. Its current unit cost, based upon an anticipated volume of 150,000 units, is as follows.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Selling price</td>
<td>$150</td>
</tr>
<tr>
<td>Variable costs</td>
<td>60</td>
</tr>
<tr>
<td>Contribution margin</td>
<td>90</td>
</tr>
<tr>
<td>Fixed costs</td>
<td>60</td>
</tr>
<tr>
<td>Operating income</td>
<td>30</td>
</tr>
</tbody>
</table>

Sales for the coming year are estimated at 175,000 units, which is within the relevant range of Phillip’s cost structure. Cost management initiatives are expected to yield a 20% reduction in variable costs and a reduction of $750,000 in fixed costs. Phillip’s cost structure for the coming year will include a

a. per unit contribution margin of $72 and fixed costs of $55.
b. total contribution margin of $15,300,000 and fixed costs of $8,250,000.
c. variable cost ratio of 32% and operating income of $9,600,000.
d. contribution margin ratio of 68% and operating income of $7,050,000.

Cervine Corporation makes two types of motors for use in various products. Operating data and unit cost information for its products are presented below.

<table>
<thead>
<tr>
<th></th>
<th>Product A</th>
<th>Product B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual unit capacity</td>
<td>10,000</td>
<td>20,000</td>
</tr>
<tr>
<td>Annual unit demand</td>
<td>10,000</td>
<td>20,000</td>
</tr>
<tr>
<td>Selling price</td>
<td>$100</td>
<td>$80</td>
</tr>
<tr>
<td>Variable manufacturing cost</td>
<td>53</td>
<td>45</td>
</tr>
<tr>
<td>Fixed manufacturing cost</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Variable selling &amp; administrative</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>Fixed selling &amp; administrative</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Fixed other administrative</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Unit operating profit</td>
<td>$20</td>
<td>$10</td>
</tr>
<tr>
<td>Machine hours per unit</td>
<td>2.0</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Cervine has 40,000 productive machine hours available. The relevant contribution margins, per machine hour for each product, to be utilized in making a decision on product priorities for the coming year, are
Lark Industries accepted a contract to provide 30,000 units of Product A and 20,000 units of Product B. Lark’s staff developed the following information with regard to meeting this contract.

<table>
<thead>
<tr>
<th></th>
<th>Product A</th>
<th>Product B</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selling Price</td>
<td>$75</td>
<td>$125</td>
<td></td>
</tr>
<tr>
<td>Variable costs</td>
<td>$30</td>
<td>$48</td>
<td></td>
</tr>
<tr>
<td>Fixed overhead</td>
<td></td>
<td></td>
<td>$1,600,000</td>
</tr>
<tr>
<td>Machine hours required</td>
<td>3</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Machine hours available</td>
<td></td>
<td></td>
<td>160,000</td>
</tr>
<tr>
<td>Cost if outsourced</td>
<td>$45</td>
<td>$60</td>
<td></td>
</tr>
</tbody>
</table>

Lark’s operations manager has identified the following alternatives. Which alternative should be recommended to Lark’s management?

a. Make 30,000 units of Product A, utilize the remaining capacity to make Product B, and outsource the remainder.
b. Make 25,000 units of Product A, utilize the remaining capacity to make Product B, and outsource the remainder.
c. Make 20,000 units of Product A, utilize the remaining capacity to make Product B, and outsource the remainder.
d. Rent additional capacity of 30,000 machine hours which will increase fixed costs by $150,000.

Aspen Company plans to sell 12,000 units of product XT and 8,000 units of product RP. Aspen has a capacity of 12,000 productive machine hours. The unit cost structure and machine hours required for each product is as follows.

<table>
<thead>
<tr>
<th>Unit Costs</th>
<th>XT</th>
<th>RP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials</td>
<td>$37</td>
<td>$24</td>
</tr>
<tr>
<td>Direct labor</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>Variable overhead</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Fixed overhead</td>
<td>37</td>
<td>38</td>
</tr>
<tr>
<td>Machine hours required</td>
<td>1.0</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Aspen can purchase 12,000 units of XT at $60 and/or 8,000 units of RP at $45. Based on the above, which one of the following actions should be recommended to Aspen’s management?
a. Produce XT internally and purchase RP.
b. Produce RP internally and purchase XT.
c. Purchase both XT and RP.
d. Produce both XT and RP.

267.  
CSO: 2C3b  LOS: 2C3d
Which one of the following would cause the demand curve for bagels to shift to the left?

a. A decrease in the cost of muffins.
b. An increase in the population.
c. A decrease in the price of bagels.
d. An increase in the supply of bagels.

268.  
CSO: 2C3b  LOS: 2C3d
Which one of the following would cause the demand curve for prepared meals sold in supermarkets to shift to the right?

a. An increase in the price of prepared meals.
b. An increase in consumer income.
c. A decrease in the price of restaurant meals.
d. An increase in the supply of prepared meals.

269.  
CSO: 2C3b  LOS: 2C3n
If the demand for a product is elastic, a price increase will result in

a. no change in total revenue.
b. an increase in total revenue.
c. a decrease in total revenue.
d. an indeterminate change in revenue.

270.  
CSO: 2C3b  LOS: 2C3b
The advantages of incorporating full product costs in pricing decisions include all the following except

a. ease in identifying unit fixed costs with individual products.
b. full product cost recovery.
c. the promotion of price stability.
d. a pricing formula that meets the cost-benefit test; i.e., simplicity.
271. *CSO: 2C3b  LOS: 2C3p*

An economist determined the following market data for a commodity.

<table>
<thead>
<tr>
<th>Price</th>
<th>Quantity Supplied</th>
<th>Quantity Demanded</th>
</tr>
</thead>
<tbody>
<tr>
<td>$25</td>
<td>250</td>
<td>750</td>
</tr>
<tr>
<td>50</td>
<td>500</td>
<td>500</td>
</tr>
<tr>
<td>75</td>
<td>750</td>
<td>250</td>
</tr>
<tr>
<td>100</td>
<td>1,000</td>
<td>0</td>
</tr>
</tbody>
</table>

Based on this information, which one of the following statements is correct?

a. In the short-term, there would be excess supply at a price of $40.
b. In the long-run, if producers’ costs per unit decline, then a reasonable market clearing price could be $65.
c. In the short-term, there would be excess demand at a price of $70.
d. In the long-run, if producers’ costs per unit increase, then a reasonable market clearing price could be $70.

272. *CSO: 2C3b  LOS: 2C3m*

If a product’s price elasticity of demand is greater than one, then a 1% price increase will cause the quantity demanded to

a. increase by more than 1%.
b. increase by less than 1%.
c. decrease by less than 1%.
d. decrease by more than 1%.

273. *CSO: 2C3b  LOS: 2C3o*

If the demand for a good is elastic, then a(n)

a. decrease in price will increase total revenue.
b. increase in price will increase total revenue.
c. decrease in price will decrease total revenue.
d. increase in price will have no effect on total revenue.

274. *CSO: 2C3b  LOS: 2C3c*

Leader Industries is planning to introduce a new product, DMA. It is expected that 10,000 units of DMA will be sold. The full product cost per unit is $300. Invested capital for this product amounts to $20 million. Leader’s target rate of return on investment is 20%. The markup percentage for this product, based on operating income as a percentage of full product cost, will be
a. 42.9%.
b. 57.1%.
c. 133.3%.
d. 233.7%.

275. **CSO: 2C3b   LOS: 2C3b**
Which one of the following situations **best** lends itself to a cost-based pricing approach?

a. A paper manufacturer negotiating the price for supplying copy paper to a new mass merchandiser of office products.
b. An industrial equipment fabricator negotiating pricing for one of its standard models with a major steel manufacturer.
c. A computer component manufacturer debating pricing terms with a customer in a new channel of distribution.
d. A computer component manufacturer debating pricing with a new customer for a made-to-order, state of the art application.

276. **CSO: 2C3b   LOS: 2C3r**
Basic Computer Company (BCC) sells its microcomputers using bid pricing. It develops its bids on a full cost basis. Full cost includes estimated material, labor, variable overheads, fixed manufacturing overheads, and reasonable incremental computer assembly administrative costs, plus a 10% return on full cost. BCC believes bids in excess of $1,050 per computer are not likely to be considered.

BCC’s current cost structure, based on its normal production levels, is $500 for materials per computer and $20 per labor hour. Assembly and testing of each computer requires 17 labor hours. BCC expects to incur variable manufacturing overhead of $2 per labor hour, fixed manufacturing overhead of $3 per labor hour, and incremental administrative costs of $8 per computer assembled.

BCC has received a request from a school board for 200 computers. Using the full-cost criteria and desired level of return, which one of the following prices should be recommended to BCC’s management for bidding purposes?

a. $874.00.
b. $882.00.
c. $961.40.
d. $1,026.30.
277. **CSO: 2C3b   LOS: 2C3b**  
Companies that manufacture made-to-order industrial equipment typically use which one of the following?

a. Cost-based pricing.  
b. Market-based pricing.  
c. Material-based pricing.  
d. Price discrimination.

278. **CSO: 2C3b   LOS: 2C3b**  
Which one of the following is not a characteristic of market-based costing?

a. It has a customer-driven external focus.  
b. It is used by companies facing stiff competition.  
c. It is used by companies facing minimal competition.  
d. It starts with a target selling price and target profit.

279. **CSO: 2C3b   LOS: 2C3c**  
Almelo Manpower Inc. provides contracted bookkeeping services. Almelo has annual fixed costs of $100,000 and variable costs of $6 per hour. This year the company budgeted 50,000 hours of bookkeeping services. Almelo prices its services at full cost and uses a cost-plus pricing approach. The company developed a billing price of $9 per hour. The company’s mark-up level would be

a. 12.5%.  
b. 33.3%.  
c. 50.0%.  
d. 66.6%.

280. **CSO: 2C3c   LOS: 2C3j**  
Fennel Products is using cost-based pricing to determine the selling price for its new product based on the following information.

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual volume</td>
<td>25,000 units</td>
</tr>
<tr>
<td>Fixed costs</td>
<td>$700,000 per year</td>
</tr>
<tr>
<td>Variable costs</td>
<td>$200 per unit</td>
</tr>
<tr>
<td>Plant investment</td>
<td>$3,000,000</td>
</tr>
<tr>
<td>Working capital</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>Effective tax rate</td>
<td>40%</td>
</tr>
</tbody>
</table>

The target price that Fennell needs to set for the new product to achieve a 15% after-tax return on investment (ROI) would be

a. $228.  
b. $238.  
c. $258.  
d. $268.
281. \( CSO: 2C3f \quad LOS: 2C3f \)
A monopoly will maximize profits if it produces an output where marginal cost is

a. less than marginal revenue.
b. greater than marginal revenue.
c. equal to marginal revenue.
d. equal to price.

282. \( CSO: 2C3f \quad LOS: 2C3f \)
At the long-run profit maximizing equilibrium of a firm in a perfectly competitive market, all of the following are correct except that

a. price equals marginal cost.
b. price equals average total cost.
c. economic profits are positive.
d. marginal cost equals marginal revenue.

283. \( CSO: 2C4a \quad LOS: 2C4f \)
A firm is constructing a risk analysis to quantify the exposure of its data center to various types of threats. Which one of the following situations would represent the highest annual loss exposure after adjustment for insurance proceeds?

<table>
<thead>
<tr>
<th>Frequency of Occurrence (years)</th>
<th>Loss Amount</th>
<th>Insurance (% coverage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. 1</td>
<td>$15,000</td>
<td>85.</td>
</tr>
<tr>
<td>b. 8</td>
<td>75,000</td>
<td>80.</td>
</tr>
<tr>
<td>c. 20</td>
<td>200,000</td>
<td>80.</td>
</tr>
<tr>
<td>d. 100</td>
<td>400,000</td>
<td>50.</td>
</tr>
</tbody>
</table>
Section D: Investment Decisions

284. CSO: 2D1a LOS: 2D1a
Capital investment projects include proposals for all of the following except

a. the acquisition of government mandated pollution control equipment.
b. the expansion of existing product offerings.
c. additional research and development facilities.
d. refinancing existing working capital agreements.

285. CSO: 2D1a LOS: 2D1a
Which one of the following items is least likely to directly impact an equipment replacement capital expenditure decision?

a. The net present value of the equipment that is being replaced.
b. The depreciation rate that will be used for tax purposes on the new asset.
c. The amount of additional accounts receivable that will be generated from increased production and sales.
d. The sales value of the asset that is being replaced.

286. CSO: 2D1a LOS: 2D1a
All of the following are methods used to evaluate investments for capital budgeting decisions except

a. accounting rate of return.
b. internal rate of return.
c. excess present value (profitability) index.
d. required rate of return.

287. CSO: 2D1b LOS: 2D1b
Cora Lewis is performing an analysis to determine if her firm should invest in new equipment to produce a product recently developed by her firm. The other option would be to abandon the product. She uses the net present value (NPV) method and discounts at the firm’s cost of capital. Lewis is contemplating how to handle the following items.

I. The book value of warehouse space currently used by another division.
II. Interest payments on debt to finance the equipment.
III. Increased levels of accounts payable and inventory.
IV. R&D spent in prior years and treated as a deferred asset for book and tax purposes.
Which of the above items are relevant for Lewis to consider in determining the cash flows for her NPV calculation?

a. I, II, III and IV.
b. II and III only.
c. III only.
d. IV only.

288. CSO: 2D1b LOS: 2D1b
Wilcox Corporation won a settlement in a law suit and was offered four different payment alternatives by the defendant’s insurance company. A review of interest rates indicates that 8% is appropriate for analyzing this situation. Ignoring any tax considerations, which one of the following four alternatives should the controller recommend to Wilcox management?

a. $135,000 now.
b. $40,000 per year at the end of each of the next four years.
c. $5,000 now and $20,000 per year at the end of each of the next ten years.
d. $5,000 now and $5,000 per year at the end of each of the next nine years, plus a lump-sum payment of $200,000 at the end of the tenth year.

289. CSO: 2D1b LOS: 2D1b
Calvin Inc. is considering the purchase of a new state-of-art machine to replace its hand-operated machine. Calvin’s effective tax rate is 40%, and its cost of capital is 12%. Data regarding the existing and new machines are presented below.

<table>
<thead>
<tr>
<th></th>
<th>Existing Machine</th>
<th>New Machine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original cost</td>
<td>$50,000</td>
<td>$90,000</td>
</tr>
<tr>
<td>Installation costs</td>
<td>0</td>
<td>4,000</td>
</tr>
<tr>
<td>Freight and insurance</td>
<td>0</td>
<td>6,000</td>
</tr>
<tr>
<td>Expected end salvage value</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Depreciation method</td>
<td>straight-line</td>
<td>straight-line</td>
</tr>
<tr>
<td>Expected useful life</td>
<td>10 years</td>
<td>5 years</td>
</tr>
</tbody>
</table>

The existing machine has been in service for seven years and could be sold currently for $25,000. Calvin expects to realize a before-tax annual reduction in labor costs of $30,000 if the new machine is purchased and placed in service.

If the new machine is purchased, the incremental cash flows for the fifth year would amount to

a. $18,000.
b. $24,000.
c. $26,000.
d. $30,000.
Olson Industries needs to add a small plant to accommodate a special contract to supply building materials over a five year period. The required initial cash outlays at Time 0 are as follows.

- Land $500,000
- New building $2,000,000
- Equipment $3,000,000

Olson uses straight-line depreciation for tax purposes and will depreciate the building over 10 years and the equipment over 5 years. Olson’s effective tax rate is 40%.

Revenues from the special contract are estimated at $1.2 million annually, and cash expenses are estimated at $300,000 annually. At the end of the fifth year, the assumed sales values of the land and building are $800,000 and $500,000, respectively. It is further assumed the equipment will be removed at a cost of $50,000 and sold for $300,000.

As Olson utilizes the net present value (NPV) method to analyze investments, the net cash flow for period 3 would be

- a. $60,000.
- b. $860,000.
- c. $880,000.
- d. $940,000.

The following schedule reflects the incremental costs and revenues for a capital project. The company uses straight-line depreciation. The interest expense reflects an allocation of interest on the amount of this investment, based on the company’s weighted average cost of capital.

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenues</td>
<td>$650,000</td>
</tr>
<tr>
<td>Direct costs</td>
<td>$270,000</td>
</tr>
<tr>
<td>Variable overhead</td>
<td>50,000</td>
</tr>
<tr>
<td>Fixed overhead</td>
<td>20,000</td>
</tr>
<tr>
<td>Depreciation</td>
<td>70,000</td>
</tr>
<tr>
<td>General &amp; administrative</td>
<td>40,000</td>
</tr>
<tr>
<td>Interest expense</td>
<td>8,000</td>
</tr>
<tr>
<td>Total costs</td>
<td>458,000</td>
</tr>
<tr>
<td>Net profit before taxes</td>
<td>$192,000</td>
</tr>
</tbody>
</table>

The annual cash flow from this investment, before tax considerations, would be
292. **CSO: 2D1b  LOS: 2D1b**
Kell Inc. is analyzing an investment for a new product expected to have annual sales of 100,000 units for the next 5 years and then be discontinued. New equipment will be purchased for $1,200,000 and cost $300,000 to install. The equipment will be depreciated on a straight-line basis over 5 years for financial reporting purposes and 3 years for tax purposes. At the end of the fifth year, it will cost $100,000 to remove the equipment, which can be sold for $300,000. Additional working capital of $400,000 will be required immediately and needed for the life of the product. The product will sell for $80, with direct labor and material costs of $65 per unit. Annual indirect costs will increase by $500,000. Kell’s effective tax rate is 40%.

In a capital budgeting analysis, what is the expected cash flow at time = 5 (fifth year of operations) that Kell should use to compute the net present value?

a. $720,000.
b. $800,000.
c. $1,120,000.
d. $1,240,000.

293. **CSO: 2D1b  LOS: 2D1b**
Kell Inc. is analyzing an investment for a new product expected to have annual sales of 100,000 units for the next 5 years and then be discontinued. New equipment will be purchased for $1,200,000 and cost $300,000 to install. The equipment will be depreciated on a straight-line basis over 5 years for financial reporting purposes and 3 years for tax purposes. At the end of the fifth year, it will cost $100,000 to remove the equipment, which can be sold for $300,000. Additional working capital of $400,000 will be required immediately and needed for the life of the product. The product will sell for $80, with direct labor and material costs of $65 per unit. Annual indirect costs will increase by $500,000. Kell’s effective tax rate is 40%.

In a capital budgeting analysis, what is the cash outflow at time 0 (initial investment) that Kell should use to compute the net present value?

a. $1,300,000.
b. $1,500,000.
c. $1,700,000.
d. $1,900,000.
294. **CSO: 2D1b  LOS: 2D1b**
Colvern Corporation is considering the acquisition of a new computer-aided machine tool to replace an existing, outdated model. Relevant information includes the following.

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Projected annual cash savings</td>
<td>$28,400</td>
</tr>
<tr>
<td>Annual depreciation - new machine</td>
<td>16,000</td>
</tr>
<tr>
<td>Annual depreciation - old machine</td>
<td>1,600</td>
</tr>
<tr>
<td>Income tax rate</td>
<td>40%</td>
</tr>
</tbody>
</table>

Annual after-tax cash flows for the project would amount to

a. $5,600.
b. $7,440.
c. $17,040.
d. $22,800.

295. **CSO: 2D1b  LOS: 2D1b**
Skytop Industries is analyzing a capital investment project using discounted cash flow (DCF) analysis. The new equipment will cost $250,000. Installation and transportation costs aggregating $25,000 will be capitalized. A five year MACRS depreciation schedule (20%, 32%, 19.2%, 11.52%, 11.52%, 5.76%) with the half-year convention will be employed. Existing equipment, with a book value of $100,000 and an estimated market value of $80,000, will be sold immediately after installation of the new equipment. Annual incremental pre-tax cash inflows are estimated at $75,000. Skytop’s effective income tax rate is 40%. After-tax cash flow for the first year of the project would amount to

a. $45,000.
b. $52,000.
c. $67,000.
d. $75,000.

296. **CSO: 2D1b  LOS: 2D1b**
Skytop Industries is analyzing a capital investment project using discounted cash flow (DCF) analysis. The new equipment will cost $250,000. Installation and transportation costs aggregating $25,000 will be capitalized. Existing equipment will be sold immediately after installation of the new equipment. The existing equipment has a tax basis of $100,000 and an estimated market value of $80,000. Skytop estimates that the new equipment’s capacity will generate additional receivables and inventory of $30,000, while payables will increase by $15,000. Annual incremental pre-tax cash inflows are estimated at $75,000. Skytop’s effective income tax rate is 40%. Total after-tax cash outflows occurring in Year 0 would be
297. **CSO: 2D1b  LOS: 2D1b**
Mintz Corporation is considering the acquisition of a new technologically efficient packaging machine at a cost of $300,000. The equipment requires an immediate, fully recoverable, investment in working capital of $40,000. Mintz plans to use the machine for five years, is subject to a 40% income tax rate, and uses a 12% hurdle rate when analyzing capital investments. The company employs the net present value method (NPV) to analyze projects.

The overall impact of the working capital investment on Mintz’s NPV analysis is

a. $(10,392).
b. $(13,040).
c. $(17,320).
d. $(40,000).

298. **CSO: 2D1b  LOS: 2D1b**
In estimating "after-tax incremental cash flows," under discounted cash flow analyses for capital project evaluations, which one of the following options reflects the items that should be included in the analyses?

<table>
<thead>
<tr>
<th>Sunk Costs</th>
<th>Project related changes in net working capital</th>
<th>Estimated impacts of inflation</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>b. No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>c. No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>d. Yes</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

299. **CSO: 2D1b  LOS: 2D1b**
AGC Company is considering an equipment upgrade. AGC uses discounted cash flow (DCF) analysis in evaluating capital investments and has an effective tax rate of 40%. Selected data developed by AGC is as follows.

<table>
<thead>
<tr>
<th></th>
<th>Existing Equipment</th>
<th>New Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original cost</td>
<td>$50,000</td>
<td>$95,000</td>
</tr>
<tr>
<td>Accumulated depreciation</td>
<td>45,000</td>
<td>-</td>
</tr>
<tr>
<td>Current market value</td>
<td>3,000</td>
<td>95,000</td>
</tr>
<tr>
<td>Accounts receivable</td>
<td>6,000</td>
<td>8,000</td>
</tr>
<tr>
<td>Accounts payable</td>
<td>2,100</td>
<td>2,500</td>
</tr>
</tbody>
</table>
Based on this information, what is the initial investment for a DCF analysis of this proposed upgrade?

a. $92,400.
b. $92,800.
c. $95,800.
d. $96,200.

300. **CSO: 2D1b   LOS: 2D1b**
Calvin Inc. is considering the purchase of a new state-of-art machine to replace its hand-operated machine. Calvin's effective tax rate is 40%, and its cost of capital is 12%. Data regarding the existing and new machines are presented below.

<table>
<thead>
<tr>
<th></th>
<th>Existing Machine</th>
<th>New Machine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original cost</td>
<td>$50,000</td>
<td>$90,000</td>
</tr>
<tr>
<td>Installation cost</td>
<td>0</td>
<td>4,000</td>
</tr>
<tr>
<td>Freight and insurance</td>
<td>0</td>
<td>6,000</td>
</tr>
<tr>
<td>Expected end salvage value</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Depreciation method</td>
<td>straight-line</td>
<td>straight-line</td>
</tr>
<tr>
<td>Expected useful life</td>
<td>10 years</td>
<td>5 years</td>
</tr>
</tbody>
</table>

The existing machine has been in service for seven years and could be sold currently for $25,000. If the new machine is purchased Calvin expects to realize a $30,000 before-tax annual reduction in labor costs.

If the new machine is purchased, what is the net amount of the initial cash outflow at Time 0 for net present value calculation purposes?

a. $65,000.
b. $75,000.
c. $79,000.
d. $100,000.

301. **CSO: 2D1b   LOS: 2D1b**
Olson Industries needs to add a small plant to accommodate a special contract to supply building materials over a five year period. The required initial cash outlays at Time 0 are as follows.

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land</td>
<td>$500,000</td>
</tr>
<tr>
<td>New building</td>
<td>2,000,000</td>
</tr>
<tr>
<td>Equipment</td>
<td>3,000,000</td>
</tr>
</tbody>
</table>
Olson uses straight-line depreciation for tax purposes and will depreciate the building over 10 years and the equipment over 5 years. Olson’s effective tax rate is 40%.

Revenues from the special contract are estimated at $1.2 million annually and cash expenses are estimated at $300,000 annually. At the end of the fifth year, the assumed sales values of the land and building are $800,000 and $500,000, respectively. It is further assumed the equipment will be removed at a cost of $50,000 and sold for $300,000.

As Olson utilizes the net present value (NPV) method to analyze investments, the net cash flow for period 5 would be

a. $1,710,000.
b. $2,070,000.
c. $2,230,000.
d. $2,390,000.

302. **CSO: 2D1b LOS: 2D1b**
In discounted cash flow techniques, which one of the following alternatives best reflects the items to be incorporated in the initial net cash investment?

<table>
<thead>
<tr>
<th>Capitalized expenditures (e.g., shipping costs)</th>
<th>Changes in net working capital</th>
<th>Net proceeds from sale of old asset in a replacement decision</th>
<th>Impact of spontaneous changes in current liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes.</td>
</tr>
<tr>
<td>b. Yes</td>
<td>No</td>
<td>No</td>
<td>No.</td>
</tr>
<tr>
<td>c. No</td>
<td>Yes</td>
<td>No</td>
<td>No.</td>
</tr>
<tr>
<td>d. Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes.</td>
</tr>
</tbody>
</table>

303. **CSO: 2D1b LOS: 2D1b**
Calvin Inc. is considering the purchase of a new state-of-art machine to replace its hand-operated machine. Calvin's effective tax rate is 40%, and its cost of capital is 12%. Data regarding the existing and new machines are presented below.

<table>
<thead>
<tr>
<th></th>
<th>Existing Machine</th>
<th>New Machine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original cost</td>
<td>$50,000</td>
<td>$90,000</td>
</tr>
<tr>
<td>Installation costs</td>
<td>0</td>
<td>4,000</td>
</tr>
<tr>
<td>Freight and insurance</td>
<td>0</td>
<td>6,000</td>
</tr>
<tr>
<td>Expected end salvage value</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Depreciation method</td>
<td>straight-line</td>
<td>straight-line</td>
</tr>
<tr>
<td>Expected useful life</td>
<td>10 years</td>
<td>5 years</td>
</tr>
</tbody>
</table>
The existing machine has been in service for five years and could be sold currently for
$25,000. Calvin expects to realize annual before-tax reductions in labor costs of $30,000
if the new machine is purchased and placed in service.

If the new machine is purchased, the incremental cash flows for the first year would
amount to

a. $18,000.
b. $24,000.
c. $30,000.
d. $45,000.

304. CSO: 2D1b LOS: 2D1f
The owner of Woofie’s Video Rental cannot decide how to project the real costs of
opening a rental store in a new shopping mall. The owner knows the capital investment
required but is not sure of the returns from a store in a new mall. Historically, the video
rental industry has had an inflation rate equal to the economic norm. The owner requires
a real internal rate of return of 10%. Inflation is expected to be 3% during the next few
years. The industry expects a new store to show a growth rate, without inflation, of 8%.
First year revenues at the new store are expected to be $400,000.

The revenues for the second year, using both the real rate approach and the nominal rate
approach, respectively, would be

a. $432,000 real and $444,960 nominal.
b. $432,000 real and $452,000 nominal.
c. $440,000 real and $452,000 nominal.
d. $440,000 real and $453,200 nominal.

305. CSO: 2D1b LOS: 2D1b
Kell Inc. is analyzing an investment for a new product expected to have annual sales of
100,000 units for the next 5 years and then be discontinued. New equipment will be
purchased for $1,200,000 and cost $300,000 to install. The equipment will be
depreciated on a straight-line basis over 5 years for financial reporting purposes and 3
years for tax purposes. At the end of the fifth year, it will cost $100,000 to remove the
equipment, which can be sold for $300,000. Additional working capital of $400,000 will
be required immediately and needed for the life of the product. The product will sell for
$80, with direct labor and material costs of $65 per unit. Annual indirect costs will
increase by $500,000. Kell’s effective tax rate is 40%.

In a capital budgeting analysis, what is the expected cash flow at time = 3 (3rd year of
operation) that Kell should use to compute the net present value?
306. *CSO: 2D1c  LOS: 2D1c*
Sarah Birdsong has prepared a net present value (NPV) analysis for a 15-year equipment modernization program. Her initial calculations include a series of depreciation tax savings, which are then discounted. Birdsong is now considering the incorporation of inflation into the NPV analysis. If the depreciation tax savings were based on original equipment cost, which of the following options correctly shows how she should handle the program's cash operating costs and the firm's required rate return, respectively?

<table>
<thead>
<tr>
<th>Cash Operating Costs</th>
<th>Required Rate of Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Adjust for inflation</td>
<td>Adjust for inflation.</td>
</tr>
<tr>
<td>b. Adjust for inflation</td>
<td>Do not adjust for inflation.</td>
</tr>
<tr>
<td>c. Do not adjust for inflation</td>
<td>Adjust for inflation.</td>
</tr>
<tr>
<td>d. Do not adjust for inflation</td>
<td>Do not adjust for inflation.</td>
</tr>
</tbody>
</table>

307. *CSO: 2D1c  LOS: 2D1c*
Regis Company, which is subject to an effective income tax rate of 30%, is evaluating a proposed capital project. Relevant information for the proposed project is summarized below.

<table>
<thead>
<tr>
<th>Initial investment</th>
<th>$500,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual operating cash inflows for the first three years.</td>
<td></td>
</tr>
<tr>
<td>Year 1</td>
<td>185,000</td>
</tr>
<tr>
<td>Year 2</td>
<td>175,000</td>
</tr>
<tr>
<td>Year 3</td>
<td>152,000</td>
</tr>
</tbody>
</table>

Depreciation will be calculated under the straight-line method using an 8-year estimated service life and a terminal value of $50,000. In determining the estimated total after-tax cash flow in Year 2 of the project, Regis should consider the after-tax operating cash inflow plus the net impact of the annual depreciation expense and depreciation tax shield.
308.  **CSO: 2D1c   LOS: 2D1c**

For each of the next six years Atlantic Motors anticipates net income of $10,000, straight-line tax depreciation of $20,000, a 40% tax rate, a discount rate of 10%, and cash sales of $100,000. The depreciable assets are all being acquired at the beginning of year 1 and will have a salvage value of zero at the end of six years.

The present value of the total depreciation tax savings would be

a.  $8,000.

b.  $27,072.

c.  $34,840.

d.  $87,100.

309.  **CSO: 2D1c   LOS: 2D1c**

Webster Products is performing a capital budgeting analysis on a new product it is considering. Annual sales are expected to be 50,000 units in the first year, 100,000 units in the second year, and 125,000 units the year thereafter. Selling price will be $80 in the first year and is expected to decrease by 5% per year. Annual costs are forecasted as follows.

<table>
<thead>
<tr>
<th>Type of Cost</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed costs</td>
<td>$300,000 each year</td>
</tr>
<tr>
<td>Labor cost per unit</td>
<td>$20 in year 1, increasing 5% per year, thereafter</td>
</tr>
<tr>
<td>Material cost per unit</td>
<td>$30 in year 1, increasing 10% per year, thereafter</td>
</tr>
</tbody>
</table>

The investment of $2 million will be depreciated on a straight-line basis over 4 years for financial reporting and tax purposes. Webster’s effective tax rate is 40%. When calculating net present value (NPV), the net cash flow for year 3 would be

a.  $558,750.

b.  $858,750.

c.  $1,058,750.

d.  $1,070,000.

310.  **CSO: 2D1c   LOS: 2D1c**

Skytop Industries is analyzing a capital investment project using discounted cash flow (DCF) analysis. The new equipment will cost $250,000. Installation and transportation costs aggregating $25,000 will be capitalized. The appropriate five year depreciation schedule (20%, 32%, 19%, 14.5%, 14.5%) will be employed with no terminal value factored into the computations. Annual incremental pre-tax cash inflows are estimated at $75,000. Skytop’s effective income tax rate is 40%. Assuming the machine is sold at the end of Year 5 for $30,000, the after-tax cash flow for Year 5 of the project would amount to
311. **CSO: 2D1c LOS: 2D1c**

Fuller Industries is considering a $1 million investment in stamping equipment to produce a new product. The equipment is expected to last nine years, produce revenue of $700,000 per year, and have related cash expenses of $450,000 per year. At the end of the 9th year, the equipment is expected to have a salvage value of $100,000 and cost $50,000 to remove. The IRS categorizes this as 5-year Modified Accelerated Cost Recovery System (MACRS) property subject to the following depreciation rates:

<table>
<thead>
<tr>
<th>Year</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20.00%</td>
</tr>
<tr>
<td>2</td>
<td>32.00%</td>
</tr>
<tr>
<td>3</td>
<td>19.20%</td>
</tr>
<tr>
<td>4</td>
<td>11.52%</td>
</tr>
<tr>
<td>5</td>
<td>11.52%</td>
</tr>
<tr>
<td>6</td>
<td>5.76%</td>
</tr>
</tbody>
</table>

Fuller’s effective income tax rate is 40% and Fuller expects, on an overall company basis, to continue to be profitable and have significant taxable income. If Fuller uses the net present value method to analyze investments, what is the expected net tax impact on cash flow in Year 2 before discounting?

a. Tax benefit of $28,000.
b. $0.
c. Negative $100,000.
d. Negative $128,000.

312. **CSO: 2D2a LOS: 2D2a**

The net present value of an investment project represents the

a. total actual cash inflows minus the total actual cash outflows.
b. excess of the discounted cash inflows over the discounted cash outflows.
c. total after-tax cash flow including the tax shield from depreciation.
d. cumulative accounting profit over the life of the project.

313. **CSO: 2D2a LOS: 2D2b**

Kunkle Products is analyzing whether or not to invest in equipment to manufacture a new product. The equipment will cost $1 million, is expected to last 10 years, and will be depreciated on a straight-line basis for both financial reporting and tax purposes. Kunkle’s effective tax rate is 40%, and its hurdle rate is 14%. Other information concerning the project is as follows.
Sales per year = 10,000 units
Selling price = $100 per unit
Variable cost = $70 per unit

A 10% reduction in variable costs would result in the net present value increasing by approximately

a. $156,000.
b. $219,000.
c. $365,000.
d. $367,000.

314. **CSO: 2D2a  LOS: 2D2b**
Allstar Company invests in a project with expected cash inflows of $9,000 per year for four years. All cash flows occur at year-end. The required return on investment is 9%. If the project generates a net present value (NPV) of $3,000, what is the amount of the initial investment in the project?

a. $11,253.
b. $13,236.
c. $26,160.
d. $29,160.

315. **CSO: 2D2a  LOS: 2D2b**
Smithco is considering the acquisition of scanning equipment to mechanize its procurement process. The equipment will require extensive testing and debugging, as well as user training prior to its operational use. Projected after-tax cash flows are shown below.

<table>
<thead>
<tr>
<th>Time Period</th>
<th>After-Tax Cash Inflow/(Outflow)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>$(550,000)</td>
</tr>
<tr>
<td>1</td>
<td>$(500,000)</td>
</tr>
<tr>
<td>2</td>
<td>$450,000</td>
</tr>
<tr>
<td>3</td>
<td>$350,000</td>
</tr>
<tr>
<td>4</td>
<td>$350,000</td>
</tr>
<tr>
<td>5</td>
<td>$350,000</td>
</tr>
</tbody>
</table>

Management anticipates the equipment will be sold at the beginning of year 6 for $50,000 when its book value is zero. Smithco’s internal hurdle and effective tax rates are 14% and 40%, respectively. The project’s net present value would be

a. $(1,780).
b. $(6,970).
c. $(17,350).
d. $8,600.
316. **CSO: 2D2a  LOS: 2D2a**  
An investment decision is acceptable if the

a. net present value is greater than or equal to $0.
b. present value of cash inflows is less than the present value of cash outflows.
c. present value of cash outflows is greater than or equal to $0.
d. present value of cash inflows is greater than or equal to $0.

317. **CSO: 2D2a  LOS: 2D2b**  
Verla Industries is trying to decide which one of the following two options to pursue. Either option will take effect on January 1st of the next year.

**Option One** - Acquire a New Finishing Machine.  
The cost of the machine is $1,000,000 and will have a useful life of five years. Net pre-tax cash flows arising from savings in labor costs will amount to $100,000 per year for five years. Depreciation expense will be calculated using the straight-line method for both financial and tax reporting purposes. As an incentive to purchase, Verla will receive a trade-in allowance of $50,000 on their current fully depreciated finishing machine.

**Option Two** - Outsource the Finishing Work.  
Verla can outsource the work to LM Inc. at a cost of $200,000 per year for five years. If they outsource, Verla will scrap their current fully depreciated finishing machine. Verla’s effective income tax rate is 40%. The weighted-average cost of capital is 10%.

The net present value of outsourcing the finishing work is

a. $303,280 net cash outflow.
b. $404,920 net cash outflow.
c. $454,920 net cash outflow.
d. $758,200 net cash outflow.

318. **CSO: 2D2a  LOS: 2D2b**  
Long Inc. is analyzing a $1 million investment in new equipment to produce a product with a $5 per unit margin. The equipment will last 5 years, be depreciated on a straight-line basis for tax purposes, and have no value at the end of its life. A study of unit sales produced the following data.

<table>
<thead>
<tr>
<th>Annual Unit Sales</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>80,000</td>
<td>.10</td>
</tr>
<tr>
<td>85,000</td>
<td>.20</td>
</tr>
<tr>
<td>90,000</td>
<td>.30</td>
</tr>
<tr>
<td>95,000</td>
<td>.20</td>
</tr>
<tr>
<td>100,000</td>
<td>.10</td>
</tr>
<tr>
<td>110,000</td>
<td>.10</td>
</tr>
</tbody>
</table>
If Long utilizes a 12% hurdle rate and is subject to a 40% effective income tax rate, the expected net present value of the project would be

a. $261,750.
b. $283,380.
c. $297,800.
d. $427,580.

319. **CSO: 2D2a  LOS: 2D2b**
Fred Kratz just completed a capital investment analysis for the acquisition of new material handling equipment. The equipment is expected to cost $1,000,000 and be used for eight years. Kratz reviewed the net present value (NPV) analysis with Bill Dolan, Vice President of Finance. The analysis shows that the tax shield for this investment has a positive NPV of $200,000, using the firm’s hurdle rate of 20%. Dolan noticed that 8 year straight-line depreciation was used for tax purposes but, since this equipment qualifies for 3-year MACRS treatment, the tax shield analysis should be revised. The company has an effective tax rate of 40%. The MACRS rates for 3-year property are as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>33.33%</td>
</tr>
<tr>
<td>2</td>
<td>44.45%</td>
</tr>
<tr>
<td>3</td>
<td>14.81%</td>
</tr>
<tr>
<td>4</td>
<td>7.41%</td>
</tr>
</tbody>
</table>

Accordingly, the revised NPV for the tax shield (rounded to the nearest thousand) should be

a. $109,000.
b. $192,000.
c. $283,000.
d. $425,000.

320. **CSO: 2D2a  LOS: 2D2c**
Dobson Corp. is analyzing a capital investment requiring a cash outflow at Time 0 of $2.5 million and net cash inflows of $800,000 per year for 5 years. The net present value (NPV) was calculated to be $384,000 at a 12% discount rate. Since several managers felt this was a risky project, three separate scenarios were analyzed, as follows.

- Scenario R - The annual cash inflows were reduced by 10%.
- Scenario S - The discount rate was changed to 18%.
- Scenario T - The cash inflow in year 5 was reduced to zero.

Rank the three individual scenarios in the order of the effect on NPV, from least effect to greatest effect.
a. R, S, T.
b. R, T, S.
c. S, T, R.
d. T, S, R.

321.  

Ironside Products is considering two independent projects, each requiring a cash outlay of $500,000 and having an expected life of 10 years. The forecasted annual net cash inflows for each project and the probability distributions for these cash inflows are as follows.

<table>
<thead>
<tr>
<th>Project R</th>
<th>Project S</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Probabilities</strong></td>
<td><strong>Cash Inflows</strong></td>
</tr>
<tr>
<td>0.10</td>
<td>$75,000</td>
</tr>
<tr>
<td>0.80</td>
<td>95,000</td>
</tr>
<tr>
<td>0.10</td>
<td>115,000</td>
</tr>
</tbody>
</table>

Ironside has decided that the project with the greatest relative risk should meet a hurdle rate of 16% and the project with less risk should meet a hurdle rate of 12%. Given these parameters, which of the following actions should be recommended for Ironside to undertake?

a. Reject both projects.
b. Accept Project R and reject Project S.
c. Reject Project R and accept Project S.
d. Accept both projects.

322.  

Logan Enterprises is at a critical decision point and must decide whether to go out of business or continue to operate for five more years. Logan has a labor contract with five years remaining which calls for $1.5 million in severance pay if Logan’s plant shuts down. The firm also has a contract to supply 150,000 units per year, at a price of $100 each, to Dill Inc. for the next five years. Dill is Logan’s only remaining customer. Logan must pay Dill $500,000 immediately if it defaults on the contract. The plant has a net book value of $600,000, and appraisers estimate the facility would sell for $750,000 today but would have no market value if operated for another five years. Logan’s fixed costs are $4 million per year, and variable costs are $75 per unit. Logan’s appropriate discount rate is 12%. Ignoring taxes, the optimal decision is to

a. shut down because the annual cash flow is negative $250,000 per year.
b. keep operating to avoid the severance pay of $1,500,000.
c. shut down since the breakeven point is 160,000 units while annual sales are 150,000 units.
d. keep operating since the incremental net present value is approximately $350,000.
323. **CSO: 2D2a   LOS: 2D2b**
Foster Manufacturing is analyzing a capital investment project that is forecasted to produce the following cash flows and net income.

<table>
<thead>
<tr>
<th>Years</th>
<th>After-Tax Cash Flows</th>
<th>Net Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>$(20,000)</td>
<td>$0</td>
</tr>
<tr>
<td>1</td>
<td>6,000</td>
<td>2,000</td>
</tr>
<tr>
<td>2</td>
<td>6,000</td>
<td>2,000</td>
</tr>
<tr>
<td>3</td>
<td>8,000</td>
<td>2,000</td>
</tr>
<tr>
<td>4</td>
<td>8,000</td>
<td>2,000</td>
</tr>
</tbody>
</table>

If Foster’s cost of capital is 12%, the net present value for this project is

a. $(1,600).
b. $924.
c. $6,074.
d. $6,998.

324. **CSO: 2D2a   LOS: 2D2b**
Lunar Inc. is considering the purchase of a machine for $500,000 which will last 5 years. A financial analysis is being developed using the following information.

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit sales</td>
<td>10,000</td>
<td>10,000</td>
<td>20,000</td>
<td>20,000</td>
</tr>
<tr>
<td>Selling price per unit</td>
<td>$100</td>
<td>$100</td>
<td>$100</td>
<td>$100</td>
</tr>
<tr>
<td>Variable cost per unit</td>
<td>65</td>
<td>65</td>
<td>65</td>
<td>65</td>
</tr>
<tr>
<td>Fixed costs</td>
<td>300,000</td>
<td>300,000</td>
<td>300,000</td>
<td>300,000</td>
</tr>
<tr>
<td>Pre-tax cash flow</td>
<td>50,000</td>
<td>50,000</td>
<td>400,000</td>
<td>400,000</td>
</tr>
</tbody>
</table>

The machine will be depreciated over 5 years on a straight-line basis for tax purposes and Lunar is subject to a 40% effective income tax rate. Assuming Lunar will have significant taxable income from other lines of business, and using a 20% discount rate, the net present value of the project would be

a. $(282,470).
b. $(103,070).
c. $(14,010).
d. $16,530.
325. **CSO: 2D2a LOS: 2D2b**

Parker Industries is analyzing a $200,000 equipment investment to produce a new product for the next 5 years. A study of expected annual after-tax cash flows from the project produced the following data.

<table>
<thead>
<tr>
<th>Annual After-Tax Cash Flow</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>$45,000</td>
<td>.10</td>
</tr>
<tr>
<td>50,000</td>
<td>.20</td>
</tr>
<tr>
<td>55,000</td>
<td>.30</td>
</tr>
<tr>
<td>60,000</td>
<td>.20</td>
</tr>
<tr>
<td>65,000</td>
<td>.10</td>
</tr>
<tr>
<td>70,000</td>
<td>.10</td>
</tr>
</tbody>
</table>

If Parker utilizes a 14% hurdle rate, the probability of achieving a positive net present value is

a. 20%.
b. 30%.
c. 40%.
d. 60%.

326. **CSO: 2D2a LOS: 2D2g**

Staten Corporation is considering two mutually exclusive projects. Both require an initial outlay of $150,000 and will operate for five years. The cash flows associated with these projects are as follows.

<table>
<thead>
<tr>
<th>Year</th>
<th>Project X</th>
<th>Project Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$47,000</td>
<td>$0</td>
</tr>
<tr>
<td>2</td>
<td>47,000</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>47,000</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>47,000</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>47,000</td>
<td>280,000</td>
</tr>
<tr>
<td>Total</td>
<td>$235,000</td>
<td>$280,000</td>
</tr>
</tbody>
</table>

Staten’s required rate of return is 10 percent. Using the net present value method, which one of the following actions would you recommend to Staten?

a. Accept Project X, and reject Project Y.
b. Accept Project Y, and reject Project X.
c. Accept Projects X and Y.
d. Reject Projects X and Y.
327. **CSO: 2D2a   LOS: 2D2b**

Verla Industries is trying to decide which one of the following two options to pursue. Either option will take effect on January 1st of the next year.

**Option One - Acquire a New Finishing Machine.**
The cost of the machine is $1,000,000 and will have a useful life of five years. Net pre-tax cash flows arising from savings in labor costs will amount to $100,000 per year for five years. Depreciation expense will be calculated using the straight-line method for both financial and tax reporting purposes. As an incentive to purchase, Verla will receive a trade-in allowance of $50,000 on their current fully depreciated finishing machine.

**Option Two - Outsource the Finishing Work.**
Verla can outsource the work to LM Inc. at a cost of $200,000 per year for five years. If they outsource, Verla will scrap their current fully depreciated finishing machine.

Verla’s effective income tax rate is 40%. The weighted-average cost of capital is 10%.

The net present value of acquiring the new finishing machine is

a. $229,710 net cash outflow.
b. $267,620 net cash outflow.
c. $369,260 net cash outflow.
d. $434,424 net cash outflow.

328. **CSO: 2D2a   LOS: 2D2g**

Stennet Company is considering two mutually exclusive projects. The company’s cost of capital is 10%. The net present value (NPV) profiles of the two projects are as follows.

<table>
<thead>
<tr>
<th>Discount Rate (percent)</th>
<th>Net Present Value $\text{(000)}</th>
<th>\text{Project A}</th>
<th>\text{Project B}</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>$2,220</td>
<td>$1,240</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>681</td>
<td>507</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>495</td>
<td>411</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>335</td>
<td>327</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>197</td>
<td>252</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>77</td>
<td>186</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>(26)</td>
<td>128</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>(115)</td>
<td>76</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>(193)</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>(260)</td>
<td>(11)</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>(318)</td>
<td>(47)</td>
<td></td>
</tr>
</tbody>
</table>

The company president is of the view that Project B should be accepted because it has the higher internal rate of return (IRR). The president requested John Mack, the CFO, to make a recommendation. Which one of the following options should Mack recommend to the president?
a. Agree with the president.
b. Accept Project A because it has an IRR higher than that of Project B.
c. Accept both Projects A and B as the IRR for each project is greater than cost of capital.
d. Accept Project A because at a 10% discount rate it has an NPV that is greater than that of Project B.

329. CSO: 2D2a LOS: 2D2g
Winston Corporation is subject to a 30% effective income tax rate and uses the net present value method to evaluate capital budgeting proposals. Harry Ralston, the capital budget manager, desires to improve the appeal of a marginally attractive proposal. To accomplish his goal, which one of the following actions should be recommended to Ralston?

a. Postpone a fully-deductible major overhaul from year 4 to year 5.
b. Decrease the project’s estimated terminal salvage value.
c. Immediately pay the proposal’s marketing program in its entirety rather than pay in five equal installments.
d. Adjust the project’s discount rate to reflect movement of the project from a “low risk” category to an “average risk” category.

330. CSO: 2D2b LOS: 2D2d
Which of the following is not a shortcoming of the Internal Rate of Return (IRR) method?

a. IRR assumes that funds generated from a project will be reinvested at an interest rate equal to the project’s IRR.
b. IRR does not take into account the difference in the scale of investment alternatives.
c. IRR is easier to visualize and interpret than net present value (NPV).
d. Sign changes in the cash flow stream can generate more than one IRR.

331. CSO: 2D2b LOS: 2D2a
A company is in the process of evaluating a major product line expansion. Using a 14% discount rate, the firm has calculated the present value of both the project’s cash inflows and cash outflows to be $15.8 million. The company will likely evaluate this project further by

a. taking a closer look at the expansion’s contribution margin.
b. comparing the internal rate of return versus the accounting rate of return.
c. comparing the internal rate of return versus the company’s cost of capital.
d. comparing the internal rate of return versus the company’s cost of capital and hurdle rate.
332. **CSO: 2D2b  LOS: 2D2g**

Hobart Corporation evaluates capital projects using a variety of performance screens; including a hurdle rate of 16%, payback period of 3 years or less, and an accounting rate of return of 20% or more. Management is completing review of a project on the basis of the following projections.

- Capital investment $200,000
- Annual cash flows $74,000
- Straight-line depreciation 5 years
- Terminal value $20,000

The projected internal rate of return is 20%. Which one of the following alternatives reflects the appropriate conclusions for the indicated evaluative measures?

<table>
<thead>
<tr>
<th>Internal Rate of Return</th>
<th>Payback</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Accept</td>
<td>Reject.</td>
</tr>
<tr>
<td>b. Reject</td>
<td>Reject.</td>
</tr>
<tr>
<td>c. Accept</td>
<td>Accept.</td>
</tr>
<tr>
<td>d. Reject</td>
<td>Accept.</td>
</tr>
</tbody>
</table>

333. **CSO: 2D2b  LOS: 2D2g**

Diane Harper, Vice President of Finance for BGN Industries, is reviewing material prepared by her staff prior to the board of directors meeting at which she must recommend one of four mutually exclusive options for a new product line. The summary information below indicates the initial investment required, the present value of cash inflows (excluding the initial investment) at BGN’s hurdle rate of 16%, and the internal rate of return (IRR) for each of the four options.

<table>
<thead>
<tr>
<th>Option</th>
<th>Investment</th>
<th>Present Value of Cash Inflows at 16%</th>
<th>IRR</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>$3,950,000</td>
<td>$3,800,000</td>
<td>15.5%</td>
</tr>
<tr>
<td>Y</td>
<td>3,000,000</td>
<td>3,750,000</td>
<td>19.0%</td>
</tr>
<tr>
<td>Z</td>
<td>2,000,000</td>
<td>2,825,000</td>
<td>17.5%</td>
</tr>
<tr>
<td>W</td>
<td>800,000</td>
<td>1,100,000</td>
<td>18.0%</td>
</tr>
</tbody>
</table>

If there are no capital rationing constraints, which option should Harper recommend?

a. Option X.
b. Option Y.
c. Option Z.
d. Option W.
334. **CSO: 2D2b  LOS: 2D2a**

If the present value of expected cash inflows from a project equals the present value of expected cash outflows, the discount rate is the

a. payback rate.
b. internal rate of return.
c. accounting rate of return.
d. net present value rate.

335. **CSO: 2D2b  LOS: 2D2b**

The net present value profiles of projects A and B are as follows.

<table>
<thead>
<tr>
<th>Discount Rate (percent)</th>
<th>Net Present Value $(000)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Project A</td>
</tr>
<tr>
<td>0</td>
<td>$2,220</td>
</tr>
<tr>
<td>10</td>
<td>681</td>
</tr>
<tr>
<td>12</td>
<td>495</td>
</tr>
<tr>
<td>14</td>
<td>335</td>
</tr>
<tr>
<td>16</td>
<td>197</td>
</tr>
<tr>
<td>18</td>
<td>77</td>
</tr>
<tr>
<td>20</td>
<td>(26)</td>
</tr>
<tr>
<td>22</td>
<td>(115)</td>
</tr>
<tr>
<td>24</td>
<td>(193)</td>
</tr>
<tr>
<td>26</td>
<td>(260)</td>
</tr>
<tr>
<td>28</td>
<td>(318)</td>
</tr>
</tbody>
</table>

The approximate internal rates of return for Projects A and B, respectively, are

a. 0% and 0%.
b. 19.0% and 21.5%.
c. 19.5% and 25.5%.
d. 20.5% and 26.5%.

336. **CSO: 2D2b  LOS: 2D2a**

For a given investment project, the interest rate at which the present value of the cash inflows equals the present value of the cash outflows is called the

a. hurdle rate.
b. payback rate.
c. internal rate of return.
d. cost of capital.
337. **CSO: 2D2b LOS: 2D2b**

Two mutually exclusive capital expenditure projects have the following characteristics.

<table>
<thead>
<tr>
<th></th>
<th>Project A</th>
<th>Project B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment</td>
<td>$100,000</td>
<td>$150,000</td>
</tr>
<tr>
<td>Net cash inflow</td>
<td>Year 1</td>
<td>40,000</td>
</tr>
<tr>
<td></td>
<td>Year 2</td>
<td>50,000</td>
</tr>
<tr>
<td></td>
<td>Year 3</td>
<td>60,000</td>
</tr>
</tbody>
</table>

All cash flows are received at the end of the year. Based on this information, which one of the following statements is **not** correct?

a. The net present value of Project A at a cost of capital of 10% is $22,720.
b. The net present value of Project B at a cost of capital of 12% is $19,950.
c. The internal rate of return of Project B is greater than the internal rate of return of Project A.
d. The payback years for Project A is greater than the payback years for Project B.

338. **CSO: 2D2b LOS: 2D2b**

Jenson Copying Company is planning to buy a coping machine costing $25,310. The net present values (NPV) of this investment, at various discount rates, are as follows.

<table>
<thead>
<tr>
<th>Discount Rate</th>
<th>NPV</th>
</tr>
</thead>
<tbody>
<tr>
<td>4%</td>
<td>$2,440</td>
</tr>
<tr>
<td>6%</td>
<td>$1,420</td>
</tr>
<tr>
<td>8%</td>
<td>$  460</td>
</tr>
<tr>
<td>10%</td>
<td>($  440)</td>
</tr>
</tbody>
</table>

Jenson’s approximate internal rate of return on this investment is

a. 6%.
b. 8%.
c. 9%.
d. 10%.

339. **CSO: 2D2b LOS: 2D2b**

Foster Manufacturing is analyzing a capital investment project that is forecasted to produce the following cash flows and net income.

<table>
<thead>
<tr>
<th>Year</th>
<th>After Tax Cash-Flows</th>
<th>Net Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>$(20,000)</td>
<td>$  0</td>
</tr>
<tr>
<td>1</td>
<td>6,000</td>
<td>2,000</td>
</tr>
<tr>
<td>2</td>
<td>6,000</td>
<td>2,000</td>
</tr>
<tr>
<td>3</td>
<td>8,000</td>
<td>2,000</td>
</tr>
<tr>
<td>4</td>
<td>8,000</td>
<td>2,000</td>
</tr>
</tbody>
</table>
The internal rate of return (rounded to the nearest whole percentage) is

a. 5%.

b. 12%.

c. 14%.

d. 40%.

340.  
*CSO: 2D2c  LOS: 2D2a*

The following methods are used to evaluate capital investment projects.

- Internal rate of return
- Average rate of return
- Payback
- Net present value

Which one of the following correctly identifies the methods that utilize discounted cash-flow (DCF) techniques?

<table>
<thead>
<tr>
<th>Internal Rate of Return</th>
<th>Average Rate of Return</th>
<th>Payback</th>
<th>Net Present Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Yes</td>
<td>Yes</td>
<td>No</td>
<td>No.</td>
</tr>
<tr>
<td>b. No</td>
<td>No</td>
<td>Yes</td>
<td>Yes.</td>
</tr>
<tr>
<td>c. Yes</td>
<td>No</td>
<td>Yes</td>
<td>No.</td>
</tr>
<tr>
<td>d. Yes</td>
<td>No</td>
<td>No</td>
<td>Yes.</td>
</tr>
</tbody>
</table>

341.  
*CSO: 2D2c  LOS: 2D2c*

Molar Inc. is evaluating three independent projects for the expansion of different product lines. The Finance Department has performed an extensive analysis of each project and the chief financial officer has indicated that there is no capital rationing in effect. Which of the following statements are correct?

I. Reject any project with a payback period which is shorter than the company standard.

II. The project with the highest internal rate of return (IRR) exceeding the hurdle rate should be selected and the others rejected.

III. All projects with positive net present values should be selected.

IV. Molar should reject any projects with negative IRRs.

a. I, II and IV only.

b. I, II, III and IV.

c. II and III only.

d. III and IV only.
Jones & Company is considering the acquisition of scanning equipment to mechanize its procurement process. The equipment will require extensive testing and debugging as well as user training prior to its operational use. Projected after-tax cash flows are as follows.

<table>
<thead>
<tr>
<th>Time Period</th>
<th>After-Tax Cash Inflow/(Outflow)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>$(600,000)</td>
</tr>
<tr>
<td>1</td>
<td>(500,000)</td>
</tr>
<tr>
<td>2</td>
<td>450,000</td>
</tr>
<tr>
<td>3</td>
<td>450,000</td>
</tr>
<tr>
<td>4</td>
<td>350,000</td>
</tr>
<tr>
<td>5</td>
<td>250,000</td>
</tr>
</tbody>
</table>

Management anticipates the equipment will be sold at the beginning of Year 6 for $50,000 and its book value will be zero. Jones’ internal hurdle and effective income tax rates are 14% and 40%, respectively. Based on this information, a negative net present value was computed for the project. Accordingly, it can be concluded that

a. the project has an internal rate of return (IRR) less than 14% since IRR is the interest rate at which net present value is equal to zero.
b. Jones should examine the determinants of its hurdle rate further before analyzing any other potential projects.
c. Jones should calculate the project payback to determine if it is consistent with the net present value calculation.
d. the project has an IRR greater than 14% since IRR is the interest rate at which net present value is equal to zero.

Foggy Products is evaluating two mutually exclusive projects, one requiring a $4 million initial outlay and the other a $6 million outlay. The Finance Department has performed an extensive analysis of each project. The chief financial officer has indicated that there is no capital rationing in effect. Which of the following statements are correct?

I. Both projects should be rejected if their payback periods are longer than the company standard.
II. The project with the highest Internal Rate of Return (IRR) should be selected (assuming both IRRs exceed the hurdle rate).
III. The project with the highest positive net present value should be selected.
IV. Select the project with the smaller initial investment, regardless of which evaluation method is used.

a. I, II, and IV only.
b. I, II and III only.
c. I and III only.
d. II and III only.
344. CSO: 2D3a LOS: 2D3a
Despite its shortcomings, the traditional payback period continues to be a popular method to evaluate investments because, in part, it

a. provides some insight into the risk associated with a project.
b. ignores the time value of money.
c. focuses on income rather than cash flow.
d. furnishes information about an investment’s lifetime performance.

345. CSO: 2D3a LOS: 2D3b
Which one of the following is not a shortcoming of the payback method?

a. It offers no consideration of cash flows beyond the expiration of the payback period.
b. It ignores the time value of money.
c. It offers no indication of a project’s liquidity.
d. It encourages establishing a short payback period.

346. CSO: 2D3a LOS: 2D3c
Quint Company uses the payback method as part of its analysis of capital investments. One of its projects requires a $140,000 investment and has the following projected before-tax cash flows.

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$60,000</td>
</tr>
<tr>
<td>2</td>
<td>60,000</td>
</tr>
<tr>
<td>3</td>
<td>60,000</td>
</tr>
<tr>
<td>4</td>
<td>80,000</td>
</tr>
<tr>
<td>5</td>
<td>80,000</td>
</tr>
</tbody>
</table>

Quint has an effective 40% tax rate. Based on these data, the after-tax payback period is

a. 1.5.
b. 2.3.
c. 3.4.
d. 3.7.

347. CSO: 2D3a LOS: 2D3c
Foster Manufacturing is analyzing a capital investment project that is forecasted to produce the following cash flows and net income.

<table>
<thead>
<tr>
<th>Year</th>
<th>After-Tax Cash Flow</th>
<th>Net Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>($20,000)</td>
<td>$0</td>
</tr>
<tr>
<td>1</td>
<td>6,000</td>
<td>2,000</td>
</tr>
<tr>
<td>2</td>
<td>6,000</td>
<td>2,000</td>
</tr>
<tr>
<td>3</td>
<td>8,000</td>
<td>2,000</td>
</tr>
<tr>
<td>4</td>
<td>8,000</td>
<td>2,000</td>
</tr>
</tbody>
</table>
The payback period of this project will be

a. 2.5 years.
b. 2.6 years.
c. 3.0 years.
d. 3.3 years.

348. CSO: 2D3a  LOS: 2D3c
Smithco is considering the acquisition of scanning equipment to mechanize its procurement process. The equipment will require extensive testing and debugging, as well as user training prior to its operational use. Projected after-tax cash flows are shown below.

<table>
<thead>
<tr>
<th>Time Period</th>
<th>After-Tax Cash Inflow/(Outflow)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>$(550,000)</td>
</tr>
<tr>
<td>1</td>
<td>$(500,000)</td>
</tr>
<tr>
<td>2</td>
<td>$450,000</td>
</tr>
<tr>
<td>3</td>
<td>$350,000</td>
</tr>
<tr>
<td>4</td>
<td>$250,000</td>
</tr>
<tr>
<td>5</td>
<td>$150,000</td>
</tr>
</tbody>
</table>

Management anticipates the equipment will be sold at the beginning of year 6 for $50,000 when its book value is zero. Smithco’s internal hurdle and effective tax rates are 14% and 40%, respectively. The project’s payback period will be

a. 2.3 years.
b. 3.0 years.
c. 3.5 years.
d. 4.0 years.

349. CSO: 2D4a  LOS: 2D4c
Which one of the following capital budgeting techniques would always result in the same investment decision for a project as the net present value method?

a. Discounted Payback.
b. Internal Rate of Return.
c. Profitability Index.
d. Accounting Rate of Return.
350. *CSO: 2D4a  LOS: 2D4c*

In evaluating independent capital investment projects, the **best** reason for a firm to accept such projects is a(n)

   a. accounting rate of return greater than zero.
   b. initial investment greater than the present value of cash inflows.
   c. profitability index greater that one.
   d. internal rate of return greater than the accounting rate of return.

---

351. *CSO: 2D4b  LOS: 2D4c*

Carbide Inc. has the following investment opportunities. Required investment outlays and the profitability index for each of these investments are as follows.

<table>
<thead>
<tr>
<th>Project</th>
<th>Investment Cost</th>
<th>Profitability Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>$300,000</td>
<td>0.5</td>
</tr>
<tr>
<td>II</td>
<td>450,000</td>
<td>1.4</td>
</tr>
<tr>
<td>III</td>
<td>650,000</td>
<td>1.8</td>
</tr>
<tr>
<td>IV</td>
<td>750,000</td>
<td>1.6</td>
</tr>
</tbody>
</table>

Carbide’s budget ceiling for initial outlays during the present period is $1,500,000. The proposed projects are independent of each other. Which project or projects would you recommend that Carbide accept?

   a. III.
   b. III and IV.
   c. I, II, and IV.
   d. I, III, and IV.

---

352. *CSO: 2D4b  LOS: 2D4c*

Lewis Services is evaluating six investment opportunities (projects). The following table reflects each project’s net present value (NPV) and the respective initial investments required. All of these projects are independent.

<table>
<thead>
<tr>
<th>Project</th>
<th>NPV</th>
<th>Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>$5,000</td>
<td>$10,000</td>
</tr>
<tr>
<td>S</td>
<td>5,000</td>
<td>5,000</td>
</tr>
<tr>
<td>T</td>
<td>8,000</td>
<td>40,000</td>
</tr>
<tr>
<td>U</td>
<td>15,000</td>
<td>60,000</td>
</tr>
<tr>
<td>V</td>
<td>15,000</td>
<td>75,000</td>
</tr>
<tr>
<td>W</td>
<td>3,000</td>
<td>15,000</td>
</tr>
</tbody>
</table>
Lewis has an investment constraint of $100,000. Which combination of projects would represent the optimal investment that should be recommended to Lewis Services’ management?

a. R, S, U and W.
b. R, V and W.
c. R, S and V.
d. T and U.

353.  
Zinx Corporation has a maximum of $5,000,000 available for investments. The company has identified the following investment options.

<table>
<thead>
<tr>
<th>Project</th>
<th>Investment</th>
<th>Cash Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>$2,800,000</td>
<td>$3,360,000</td>
</tr>
<tr>
<td>II</td>
<td>1,500,000</td>
<td>1,720,000</td>
</tr>
<tr>
<td>III</td>
<td>2,300,000</td>
<td>2,617,000</td>
</tr>
<tr>
<td>IV</td>
<td>1,200,000</td>
<td>1,368,000</td>
</tr>
<tr>
<td>V</td>
<td>800,000</td>
<td>1,000,000</td>
</tr>
</tbody>
</table>

Which of the following project alternatives should be recommended to Zinx’s management?

a. II, III, and IV.
b. II, III, and V.
c. I and II.
d. I, IV, and V.

354.  
Wearwell Company is considering three investment projects. Wearwell’s president asked the controller to prepare a report and recommend an appropriate investment decision. The results of the controller’s calculations for the three projects are as follows.

<table>
<thead>
<tr>
<th>Project</th>
<th>Net present value</th>
<th>Internal rate of return</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>$20,680</td>
<td>12%</td>
</tr>
<tr>
<td>B</td>
<td>30,300</td>
<td>10%</td>
</tr>
<tr>
<td>C</td>
<td>15,000</td>
<td>13%</td>
</tr>
</tbody>
</table>

The company expects a minimum net present value (NPV) of $20,000 from accepted projects. The projects are mutually exclusive and Wearwell’s cost of capital is 8%. Which one of the following options should the controller recommend to the president?

a. Project C because it has the highest internal rate of return (IRR).
b. Project B because it has the highest net present value (NPV).
c. Projects A, B, and C because each of the projects have an IRR greater than the cost of capital.
d. Projects A and B because they exceed the minimum expected NPV.
355. **CSO: 2D5a  LOS: 2D5c**
Susan Hines has developed an estimate of the earnings per share for her firm for the next year using the following parameters.

- **Sales**: $20 million
- **Cost of goods sold**: 70% of sales
- **General & administrative expenses**: $300,000
- **Selling expense**: $100,000 plus 10% of sales
- **Debt outstanding**: $5 million @ 8% interest rate
- **Effective tax rate**: 35%
- **Common shares outstanding**: 2 million

She is now interested in the sensitivity of earnings per share to sales forecast changes. A 10% sales increase would increase earnings per share by

- a. 7.0 cents per share.
- b. 10.4 cents per share.
- c. 13.0 cents per share.
- d. 20.0 cents per share.

356. **CSO: 2D5a  LOS: 2D5c**
The modeling technique that should be used in a complex situation involving uncertainty is a(n)

- a. expected value analysis.
- b. program evaluation review technique.
- c. Monte Carlo simulation.
- d. Markov process.

357. **CSO: 2D5a  LOS: 2D5c**
Janet Jones, an analyst with All Purpose Heater Company, plans to use a Monte Carlo experiment to estimate the simulated daily demand for All Purpose’s heaters. The probability distribution for the daily demand for heaters is as follows.

<table>
<thead>
<tr>
<th>Daily demand for heaters</th>
<th>Probability</th>
<th>Random number intervals</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>.10</td>
<td>00-09</td>
</tr>
<tr>
<td>1</td>
<td>.15</td>
<td>10-24</td>
</tr>
<tr>
<td>2</td>
<td>.20</td>
<td>25-44</td>
</tr>
<tr>
<td>3</td>
<td>.20</td>
<td>45-64</td>
</tr>
<tr>
<td>4</td>
<td>.25</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>.10</td>
<td></td>
</tr>
</tbody>
</table>

Jones is trying to assign random number intervals for each of the demand levels. She has done so for the first four levels. If a total of 100 two-digit numbers are used in a
simulation, what random number intervals should Jones assign to the 4 and 5 heaters demand levels, respectively?

a. 65-69; 70-88.
b. 65-84; 85-99.
c. 65-84; 85-99.
d. 65-89; 90-99.

358. CSO: 2D5a LOS: 2D5c
All of the following are advantages of a simulation model except that it

a. allows what-if type of questions.
b. does not interfere with the real world systems.
c. generates optimal solutions to problems.
d. allows the study of the interactive effect of variables.

359. CSO: 2D5a LOS: 2D5c
Logan Corporation, located in Boston, has experienced major distribution problems in supplying key Los Angeles-based customers. Delivery times have been as follows over the last four months.

<table>
<thead>
<tr>
<th>Delivery Time in Days</th>
<th>Number of Times Occurring</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td>6</td>
<td>18</td>
</tr>
<tr>
<td>7</td>
<td>15</td>
</tr>
<tr>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>9</td>
<td>6</td>
</tr>
</tbody>
</table>

The company’s marketing manager wants to simulate the distribution process by assigning random numbers to delivery times and to other random variables. If the marketing manager uses 100 different random numbers to simulate the process, an appropriate assignment of random numbers to a 6-day delivery time would be

a. 09-14.
b. 30-60.
c. 45-74.
d. 00-18.
Answers – CMA Part 2 Practice Questions

1. A 44. C 87. D 130. A
4. A 47. C 90. A 133. D
14. D 57. B 100. D 143. A
17. B 60. D 103. D 146. A
27. B 70. B 113. D 156. C
32. D 75. C 118. A 161. D
33. D 76. C 119. D 162. C
34. B 77. B 120. C 163. D
35. D 78. D 121. D 164. C
37. A 80. C 123. C 166. D
43. A 86. C 129. D 172. D
<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>204.</td>
<td>B</td>
<td>252.</td>
<td>D</td>
<td>300.</td>
</tr>
<tr>
<td>218.</td>
<td>B</td>
<td>266.</td>
<td>A</td>
<td>314.</td>
</tr>
<tr>
<td>219.</td>
<td>D</td>
<td>267.</td>
<td>A</td>
<td>315.</td>
</tr>
<tr>
<td>220.</td>
<td>C</td>
<td>268.</td>
<td>A</td>
<td>316.</td>
</tr>
</tbody>
</table>