Connect BUSI 320

1

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| --- |
| Philip Morris is excited because sales for his clothing company are expected to double from $510,000 to $1,020,000 next year. Philip notes that net assets (Assets – Liabilities) will remain at 55 percent of Sales. His clothing firm will enjoy a 8 percent return on total sales. He will start the year with $110,000 in the bank and is already bragging about the two Mercedes he will buy and the European vacation he will take. |

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| **(a)** | Compute his likely cash balance or deficit for the end of the year. Start with beginning cash and subtract the asset buildup (equal to 55 percent of the sales increase) and add in profit. **(Negative amount should be indicated by a minus sign. Omit the "$" sign in your response.)** |

|  |  |
| --- | --- |
|   Ending cash balance | $   |

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| --- | --- |
| **(b)** | Does his optimistic outlook for his cash position appear to be correct? |
|   |   |
|   | No |

rev: 11\_18\_2012

*Explanation:*

2

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| Galehouse Gas Stations, Inc., expects sales to increase from $1,670,000 to $1,870,000 next year. Mr. Galehouse believes that net assets (Assets – Liabilities) will represent 55 percent of sales. His firm has a 9 percent return on sales and pays 25 percent of profits out as dividends. |

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| **(a)** | What effect will this growth have on funds? **(Negative amount should be indicated by a minus sign. Omit the "$" sign in your response.)** |
|   |   |

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| --- |
|     The cash balance will change by $ . |

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| **(b)** | If the dividend payout is only 5 percent, what effect will this growth have on funds? **(Omit the "$" sign in your response.)** |
|   |   |

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|     The cash balance will change by $ . |

rev: 09\_27\_2012

*Explanation:*

3

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| The Alliance Corp. expects to sell the following number of units of copper cables at the prices indicated, under three different scenarios in the economy. The probability of each outcome is indicated. |

|  |  |  |  |
| --- | --- | --- | --- |
| Outcome | Probability | Units | Price |
| A | .70      | 245      | $ | 24   |
| B | .20      | 410      |   | 39   |
| C | .10      | 590      |   | 49   |
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| What is the expected value of the total sales projection? **(Omit the "$" sign in your response.)** |

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|   Total expected value | $   |

*Explanation:*

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4

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| Cyber Security Systems had sales of 4,000 units at $100 per unit last year. The marketing manager projects a 30 percent increase in unit volume sales this year with a 25 percent price increase. Returned merchandise will represent 7 percent of total sales. |

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| --- |
| What is your net dollar sales projection for this year? **(Omit the "$" sign in your response.)** |

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| --- | --- |
|   Net sales | $   |

*Explanation:*

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5

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| Sales for Western Boot Stores are expected to be 43,000 units for October. The company likes to maintain 20 percent of unit sales for each month in ending inventory (i.e., the end of October). Beginning inventory for October is 10,000 units. |

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| How many units should Western Boot produce for the coming month? |

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| --- | --- |
|   Units to be produced |   |

*Explanation:*

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6

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| On December 31 of last year, Wolfson Corporation had in inventory 470 units of its product, which cost $19 per unit to produce. During January, the company produced 870 units at a cost of $22 per unit. |

|  |
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| Assuming that Wolfson Corporation sold 840 units in January, what was the cost of goods sold (assume FIFO inventory accounting)? **(Omit the "$" sign in your response.)** |

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| --- | --- |
|   Cost of goods sold | $   |

*Explanation:*

7

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| At the end of January, Mineral Labs had an inventory of 745 units, which cost $9 per unit to produce. During February the company produced 750 units at a cost of $13 per unit. |

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| --- | --- |
| **(a)** | If the firm sold 1,200 units in February, what was the cost of goods sold? (Assume LIFO inventory accounting.) **(Omit the "$" sign in your response.)** |

|  |  |
| --- | --- |
|   Cost of goods sold | $   |

|  |  |
| --- | --- |
| **(b)** | If the firm sold 1,200 units in February, what was the cost of goods sold? (Assume FIFO inventory accounting.) **(Omit the "$" sign in your response.)** |

|  |  |
| --- | --- |
|   Cost of goods sold | $   |

*Explanation:*

8

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| --- |
| The Bradley Corporation produces a product with the following costs as of July 1, 2011: |

|  |  |
| --- | --- |
|   |   |
|   Material | $ 4 per unit   |
|   Labor | 4 per unit   |
|   Overhead | 2 per unit   |
|  |

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| --- |
|       Beginning inventory at these costs on July 1 was 4,250 units. From July 1 to December 1, 2011, Bradley produced 14,500 units. These units had a material cost of $2, labor of $4, and overhead of $2 per unit. Bradley uses FIFO inventory accounting. |

|  |  |
| --- | --- |
| **(a)** | Assuming that Bradley sold 15,500 units during the last six months of the year at $13 each, what would gross profit be? **(Omit the "$" sign in your response.)** |

|  |  |
| --- | --- |
|   Gross profit | $   |

|  |  |
| --- | --- |
| **(b)** | What is the value of ending inventory? **(Omit the "$" sign in your response.)** |

|  |  |
| --- | --- |
|   Ending inventory | $   |

*Explanation:*

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9

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| --- |
| The Bradley Corporation produces a product with the following costs as of July 1, 2011: |

|  |  |
| --- | --- |
|   |   |
|   Material | $ 4 per unit   |
|   Labor | 4 per unit   |
|   Overhead | 2 per unit   |
|  |

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|       Beginning inventory at these costs on July 1 was 3,750 units. From July 1 to December 1, 2011, Bradley produced 13,500 units. These units had a material cost of $4, labor of $6, and overhead of $3 per unit. Bradley uses LIFO inventory accounting. |

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| **(a)** | Assuming that Bradley sold 16,000 units during the last six months of the year at $18 each, what would gross profit be? **(Omit the "$" sign in your response.)** |

|  |  |
| --- | --- |
|   Gross profit | $   |

|  |  |
| --- | --- |
| **(b)** | What is the value of ending inventory? **(Omit the "$" sign in your response.)** |

|  |  |
| --- | --- |
|   Ending inventory | $   |

*Explanation:*

10

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| Watt's Lighting Stores made the following sales projections for the next six months. All sales are credit sales. |

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| --- |
|   |
|   March | $ | 43,000   |     June | $ 47,000   |
|   April |   | 49,000   |     July | 55,000   |
|   May |   | 38,000   |     August | 57,000   |
|  |

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| Sales in January and February were $46,000 and $45,000, respectively.      Experience has shown that of total sales, 10 percent are uncollectible, 35 percent are collected in the month of sale, 45 percent are collected in the following month, and 10 percent are collected two months after sale. |

|  |  |
| --- | --- |
| **(a)** | Prepare a monthly cash receipts schedule for the firm for March through August. **(Omit the "$" sign in your response.)** |

|  |
| --- |
| WATT'S LIGHTING STORESCash Receipts Schedule |
|   | January | February | March | April | May | June | July | August |
|   Sales | $   | $   | $   | $    | $   | $   | $   | $    |
|   Collections of current sales |   |   |   |   |   |   |   |   |
|   Collections of prior month's sales |   |   |   |   |   |   |   |   |
|   Collections of sales 2 months   earlier |   |   |   |   |   |   |   |   |
|   |   |   |  |  |  |  |  |  |
|   Total cash receipts |   |   | $    | $   | $   | $   | $   | $   |
|   |   |   |  |  |  |  |  |  |
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| --- | --- |
| **(b)** | Of the sales expected to be made during the six months from March through August, how much will still be uncollected at the end of August? How much of this is expected to be collected later? **(Omit the "$" sign in your response.)** |

|  |  |
| --- | --- |
|    | Amount |
|   Uncollected | $   |
|   Expected to be collected | $    |
|  |

*Explanation:*

11

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| The Volt Battery Company has forecast its sales in units as follows: |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   |   |   |   |   |
|   January | 1,100 |   | May | 1,650   |
|   February | 950 |   | June | 1,800   |
|   March | 900 |   | July | 1,500   |
|   April | 1,400 |   |   |   |
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| Volt Battery always keeps an ending inventory equal to 130% of the next month's expected sales. The ending inventory for December (January's beginning inventory) is 1,430 units, which is consistent with this policy. |
|     |
|       Materials cost $12 per unit and are paid for in the month after purchase. Labor cost is $5 per unit and is paid in the month the cost is incurred. Overhead costs are $7,500 per month. Interest of $8,300 is scheduled to be paid in March, and employee bonuses of $13,500 will be paid in June. |

|  |  |
| --- | --- |
| **(a)** | Prepare a monthly production schedule for January through June. |

|  |
| --- |
| VOLT BATTERY COMPANYProduction Schedule |
|   | Jan. | Feb. | March | April | May | June | July |
|  |  |  |  |  |  |  |  |
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| **(b)** | Prepare a monthly summary of cash payments for January through June. Volt  produced 900 units in December. **(Omit the "$" sign in your response.)** |

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| --- |
| VOLT BATTERY COMPANYSummary of Cash payments |
|   | Dec. | Jan. | Feb. | March | April | May | June |
|  |  |  |  |  |  |  |  |
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12

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| Harry's Carryout Stores has eight locations. The firm wishes to expand by two more stores and needs a bank loan to do this. Mr. Wilson, the banker, will finance construction if the firm can present an acceptable three-month financial plan for January through March. The following are actual and forecasted sales figures: |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Actual |   | Forecast |   | Additional Information |
|   November | $ 360,000 |   | January | $ 600,000 |   | April forecast | $ 500,000   |
|   December | 540,000 |   | February | 640,000 |   |   |   |
|   |   |   | March | 510,000 |   |   |   |
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| Of the firm's sales, 50 percent are for cash and the remaining 50 percent are on credit. Of credit sales, 50 percent are paid in the month after sale and 50 percent are paid in the second month after the sale. Materials cost 40 percent of sales and are purchased and received each month in an amount sufficient to cover the following month's expected sales. Materials are paid for in the month after they are received. Labor expense is 30 percent of sales and is paid for in the month of sales. Selling and administrative expense is 15 percent of sales and is also paid in the month of sales. Overhead expense is $36,000 in cash per month. |

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|      Depreciation expense is $11,600 per month. Taxes of $9,600 will be paid in January, and dividends of $10,000 will be paid in March. Cash at the beginning of January is $112,000, and the minimum desired cash balance is $107,000. |

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| **(a)** | Prepare a schedule of monthly cash receipts for January, February and March. **(Omit the "$" sign in your response.)** |

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| --- |
| HARRY’S CARRY-OUT STORESCash Receipts Schedule |
|   | November | December | January | February | March | April |
|   Sales |  |  |  |  |  |  |
|   Cash sales |  |  |  |  |  |  |
|   Credit sales |  |  |  |  |  |  |
|   Collections in the month  after credit sales) |  |  |  |  |  |  |
|   Collections two months  after credit sales) |  |  |  |  |  |  |
|   |  |  |  |  |  |  |
|   Total cash receipts |  |  |  |  |  |  |
|   |   |   |  |  |  |   |
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| --- | --- |
| **(b)** | Prepare a schedule of  monthly cash payments for January, February and March. **(Omit the "$" sign in your response.)** |

|  |
| --- |
| HARRY’S CARRY-OUT STORESCash Payments Schedule |
|   | January | February | March |  |  |  |
|   Payments for purchases |  |  |  |  |  |  |
|   Labor expense |  |  |  |  |  |  |
|   Selling and admin. exp. |  |  |  |  |  |  |
|   Overhead |  |  |  |  |  |  |
|   Taxes |  |  |  |  |  |  |
|   Dividends |  |  |  |  |  |  |
|   |  |  |  |  |  |  |
|   Total cash payments |  |  |  |  |  |  |
|   |  |  |  |  |  |  |
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| --- | --- |
| **(c)** | Prepare a schedule of monthly cash budget with borrowings and repayments for January, February and March. **(Leave no cells blank - be certain to enter "0" wherever required. Negative amounts should be indicated by a minus sign. Omit the "$" sign in your response.)** |

|  |
| --- |
| HARRY’S CARRY-OUT STORESCash Budget |
|  | January | February | March |  |  |  |  |  |
|   Total cash receipts |  |  |  |  |  |  |  |  |
|   Total cash payments |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|   Net cash flow |  |  |  |  |  |  |  |  |
|   Beginning cash balance |  |  |  |  |  |  |  |  |
|   |  |  |  |  |  |  |  |  |
|   Cumulative cash balance |  |  |  |  |  |  |  |  |
|   Monthly loan or (repayment) |  |  |  |  |  |  |  |  |
|   Cumulative loan balance |  |  |  |  |  |  |  |  |
|   Ending cash balance |  |  |  |  |  |  |  |  |
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rev: 07\_17\_2012

*Explanation:*

13

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| The Manning Company has financial statements as shown below, which are representative of the company’s historical average. |
|   |
|    The firm is expecting a 25 percent increase in sales next year, and management is concerned about the company’s need for external funds. The increase in sales is expected to be carried out without any expansion of fixed assets, but rather through more efficient asset utilization in the existing store. Among liabilities, only current liabilities vary directly with sales. |

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| --- |
| Income Statement |
|   Sales | $ | 300,000   |
|   Expenses |   | 231,000   |
|   |  |  |
|   Earnings before interest and taxes | $ | 69,000   |
|   Interest |   | 8,000   |
|   |  |  |
|   Earnings before taxes | $ | 61,000   |
|   Taxes |   | 16,000   |
|   |  |  |
|   Earnings after taxes | $ | 45,000   |
|   Dividends | $ | 13,500   |
|  |

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| Balance Sheet |
| **Assets** | **Liabilities and Stockholders' Equity** |
|   Cash | $ | 5,000   |   Accounts payable | $ | 29,900   |
|   Accounts receivable |   | 81,000   |   Accrued wages |   | 1,700   |
|   Inventory |   | 79,000   |   Accrued taxes |   | 4,400   |
|   |  |  |   |  |  |
|    Current assets | $ | 165,000   |     Current liabilities | $ | 36,000   |
|   Fixed assets |  | 90,000   |   Notes payable |  | 8,000   |
|   |  |  |   Long-term debt |  | 20,000   |
|     |   |   |   Common stock |   | 130,000   |
|   |  |   |   Retained earnings |  | 61,000   |
|   |  |   |   |  |  |
|   Total assets | $ | 255,000   |   Total liabilities and    stockholders' equity | $ | 255,000   |
|   |  |  |   |  |  |
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| --- |
| Using the percent-of-sales method, determine the amount of external financing needs, or a surplus of funds required by the company. (*Hint*: A profit margin and payout ratio must be found from the income statement.) **(Do not round intermediate calculations. Input the amount as positive value. Omit the "$" sign in your response.)** |

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|   The firm has $ in surplus funds. |

rev: 09\_10\_2011

*Explanation:*

14

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| The Hartnett Corporation manufactures baseball bats with Pudge Rodriguez’s autograph stamped on them. Each bat sells for $33 and has a variable cost of $18. There are $30,000 in fixed costs involved in the production process. |

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| --- | --- |
| **(a)** | Compute the break-even point in units. **(Round your answer to the nearest whole number.)** |

|  |  |
| --- | --- |
|   Break-even point | units   |

|  |  |
| --- | --- |
| **(b)** | Find the sales (in units) needed to earn a profit of $17,250. |

|  |  |
| --- | --- |
|   Sales | units   |

*Explanation:*

**(a)**

15

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| --- |
| Eaton Tool Company has fixed costs of $450,000, sells its units for $96, and has variable costs of $51 per unit. |

|  |  |
| --- | --- |
| **(a)** | Compute the break-even point. |

|  |  |
| --- | --- |
|   Break-even point | units   |

|  |  |
| --- | --- |
| **(b)** | Ms. Eaton comes up with a new plan to cut fixed costs to $350,000. However, more labor will now be required, which will increase variable costs per unit to $54. The sales price will remain at $96. What is the new break-even point? **(Round your answer to the nearest whole number.)** |

|  |  |
| --- | --- |
|   New break-even point | units   |

|  |  |
| --- | --- |
| **(c)** | Under the new plan, what is likely to happen to profitability at very high volume levels (compared to the old plan)? |
|   |   |
|   | Profitability will be less   |

*Explanation:*

16

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| Air Purifier, Inc., computes its break-even point strictly on the basis of cash expenditures related to fixed costs. Its total fixed costs are $2,530,000, but 10 percent of this value is represented by depreciation. Its contribution margin (price minus variable cost) for each unit is $56. How many units does the firm need to sell to reach the cash break-even point? **(Round your answer to the nearest whole number.)** |

|  |  |
| --- | --- |
|   Cash break-even point | units   |

*Explanation:*

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17

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| --- |
| Boise Timber co. computes its break-even point strictly on the basis of cash expenditures related to fixed costs. Its total fixed costs are $8,000,000, but 25 percent of this value is represented by depreciation. Its contribution margin (price minus variable cost) for each unit is $24. How many units does the firm need to sell to reach the cash break-even point? **(Round your answer to the nearest whole number.)** |

|  |  |
| --- | --- |
|   Cash break-even point | units   |

*Explanation:*

|  |  |  |
| --- | --- | --- |
| Cash related fixed costs | = | Total fixed costs − Depreciation |
|   | = | $8,000,000 − 25% ($8,000,000) |
|   | = | $8,000,000 − $2,000,000 |
|   | = | $6,000,000 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Cash BE | = | $6,000,000 | = | 250,000 units |
| $24 |

18

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| --- |
| The Harding Company manufactures skates. The company's income statement for 2010 is as follows: |

|  |
| --- |
| HARDING COMPANY |
| Income Statement |
| For the Year Ended December 31, 2010 |
|   Sales (12,200 skates @ $94 each) | $ | 1,146,800   |
|      Less: Variable costs (12,200 skates at $42) |   | 512,400   |
|               Fixed costs |   | 370,000   |
|   |  |  |
|   Earnings before interest and taxes (EBIT) |   | 264,400   |
|   Interest expense |   | 71,000   |
|   |  |  |
|   Earnings before taxes (EBT) |   | 193,400   |
|   Income tax expense (20%) |   | 38,680   |
|   |  |  |
|   Earnings after taxes (EAT) | $ |  154,720   |
|   |  |  |
|  |

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| --- | --- |
| **(a)** | Compute the degree of operating leverage. **(Enter only numeric value rounded to 2 decimal places.)** |

|  |  |
| --- | --- |
|    Degree of operating leverage |   |

|  |  |
| --- | --- |
| **(b)** | Compute the degree of financial leverage. **(Enter only numeric value rounded to 2 decimal places.)** |

|  |  |
| --- | --- |
|   Degree of financial leverage |   |

|  |  |
| --- | --- |
| **(c)** | Compute the degree of combined leverage. **(Enter only numeric value rounded to 2 decimal places.)** |

|  |  |
| --- | --- |
|   Degree of combined leverage |   |

|  |  |
| --- | --- |
| **(d)** | Compute the break-even point in units (number of skates). **(Round your answer to the nearest whole number.)** |

|  |  |
| --- | --- |
|   Break-even point |         stakes   |

*Explanation:*

19

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| Mo & Chris's Delicious Burgers, Inc., sells food to Military Cafeterias for $17 a box. The fixed costs of this operation are $90,000, while the variable cost per box is $11. |

|  |  |
| --- | --- |
| **(a)** | What is the break-even point in boxes? |

|  |  |
| --- | --- |
|   Break-even point | boxes   |

|  |  |
| --- | --- |
| **(b)** | Calculate the profit or loss on 14,000 boxes and on 29,000 boxes. **(Input all amounts as positive values. Omit the "$" sign in your response.)** |

|  |  |  |
| --- | --- | --- |
| Boxes | Profit/Loss | Amount |
| 14,000      | Loss   | $   |
| 29,000      | Profit   | $   |
|  |

|  |  |
| --- | --- |
| **(c)** | What is the degree of operating leverage at 19,000 boxes and at 29,000 boxes?**(Enter only numeric value rounded to 2 decimal places.)** |

|  |  |
| --- | --- |
| Boxes | Degree ofoperating leverage |
| 19,000        |           |
| 29,000        |           |
|  |

|  |  |
| --- | --- |
| **(d)** | If the firm has an annual interest expense of $10,100, calculate the degree of financial leverage at both 19,000 and 29,000 boxes.**(Enter only numeric value rounded to 2 decimal places.)** |

|  |  |
| --- | --- |
| Boxes | Degree offinancial leverage |
| 19,000        |           |
| 29,000        |           |
|  |

|  |  |
| --- | --- |
| **(e)** | What is the degree of combined leverage at both sales levels? **(Enter only numeric value rounded to 2 decimal places.)** |

|  |  |
| --- | --- |
| Boxes | Degree ofcombined leverage |
| 19,000        |          |
| 29,000        |          |
|  |

rev: 02\_23\_2012

*Explanation:*

**(a)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| BE |  = | $90,000 |  = | $90,000 |  = | 15,000 boxes |
| $17 − $11 | $6 |

**(b)**

|  |  |  |  |
| --- | --- | --- | --- |
|   | 14,000boxes |   | 29,000boxes |
|   Sales @ $17 per box | $ | 238,000 |   | $ | 493,000   |
|   Less: Variables costs ($11) | $ | 154,000 |   | $ | 319,000   |
|            Fixed costs | $ | 90,000 |   | $ | 90,000   |
|   |  |  |  |  |  |
|   Profit or Loss (EBIT) | $ | (6,000 | ) | $ | 84,000   |
|    |  |  |  |  |  |
|  |

**(c)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| DOL   | = | Q(P − VC) |   |   |
| Q(P − VC) − FC |   |   |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   DOL at 19,000 |  = | 19,000($17 − $11) |   |   |
| 19,000($17 − $11) − $90,000 |   |   |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | = | $114,000 | = | 4.75x |
|   | $24,000 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   DOL at 29,000 | = | 29,000($17 − $11) |   |   |
| 29,000($17 − $11) − $90,000 |   |   |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | = | $174,000 | = | 2.07x |
|   | $84,000 |

**(d)**

|  |  |  |
| --- | --- | --- |
|   DFL |  = | EBIT |
| EBIT − I |

|  |
| --- |
| First determine the profit or loss (EBIT) at 19,000 boxes. As indicated in part b, the profit (EBIT) at 29,000 boxes is $84,000: |

|  |  |
| --- | --- |
|   | 19,000 boxes |
|   Sales @ $17 per box | $ | 323,000   |
|   Less: Variables costs ($11) |   | 209,000   |
|            Fixed costs |   | 90,000   |
|   |  |  |
|   Profit or Loss (EBIT) | $ | 24,000   |
|   |  |  |
|  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   DFL at 19,000 | = | $24,000 |   |         |
| $24,000 − $10,100 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | = | $24,000 | = | 1.73x      |
|   | $13,900 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   DFL at 29,000 | = | $84,000 |   |         |
| $84,000 – $10,100 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | = | $84,000 | = | 1.14x      |
|   | $73,900 |

**(e)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| DCL   | = | Q(P − VC) |   |   |
| Q(P − VC) − FC − I |   |   |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   DOL at 19,000 | = | 19,000($17 − $11) |   |   |
| 19,000($17 − $11) − $90,000 − $10,100 |   |   |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | = | $114,000 | = | 8.20x      |
|   | $13,900 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   DFL at 29,000 | = | $29,000($17 − $11) |   |         |
| 29,000($17 − $11) − $90,000 − $10,100 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | = | $174,000 | = | 2.35x      |
|   | $73,900 |

20

|  |
| --- |
| International Data Systems information on revenue and costs is only relevant up to a sales volume of 114,000 units. After 114,000 units, the market becomes saturated and the price per unit falls from $14.00 to $8.80. Also, there are cost overruns at a production volume of over 114,000 units, and variable cost per unit goes up from $7.00 to $7.25. Fixed costs remain the same at $64,000. |

|  |  |
| --- | --- |
| **(a)** | Compute operating income at 114,000 units. **(Omit the "$" sign in your response.)** |

|  |  |
| --- | --- |
|   Operating income |  $   |

|  |  |
| --- | --- |
| **(b)** | Compute operating income at 214,000 units. **(Omit the "$" sign in your response.)** |

|  |  |
| --- | --- |
|   Operating income |  $   |

rev: 02-16-2011

*Explanation:*

21

|  |
| --- |
| Cain Auto Supplies and Able Auto Parts are competitors in the aftermarket for auto supplies. The separate capital structures for Cain and Able are presented below. |

|  |  |  |
| --- | --- | --- |
| Cain |   | Able |
|   Debt @ 10% | $ | 110,000   |   | Debt @ 10% | $ | 220,000   |
|   Common stock, $10 par |   | 220,000   |   | Common stock, $10 par |   | 110,000   |
|   |  |  |   |   |  |  |
|     Total | $ | 330,000   |   |    Total | $ | 330,000   |
|   Common shares |   | 22,000   |   | Common shares |   | 11,000   |
|  |

|  |  |
| --- | --- |
| **(a)** | Compute earnings per share if earnings before interest and taxes are $22,000, $33,000, and $56,000 (assume a 30 percent tax rate). **(Round your answers to 2 decimal places. Leave no cells blank - be certain to enter "0" wherever required. Omit the "$" sign in your response.)** |

|  |  |  |
| --- | --- | --- |
|   | Cain | Able |
|   Earnings per share at $22,000 |  |  |
|   Earnings per share at $33,000 |  |  |
|   Earnings per share at $56,000 |  |  |
|  |

|  |  |
| --- | --- |
| **(b)** | What is the relationship between earnings per share and the level of EBIT? |

|  |  |  |
| --- | --- | --- |
|   |   |   |
|   1. Before tax return on assets is less than cost of Debt | Cain does better   |
|   2. Before tax return on assets equals cost of Debt | Both are at equilibrium   |
|   3. Before tax return on assets is greater than cost of Debt | Able does better   |
|  |

|  |  |
| --- | --- |
| **(c)** | If the cost of debt went up to 12 percent and all other factors remained equal, what would be the break-even level for EBIT? **(Omit the "$" sign in your response.)** |

|  |  |
| --- | --- |
|   Break-even level | $   |

*Explanation:*

22

|  |
| --- |
| Sterling Optical and Royal Optical both make glass frames and each is able to generate earnings before interest and taxes of $93,600.   The separate capital structures for Sterling and Royal are shown below: |

|  |  |
| --- | --- |
| Sterling | Royal |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|   Debt @ 9% | $ | 624,000   |   Debt @ 9% | $ | 208,000   |
|   Common stock, $5 par |   | 416,000   |   Common stock, $5 par |   | 832,000   |
|   |  |  |   |  |  |
|      Total | $ | 1,040,000   |      Total | $ | 1,040,000   |
|   Common shares |   |  83,200   |   Common shares |   | 166,400   |
|  |

|  |  |
| --- | --- |
| **(a)** | Compute earnings per share for both firms. Assume a 25 percent tax rate.**(Round your answers to 2 decimal places. Omit the "$" sign in your response.)** |

|  |  |
| --- | --- |
|   | Earnings per share |
|   Sterling | $   |
|   Royal | $   |
|  |

|  |  |
| --- | --- |
| **(b)** | In part a, you should have gotten the same answer for both companies' earnings per share. Assuming a P/E ratio of 19 for each company, what would its stock price be?**(Use rounded Earnings per share.Round your answer to 2 decimal places. Omit the "$" sign in your response.)** |

|  |  |
| --- | --- |
|   Stock price | $   |

|  |  |
| --- | --- |
| **(c)** | Now as part of your analysis, assume the P/E ratio would be 13 for the riskier company in terms of heavy debt utilization in the capital structure and 21 for the less risky company. What would the stock prices for the two firms be under these assumptions?(Note: Although interest rates also would likely be different based on risk, we will hold them constant for ease of analysis.) **(Use rounded Earnings per share. Round your answers to 2 decimal places.Omit the "$" sign in your response.)**  |

|  |  |
| --- | --- |
|   |  Stock price |
|   Sterling | $   |
|   Royal | $   |
|  |

*Explanation:*

23

|  |
| --- |
| Sinclair Manufacturing and Boswell Brothers Inc. are both involved in the production of brick for the homebuilding industry. Their financial information is as follows: |

|  |
| --- |
| Capital Structure |
|   | Sinclair |   | Boswell |
|   Debt @ 11% | $ | 1,800,000    |   |   | 0    |
|   Common stock, $10 per share |   | 1,200,000    |   | $ | 3,000,000    |
|   |  |  |   |  |  |
|     Total | $ | 3,000,000    |   | $ | 3,000,000    |
|   Common shares |   | 120,000    |   |   | 300,000    |
| **Operating Plan** |   |   |   |   |   |
|   Sales (70,000 units at $20 each) | $ | 1,400,000    |   | $ | 1,400,000    |
|     Less: Variable costs |   | 1,120,000    |   |   | 700,000    |
|   | ($ | 16 per unit)   |   | ($ | 10 per unit)   |
|     Fixed costs |   | 0    |   |   | 320,000    |
|   |  |  |   |  |  |
|   Earnings before interest and taxes (EBIT) | $ | 280,000    |   | $ | 380,000    |
|   |  |  |   |  |  |
|  |

|  |  |
| --- | --- |
| **(a)** | If you combine Sinclair’s capital structure with Boswell’s operating plan, what is the degree of combined leverage? **(Enter only numeric value rounded to 2 decimal places.)**  |

|  |  |
| --- | --- |
|   Degree of combined leverage |   |

|  |  |
| --- | --- |
| **(b)** | If you combine Boswell’s capital structure with Sinclair’s operating plan, what is the degree of combined leverage? **(Enter only numeric value.)** |

|  |  |
| --- | --- |
|   Degree of combined leverage |   |

|  |  |
| --- | --- |
| **(d)** | In part b, if sales double, by what percentage will EPS increase? **(Omit the "%" sign in your response.)** |

|  |  |
| --- | --- |
|   EPS will increase by | %   |

*Explanation:*

24

|  |
| --- |
| Dickinson Company has $13.0 million in assets. Currently half of these assets are financed with long-term debt at 14 percent and half with common stock having a par value of $10. Ms. Smith, vice-president of finance, wishes to analyze two refinancing plans, one with more debt (D) and one with more equity (E). The company earns a return on assets before interest and taxes of 14 percent. The tax rate is 35 percent. |

|  |
| --- |
|      Under Plan D, a $3.250 million long-term bond would be sold at an interest rate of 10 percent and 325,000 shares of stock would be purchased in the market at $10 per share and retired. |

|  |
| --- |
|      Under Plan E, 325,000 shares of stock would be sold at $10 per share and the $3,250,000 in proceeds would be used to reduce long-term debt. |

|  |  |
| --- | --- |
| **(a)** | Compute the earnings per share for the current plan and the two new plans. **(Enter your answers in dollars not in millions. Round your answers to 2 decimal places. Leave no cells blank - be certain to enter "0" wherever required. Negative amounts should be indicated by a minus sign. Omit the "$" sign in your response.)** |

|  |  |  |  |
| --- | --- | --- | --- |
|   | Current Plan | Plan D | Plan E |
|   Earnings per share |  |  |  |
|  |

|  |  |
| --- | --- |
| **(b-1)** | Compute the earnings per share if return on assets fell to 12 percent. **(Enter your answers in dollars not in millions. Round your answers to 2 decimal places. Leave no cells blank - be certain to enter "0" wherever required. Negative amounts should be indicated by a minus sign. Omit the "$" sign in your response.)** |

|  |  |  |  |
| --- | --- | --- | --- |
|   | Current Plan | Plan D | Plan E |
|   Earnings per share |  |  |  |
|  |

|  |  |
| --- | --- |
| **(b-2)** | Which plan would be most favorable if return on assets fell to 12 percent? Consider the current plan and the two new plans. |
|    |   |
|   | Plan E |

|  |  |
| --- | --- |
| **(b-3)** | Compute the earnings per share if return on assets increased to 19 percent. **(Enter your answers in dollars not in millions. Round your answers to 2 decimal places. Leave no cells blank - be certain to enter "0" wherever required. Negative amounts should be indicated by a minus sign. Omit the "$" sign in your response.)** |

|  |  |  |  |
| --- | --- | --- | --- |
|   | Current Plan | Plan D | Plan E |
|   Earnings per share |  |  |  |
|  |

|  |  |
| --- | --- |
| **(b-4)** | Which plan would be most favorable if return on assets increased to 19 percent? Consider the current plan and the two new plans. |
|    |     |
|   | Plan D |

|  |  |
| --- | --- |
| **(c-1)** | If the market price for common stock rose to $14 before the restructuring, compute the earnings per share. Continue to assume that $3.250 million in debt will be used to retire stock in Plan D and $3.250 million of new equity will be sold to retire debt in Plan E. Also assume that return on assets is 9 percent. **(Enter your answers in dollars not in millions. Round your answers to 2 decimal places. Leave no cells blank - be certain to enter "0" wherever required. Negative amounts should be indicated by a minus sign. Omit the "$" sign in your response.)** |

|  |  |  |  |
| --- | --- | --- | --- |
|   | Current Plan | Plan D | Plan E |
|   Earnings per share |  |  |  |
|  |

|  |  |
| --- | --- |
| **(c-2)** | If the market price for common stock rose to $14 before the restructuring, which plan would then be most attractive? |
|    |     |
|   | Plan E |

rev: 02\_07\_2012, 06\_27\_2012, 07\_17\_2012

*Explanation:*

25

|  |
| --- |
| The Lopez-Portillo Company has $12.2 million in assets, 80 percent financed by debt and 20 percent financed by common stock. The interest rate on the debt is 9 percent and the par value of the stock is $10 per share. President Lopez-Portillo is considering two financing plans for an expansion to $26 million in assets.Under Plan A, the debt-to-total-assets ratio will be maintained, but new debt will cost a whopping 12 percent! Under Plan B, only new common stock at $10 per share will be issued. The tax rate is 30 percent. |

|  |  |
| --- | --- |
| **(a)** | If EBIT is 10 percent on total assets, compute earnings per share (EPS) before the expansion and under the two alternatives. **(Round your answers to 2 decimal places. Omit the "$" sign in your response.)** |

|  |  |
| --- | --- |
|   | Earnings per share |
|   Current |  |
|   Plan A |  |
|   Plan B |  |
|  |

|  |  |
| --- | --- |
| **(b)** | What is the degree of financial leverage under each of the three plans? **(Enter only numeric values rounded to 2 decimal places.)** |

|  |  |
| --- | --- |
|   | Degree offinancial leverage |
|   Current |  |  |
|   Plan A |  |  |
|   Plan B |  |  |
|  |

|  |  |
| --- | --- |
| **(c)** | If stock could be sold at $20 per share due to increased expectations for the firm's sales and earnings, what impact would this have on earnings per share for the two expansion alternatives? Compute earnings per share for each. **(Round your answers to 2 decimal places. Omit the "$" sign in your response.)** |

|  |  |
| --- | --- |
|   | Earnings per share |
|   Plan A |  |
|   Plan B |  |
|  |

*Explanation:*

26

|  |
| --- |
| Delsing Canning Company is considering an expansion of its facilities. Its current income statement is as follows: |

|  |  |
| --- | --- |
|   |   |
|   Sales | $ | 5,800,000   |
|     Less: Variable expense (50% of sales) |   | 2,900,000   |
|              Fixed expense |   | 1,880,000   |
|   |  |  |
|   Earnings before interest and taxes (EBIT) |   | 1,020,000   |
|   Interest (10% cost) |   | 360,000   |
|   |  |  |
|   Earnings before taxes (EBT) |   | 660,000   |
|   Tax (40%) |   | 264,000   |
|   |  |  |
|   Earnings after taxes (EAT) | $ | 396,000   |
|   Shares of common stock |   | 280,000   |
|   Earnings per share | $ | 1.41   |
|  |

|  |
| --- |
|     The company is currently financed with 50 percent debt and 50 percent equity (common stock, par value of $10). In order to expand the facilities, Mr. Delsing estimates a need for $2.8 million in additional financing. His investment banker has laid out three plans for him to consider:1.Sell $2.8 million of debt at 10 percent.2.Sell $2.8 million of common stock at $20 per share.3.Sell $1.40 million of debt at 9 percent and $1.40 million of common stock at $25 per share.Variable costs are expected to stay at 50 percent of sales, while fixed expenses will increase to $2,380,000 per year. Delsing is not sure how much this expansion will add to sales, but he estimates that sales will rise by $1.40 million per year for the next five years.    Delsing is interested in a thorough analysis of his expansion plans and methods of financing. |

|  |  |
| --- | --- |
| **(a)** | The break-even point for operating expenses before and after expansion. **(Enter your answers in dollars not in millions. Omit the "$" sign in your response.)** |

|  |  |
| --- | --- |
|   | Break-even point |
|   Before expansion |  |
|   After expansion |  |
|  |

|  |  |
| --- | --- |
| **(b)** | The degree of operating leverage before and after expansion. Assume sales of $5.8 million before expansion and $6.8 million after expansion. **(Enter only numeric values rounded to 2 decimal places.)** |

|  |  |
| --- | --- |
|   |    Degree ofoperating leverage |
|   Before expansion |  |  |
|   After expansion |  |  |
|  |

|  |  |
| --- | --- |
| **(c-1)** | The degree of financial leverage before expansion. **(Enter only numeric value rounded to 2 decimal places.)** |

|  |  |
| --- | --- |
|   Degree of financial leverage |   |

|  |  |
| --- | --- |
| **(c-2)** | The degree of financial leverage for all three methods after expansion. Assume sales of $6.8 million for this question. **(Round your answers to 2 decimal places.)** |

|  |  |
| --- | --- |
|   | Degree offinancial leverage |
|   100% Debt |  |  |
|   100% Equity |  |  |
|   50% Debt & 50% Equity |  |  |
|  |

|  |  |
| --- | --- |
| **(d)** | Compute EPS under all three methods of financing the expansion at $6.8 million in sales (first year) and $10.8 million in sales (last year). **(Round your answers to 2 decimal places. Omit the "$" sign in your response.)** |

|  |  |  |
| --- | --- | --- |
| Earnings per share | First year | Last year |
|   100% Debt | $   | $   |
|   100% Equity |   |   |
|   50% Debt & 50% Equity |   |   |
|  |

*Explanation:*