



IMA's Certification for  
Accountants and  
Financial Professionals  
in Business

# CMA Case-Based Questions Sample

C008-1

Written from CMA Sample Essay HCS

B566-1

Exam Part 1

Heating and Cooling Services (HCS) operates in a major U.S. metropolitan area. It provides maintenance and repair services of heating and cooling equipment to small commercial offices and retail buildings at a fixed annual price. The company collects the full amount at the beginning of each year. HCS prepares its financial statements in accordance with U.S. GAAP. The price for its services is determined by HCS based on an analysis of competitors and market conditions.

Given the seasonality of the heating and cooling business, the company's variable costs are incurred as follows.

	<u>1<sup>st</sup> Quarter</u>	<u>2<sup>nd</sup> Quarter</u>	<u>3<sup>rd</sup> Quarter</u>	<u>4<sup>th</sup> Quarter</u>
% of variable costs	25%	15%	35%	25%

In addition to variable costs, the company has fixed costs for warehouses, trucks, and cranes. It also has corporate expenses that include 30% of its total costs. The company manages its operations with a static budget. At the end of the year, the budgeted and actual revenue are as follows.

	<u>Budget</u>	<u>Actual</u>
Number of clients	5,000	4,875
Average revenue per client	\$ 600	\$ 640
 Total revenue	 \$3,000,000	 \$3,120,000
Total costs	2,000,000	2,100,000

To better manage and respond to budget variances, HCS is developing a comprehensive master budget for the upcoming year. The CFO is also considering implementing a monthly cash budget.

**Item #1**

CSO: 1A2d Revenue recognition

LOS: 1A2y demonstrate an understanding of revenue recognition for contracts with customers using the five steps required to recognize revenue

HCS is required to use U.S. GAAP's revenue recognition principle to recognize revenue. Use your mouse to drag-and-drop the following steps into the correct order.

Options:

- Allocate the determined amount of consideration/price to the contractual obligations.
- Determine the amount of consideration/price for the transaction.
- Identify the contract with the customer.
- Recognize revenue when the performing party satisfies the performance obligation.
- Identify contractual performance obligations.

Sequence:

- First:
- Second:
- Third:
- Fourth:
- Fifth:

Answer Key:

First: Identify the contract with the customer.

Second: Identify contractual performance obligations.

Third: Determine the amount of consideration/price for the transaction.

Fourth: Allocate the determined amount of consideration/price to the contractual obligations.

Fifth: Recognize revenue when the performing party satisfies the performance obligation.

Explanation: FASB revenue recognition principle is outlined in Accounting Standards Codification (ASC) Topic 606: Revenue from Contracts with Customers.

## **Item #2**

CSO: 1B4f Flexible budgeting

LOS: 1B4d compare and contrast the benefits and limitations of the budget system

Use your mouse to drag-and-drop the benefits and/or limitations listed below to the corresponding type of budget.

Options:

- Allows current operating conditions to be reflected in the budget during the year.
- Is based on a fixed level of output and not adjusted during the budget period.
- Is useful in businesses where costs are closely aligned with the level of business activity.
- Is useful in settings where activity levels are predictable and costs are largely fixed.
- Is adjusted for the actual level of output and the actual quantity of revenue and cost drivers (but not unit costs and prices).
- Is more effective for goal setting and resource planning than for evaluating performance.
- Allows management to analyze variances based on changes in volume, prices, costs, and the mix of products and services.

Categories:

- Flexible Budget
- Static Budget

Answer Key:

### **Flexible Budget**

- Allows current operating conditions to be reflected in the budget during the year.
- Is useful in businesses where costs are closely aligned with the level of business activity.
- Is adjusted for the actual level of output and the actual quantity of revenue and cost drivers (but not unit costs and prices).
- Allows management to analyze variances based on changes in volume, prices, costs, and the mix of products and services.

### **Static Budget**

- Is based on a fixed level of output and not adjusted during the budget period.
- Is useful in settings where activity levels are predictable and costs are largely fixed.
- Is more effective for goal setting and resource planning than for evaluating performance.

### **Item #3**

CSO: 1C1b Use of flexible budget to analyze performance

LOS: 1C1e analyze a flexible budget based on actual sales (output) volume

At the end of the year, HCS uses a flexible budget to calculate the sales variances.

Complete the following sentences by choosing from the lists of options.

The total sales revenue variance for the year equals 1. \_\_\_\_\_, and the variance is 2. \_\_\_\_\_.

The sales-volume variance equals 3. \_\_\_\_\_, and the variance is 4. \_\_\_\_\_.

The sales-price variance equals 5. \_\_\_\_\_, and the variance is 6. \_\_\_\_\_.

Drop-down list:

1. \$5,000  
\$75,000  
\$120,000 (KEY)  
\$195,000
2. favorable (KEY)  
unfavorable
3. \$5,000  
\$75,000 (KEY)  
\$120,000  
\$195,000
4. favorable  
unfavorable (KEY)
5. \$5,000  
\$75,000  
\$120,000  
\$195,000 (KEY)
6. favorable (KEY)  
unfavorable

Explanation:

	<u>Actual</u>	<u>Static Budget</u>	<u>Flexible Budget</u>
Number of clients	4,875	5,000	4,875
Price per client	\$ 640	\$ 600	\$ 600
Revenue	\$3,120,000	\$3,000,000	\$2,925,000

1. The total variance is \$120,000 favorable, the difference between the actual (\$3,120,000) and static budget (\$3,000,000). This is also equal to the sum of the volume and price variances (-\$75,000 + \$195,000).
2. The volume variance is  $\$2,925,000 - \$3,000,000 = \$75,000$  (unfavorable).
3. The price variance is  $\$3,120,000 - \$2,925,000 = \$195,000$  (favorable)

**Item #4**

CSO: 1D1a Types of cost and cost behavior

LOS: 1D1a calculate fixed, variable, and mixed costs, and demonstrate an understanding of the behavior of each in the long and short term and how a change in assumptions regarding cost type or relevant range affects these costs

The fixed costs are recorded on a straight-line basis. The variable cost pattern is representative of the delivery of services. What amount of operating income should HCS record in Q2? Type your answer in the box (numbers only).

\$

Key: **90000**

Actual Revenue (\$3,120,000) \*Q2 variable cost % (15%) = \$468,000

Variable Costs = Total Costs (\$2,100,000)\*70%\*15% = \$220,500

Fixed Costs = Total Costs (\$2,100,000)\*30% / 4 = \$157,500

**Income = \$468,000 - \$220,500 - \$157,500 = 90,000**

HCS should recognize its revenue based on the service it performed. According to its variable costs seasonality, the most appropriate revenue recognition would be to match the cost occurrence pattern and recognize 25%, 15%, 35%, and 25% of revenue in the four quarters, respectively, assuming this pattern is representative of the delivery of services.

**Item #5**

CSO: 1B4a Annual business plans (master budgets)

LOS: 1B4c demonstrate an understanding of how the budget is developed

Use your mouse to drag-and-drop the items below into the correct sequence for preparing the master budget.

Options:

- Sales budget.
- Cash budget.
- Production budget.
- Cost of goods sold budget.
- Budgeted statement of cash flows.
- Budgeted balance sheet.

Sequence:

- First:
- Second:
- Third:
- Fourth:
- Fifth:
- Sixth:

Answer Key:

First: Sales budget.

Second: Production budget.

Third: Cost of goods sold budget.

Fourth: Cash budget.

Fifth: Budgeted balance sheet.

Sixth: Budgeted statement of cash flows.



### **Item #6**

CSO: 1B5b Financial budgets

LOS: 1B5t define the purposes of the cash budget and describe the relationship between the cash budget and all other budgets

How could a monthly cash budget benefit HCS? Select **TWO** answers.

- a. As variable costs are incurred unevenly throughout the year, HCS needs to forecast its inflows and outflows to manage its cash balance.
- b. As HCS has both price and quantity variances, it needs to determine the break-even to manage its cash balance.
- c. HCS will need the monthly cash budget to prepare adjusting journal entries.
- d. Knowing its cash needs, HCS can optimize its short-term borrowings and investments.
- e. HCS will use the monthly cash budget to assess its variable costs and cost flow assumptions.
- f. The monthly cash budget will help HCS determine the profitability of individual clients.

Keys: a, d

Explanation:

- As HCS has both price and quantity variances, it also needs to determine the break-even to manage its cash balance. **Incorrect** because Price and quantity variances are part of standard costing and variance analysis and not directly cash management. Similarly, break-even analysis determines the sales volume at which total revenues equal total costs (profitability) and not a tool for managing cash balances.
- HCS will need the monthly cash budget to prepare adjusting journal entries. **Incorrect** because adjusting journal entries are part of the accounting cycle and are based on the accrual basis of accounting, not related to cash flows.
- HCS will use the monthly cash budget to assess its variable costs and cost flow assumptions. **Incorrect** because it's mixing concepts; cash budget projects cash inflows and outflows not cost structures.
- The monthly cash budget will help HCS determine the profitability of individual clients. **Incorrect** because cash budget focuses on cash flow management. To determine the profitability of clients, you would use the cost and revenue data tied to each client.

C010-2

Written from CMA Sample Essay Buckeye Grain

PART 2

July 15, 2025

Buckeye Grain is a corn and wheat processing company. It decides to introduce a new product that can be manufactured by either a capital-intensive method or a labor-intensive method. The choice of method would have no effect on the quality of the final product. During the first stage of the product life cycle, the new product would be priced at a low price of \$60 per unit. This pricing would attract customers and help the company gain market share. Related costs for the two methods are shown below.

	<u>Capital-intensive</u>	<u>Labor-intensive</u>
Direct materials per unit	\$ 10.00	\$ 11.20
Direct labor per unit	12.00	14.40
Variable overhead per unit	6.00	9.60
Total fixed overhead	\$4,880,000	\$2,640,800

All fixed overhead is directly traceable and avoidable. The annual incremental selling expenses are estimated to be \$1 million plus \$4 for each unit sold. These costs are the same for both manufacturing methods. The company's effective income tax rate is 20%. Buckeye Grain's managers plan to implement sensitivity analysis to assist with and manage the uncertainty of sales. Buckeye also considers introducing the product life cycle concept to its business operations.

When deciding which manufacturing method to use, Buckeye Grain considers operating leverage and financial leverage. The capital-intensive method requires investing heavily in automated machinery and advanced technology. To fund the major upfront investment, the company would need to raise additional equity, secure long-term loans, or issue new debt. The labor-intensive method requires a lower initial capital investment, reducing the need for external financing.

**Item #1**

CSO: 2C1a Breakeven analysis

LOS: 2C1a demonstrate an understanding of how cost/volume/profit (CVP) analysis (breakeven analysis) is used to examine the behavior of total revenues, total costs, and operating income as changes occur in output levels, selling prices, variable costs per unit, or fixed costs

Calculate the estimated break-even point in units of the new product if Buckeye Grain uses the capital-intensive manufacturing method. Type your answer in the box (numbers only).

units

Key:

210000

Calculation: Show how the correct answer is calculated.

Raw Materials + Direct Labor + Variable Overhead + Variable Selling =  $\$10 + \$12 + \$6 + \$4 = \$32$

Contribution Margin =  $\$60.00 - \$32.00 = \$28.00$

Capital-intensive Breakeven =  $(\$4,880,000 + \$1,000,000) \div \$28.00 = \underline{\underline{210,000 \text{ units}}}$

**Item #2**

CSO: 2C1a Breakeven analysis

LOS: 2C1b calculate operating income at different operating levels

Calculate the annual unit sales volume at which Buckeye Grain would be indifferent between the two manufacturing methods. Type your answer in the box (numbers only).

units

Key: 311000

Capital-intensive: Variable costs = \$10 + \$12 + \$6 + \$4 = \$32

Labor-intensive: Variable costs = 11.2 + 14.4 + 9.6 + 4 = \$39.2

$$32X + \$5,880,000 = 39.2X + \$3,640,800$$

$$\$7.20 X = \$2,239,200$$

$$X = 311,000$$

**Item #3**

CSO: 2C1b Profit performance and alternative operating levels

LOS: 2C1j explain how sensitivity analysis can be used in CVP analysis when there is uncertainty about sales

How would sensitivity analysis in CVP analysis help Buckeye Grain's managers?

- a. By identifying irrelevant costs that should be excluded from break-even analysis.
- b. By determining how changes in key inputs impact profits and break-even points.
- c. By calculating depreciation expenses over the product life cycle.
- d. By ensuring fixed costs remain constant regardless of output level.

Key: b

Determining how changes in key inputs (such as sales volume or price) impact profits and break-even points

**Item #4**

CSO: 2C3d Product life-cycle considerations

LOS: 2C3q define product life cycle, identify and explain the four stages of the product life cycle, and explain why pricing decisions might differ over the life of a product

Buckeye Grain's management is analyzing the stages of the product life cycle. Use your mouse to drag-and-drop a product's characteristic that **best** aligns with the appropriate stage of the product life cycle. Not all options will be used.

**Options:**

- Surging sales, increased competition, adding features, new markets.
- Falling sales, product discontinued or obsolete, company exits product line.
- High acquisition costs, building consumer awareness, little to no profit.
- Well-established, stable competition, low customer acquisition costs campaigns, focus on competing products.
- Steady decline in advertising spending, increased employee hiring, widespread product recalls.
- Peak production halted, market research begins, no customer feedback collected.

**Stages:**

- Introduction
- Growth
- Maturity
- Decline

**Key:**

Introduction: High acquisition costs, building consumer awareness, little to no profit.

Growth: Surging sales, increased competition, adding features, new markets.

Maturity: Well-established, stable competition, low customer acquisition costs campaigns, focus on competing products.

Decline: Falling sales, product discontinued or obsolete, company exits product line.

**Explanation:**

The other two options do not match any of the stages.

**Item #5**

CSO: 2C3d Product life-cycle considerations

LOS: 2C3r evaluate and recommend pricing strategies under specific market conditions

Buckeye Grain is evaluating appropriate pricing strategies to use in some stages of the product life cycle. Complete the following sentences by choosing from the lists of options.

During the introduction stage, Buckeye Grain is **most** likely to use 1. \_\_\_\_\_.

In the growth stage, Buckeye Grain is **most** likely to use 2. \_\_\_\_\_.

**Drop-down list:**

1.  
competitive pricing  
liquidation pricing  
penetration pricing (key)  
premium pricing

2.  
competitive pricing (key)  
liquidation pricing  
penetration pricing  
premium pricing

**Explanation:**

Buckeye Grain would apply different pricing strategies at each stage of the product life cycle to optimize sales, increase profitability, and maintain market share.

Introduction Stage: penetration pricing is a pricing technique of setting a relatively low initial price to enter a market and attract new customers (a price often lower than the market price.)

Growth Stage: As demand increases and competition enters, competitive pricing is employed to adjust prices to stay competitive while still maintaining profits.

**Item #6**

CSO: 2A2b Leverage

LOS: 2A2e define operating leverage and financial leverage

Complete the following sentences by choosing from the lists of options.

1. \_\_\_\_\_ relates to the use of fixed costs in Buckeye Grain's operations.
2. \_\_\_\_\_ increases Buckeye Grain's risk due to interest obligations.
3. \_\_\_\_\_ impacts Buckeye Grain's breakeven point and contribution margin.
4. \_\_\_\_\_ can amplify returns by using more debt to fund expansion.

**Drop-down 1**

Operating leverage (key)

Financial leverage

Market leverage

**Drop-down 2**

Operating leverage

Financial leverage (key)

Market leverage

**Drop-down 3**

Operating leverage (key)

Financial leverage

Market leverage

**Drop-down 4**

Operating leverage

Financial leverage (key)

Market leverage