The Association for
Accountants and
Financial Professionals
in Business

CMA Learning System™

Part 1: Financial Planning, Performance and Control

Practice Essay Questions and Answers.

The CMA Learning System™ is produced by the Institute of Management Accountants (IMA).

The Institute of Management Accountants

CMA Learning System™

Part 1: Financial Planning, Performance and Control

Essay Questions

Practice Essay Questions

The following essay questions, and the answers that appear at the end, were adapted from the Revised CMA exam, Questions and Answers: Part 4 (2005 and 2008) books supplied by the Institute of Certified Management Accountants and are used with their permission.

The focus of the questions will be on the test taker's ability to apply concepts presented in the part being tested to a business scenario.

The answers supplied are meant to serve as samples of answers that address 80% or more of the points listed on the question grading guide. There are generally more points on the grading guide than points that can be awarded (i.e., there may be 110 possible points but only 100 that can be awarded in total), so answers scoring 80% may vary among test takers. Thus, the answers presented here represent one possible answer, not a definitive correct answer.

Part 1 Section A Questions

Question 1A-ES01

Rein Company, a compressor manufacturer, is developing a budgeted income statement for the calendar year 2006. The president is generally satisfied with the projected net income for 2005 of $700,000 resulting in an earnings per share figure of $2.80. However, next year he would like earnings per share to increase to at least $3. Rein Company employs a standard absorption cost system. Inflation necessitates an annual revision in the standards as evidenced by an increase in production costs expected in 2006. The total standard manufacturing cost for 2005 is $72 per unit produced.

Rein expects to sell 100,000 compressors at $110 each in the current year (2005). Forecasts from the sales department are favorable, and Rein Company is projecting an annual increase of 10% in unit sales in 2006 and 2007. This increase in sales will occur even though a $15 increase in unit selling price will be implemented in 2006. The selling price increase was absolutely essential to compensate for the increased production costs and operating expenses. However, management is concerned that any additional sales price increase would curtail the desired growth in volume.

Standard production costs are developed for the two primary metals used in the compressor (brass and a steel alloy), the direct labor, and manufacturing overhead. The following schedule represents the 2006 standard quantities and rates for material and labor to produce one compressor.

Brass	4 pounds	@	$5.35/pound	$21.40

Steel alloy	5 pounds	@	$3.16/pound	15.80
Direct labor	4 hours	@	$7.00/hour	28.00
			Total prime costs	$65.20

The material content of the compressor has been reduced slightly, hopefully without a noticeable decrease in the quality of the finished product. Improved labor productivity and some increase in automation have resulted in a decrease in labor hours per unit from 4.4 to 4.0. However, the significant increases in material prices and hourly labor rates more than offset any savings from reduced input quantities. The manufacturing overhead cost per unit schedule has yet to be completed. Preliminary data is as follows:

	Activity Level (units)		
	100,000	110,000	120,000
Overhead items			
Supplies	$475,000	$522,000	$570,000
Indirect labor	530,000	583,000	636,000
Utilities	170,000	187,000	204,000
Maintenance	363,000	378,000	392,000
Taxes and insurance	87,000	87,000	87,000
Depreciation	421,000	421,000	421,000
Total overhead	$2,046,000	$2,178,000	$2,310,000

The standard overhead rate is based upon direct labor hours and is developed by using the total overhead costs from the above schedule for the activity level closest to planned production. In developing the standards for the manufacturing costs the following two assumptions were made.

- The cost of brass is currently selling at $5.65/pound. However, this price is historically high and the purchasing manager expects the price to drop to the predetermined standard early in 2006.
- Several new employees will be hired for the production line in 2006. The employees will be generally unskilled. If basic training programs are not effective and improved labor productivity is not experienced, then the production time per unit of product will increase by 15 minutes over the 2006 standards.

Rein employs a LIFO inventory system for its finished goods. Rein's inventory policy for finished goods is to have 15% of the expected annual unit sales for the coming year in finished goods inventory at the end of the prior year. The finished goods inventory at December 31, 2005, is expected to consist of 16,500 units at a total carrying cost of $1,006,500.

Operating expenses are classified as selling, which are variable, and administrative, which are all fixed. The budgeted selling expenses are expected to average 12% of sales revenue in 2006 which is consistent with the performance in 2005. The administrative expenses in 2006 are expected to be 20% higher than the predicted 2005 amount of $907,850.

Management accepts the cost standards developed by the production and accounting department. However, they are concerned about the possible effect on net income if the price of brass does not decrease, and/or the labor efficiency does not improve as expected. Therefore management wants the budgeted income statement to be prepared using the standards as developed but to consider the worst possible situation for 2006. Each resulting manufacturing variance should be separately identified and added to or subtracted from budgeted cost of goods sold at standard. Rein is subject to a 45% income tax rate.

Questions

A. Prepare the budgeted income statement for 2006 for Rein Company as specified by management. Round all calculations to the nearest dollar.

B. Review the 2006 budgeted income statement prepared for Rein Company and discuss whether the president's objectives can be achieved.

Question 1A-ES02

Gleason Company, a manufacturer of children's toys and furniture, is beginning budget preparation for next year. Jack Tiger, a recent addition to the accounting staff at Gleason, is questioning Leslie Robbins and James Crowe, sales and production managers, to learn about Gleason's budget process.

Crowe says that he incorporates Robbins's sales projections when estimating closing inventories, but that the resulting numbers aren't completely reliable because Robbins makes some "adjustments" to her projections. Robbins admits that she does, indeed, lower initial sales projections by 5% to 10% to give her department some breathing room. Crowe admits that his department makes adjustments not unlike Robbins's; specifically, production adds about 10% to its estimates. "I think everyone here does something similar," he says, and Robbins nods assent.

Questions

A. What benefits do Robbins and Crowe expect to realize from their budgetary practices?

B. What are possible adverse effects of introducing budgetary slack for Robbins and Crowe?

Question 1A-ES03

Eugene Logan is the chief financial officer of Artech Corporation, a manufacturer and distributor of electronic security devices primarily suited for residential applications. Logan is currently in the process of preparing next year's annual budget and implementing an incentive plan to reward the performance of key personnel. The final operating plans will then be presented to the Board of Directors for approval.

Logan is aware that next year may be difficult due to announced price increases to major customers. Artech's president has put pressure on management to achieve the current year's earnings per share amounts. Logan is, therefore, considering introducing zero-based budgeting in order to bring costs into line with revenue expectations.

Leonard Drake, Artech's manufacturing director, is attempting to convince Logan to build "budgetary slack" into the operating budget. Drake contends that productivity is burdened by an abnormal amount of product design changes and small lot size production orders that incur costly set-up times.

Questions

A. Explain at least three advantages and at least three disadvantages of budgetary slack from the point of view of Artech Corporation's management group as a whole.

B. Describe how zero-based budgeting could be advantageous to Artech Corporation's overall budget process.

Question 1A-ES04

Matchpoint Racquet Club (MRC) is a sports facility that offers tennis, racquet ball, and other physical fitness facilities to its members. MRC owns and operates a large club with 2,000 members in a metropolitan area. The club has experienced cash flow problems over the last five years, especially during the summer months when both court use and new membership sales are low. Temporary bank loans have been obtained to cover the summer shortages.

The owners have decided to take action to improve MRC's net cash flow position. They have asked the club's financial manager to prepare a projected cash budget based on a proposed revised fee structure. The proposal would increase membership fees and replace the hourly tennis and racquet ball court fees with a quarterly charge that would allow unlimited usage of the courts. The new rates would remain competitive when compared to the rates of other clubs in the area. Although there will be some members who do not renew because of the increase in price, management believes that the offer of unlimited court time will increase membership by 10%.

The proposed fee structure is shown below, along with the current membership distribution. The membership distribution is assumed to remain unchanged. All members would be required to pay the quarterly court charges.

Proposed Fee Structure

Membership Category	Annual Membership Fees	Quarterly Court Charges
Individual	$300	$50
Student	$180	$40
Family	$600	$90
	Membership Distribution	
Individual	60%	
Student	10%	
Family	30%	

Projected Membership Payment Activity

			Court Time in Hours	
Quarter	**New**	**Renewed**	**Prime**	**Regular**
1	100	700	5,000	7,000
2	70	330	2,000	4,000
3	50	150	1,000	2,000
4	200	600	5,000	7,000

The average membership during the third quarter is projected to be 2,200 people. Fixed costs are $157,500 per quarter, including a quarterly depreciation charge of $24,500. Variable costs are estimated at $15 per hour of total court usage time.

Questions

A. Prepare MRC's cash budget for the third quarter. Assume the opening cash balance is $186,000, that membership at the beginning of the quarter is 2,000, and that the change to the new pricing structure will be implemented. Include supporting calculations where appropriate.

B. How would sensitivity analysis help MRC management in the decision-making process?

C. Identify at least four factors that MRC should consider before implementing this decision.

Part 1 Section B Questions

Question 1B-ES01

Handler Company distributes two power tools to hardware stores—a heavy duty ½ inch hand drill and a table saw. The tools are purchased from a manufacturer where the Handler private label is attached. The wholesale selling prices to the hardware stores are $60 each for the drill and $120 each for the table saw. The 2005 budget and actual results are presented below. The budget was adopted in late 2004 and was based upon Handler's estimated share of the market for the two tools.

Handler Company Income Statement
for the Year Ended December 31, 2005
(000s omitted)

	Hand Drill		**Table Saw**			**Total**	
	Budget	Actual	Budget	Actual	Budget	Actual	Variance
Sales in Units	120	86	80	74	200	160	40
Revenue	$7,200	$5,074	$9,600	$8,510	$16,800	$13,584	$(3,216)
Cost of goods sold	6,000	4,300	6,400	6,068	12,400	10,368	2,032
Gross Margin	$1,200	$ 774	$3,200	$2,442	4,400	3,216	(1,184)
Unallocated costs							
Selling					1,000	1,000	-
Advertising					1,000	1,060	(60)
Administration					400	406	(6)
Income Taxes (45%)					900	338	562
Total unallocated costs					3,300	2,804	496
Net income					$1,100	$ 412	$ (688)

During the first quarter of 2005, Handler's management estimated that the total market for these tools would actually be 10% below its original estimates. In an attempt to prevent Handler's unit sales from declining as much as industry projections, management developed and implemented a marketing program. Included in the program were dealer discounts and increased direct advertising. The table saw line was emphasized in this program.

Questions

A. Analyze the unfavorable gross margin variance of $1,184,000 in terms of:

1. sales price variance

2. cost variance

3. volume variance

B. Discuss the apparent effect of Handler Company's special marketing program (i.e., dealer discounts and additional advertising) on 2005 operating results. Support your comments with numerical data where appropriate.

Question 1B-ES02

The Jackson Corporation is a large, manufacturing company where each division is viewed as an investment center and has virtually complete autonomy for product development, marketing and production. Performance of division managers is evaluated periodically by senior corporate management. Divisional return on investment is the sole criterion used in performance evaluation under current corporate policy. Corporate management believes return on investment is an adequate measure because it incorporates quantitative information from the divisional income statement and balance sheet in the analysis.

Some division managers complained that a single criterion for performance evaluation is insufficient and ineffective. These managers have compiled a list of criteria which they believe should be used in evaluating division managers' performance. The criteria include profitability, market position, productivity, product leadership, employee development, employee attitudes, public responsibility, and balance between short-range and long-range goals.

Questions

A. Jackson management believes that return on investment is an adequate criterion to evaluate division management performance. Discuss the shortcomings or possible inconsistencies of using return on investment as the sole criterion to evaluate divisional management performance.

B. Discuss the advantages of using multiple criteria versus a single criterion to evaluate divisional management performance.

C. Describe the problems or disadvantages which can be associated with the implementation of the multiple performance criteria measurement system suggested to Jackson Corporation by its division managers.

Question 1B-ES03

George Nickles has recently been appointed vice president of operations for Merriam Corporation. The company's business segments include manufacture of heavy equipment, food processing, and financial services. Nickles has suggested to Merriam's chief financial officer, Karen Schilling, that segment managers should be evaluated on segment data contained in the company's annual report, which presents revenues, earnings, identifiable assets, and depreciation for each segment for a five-year period. Nickles reasons that segment managers may be appropriately evaluated by the same criteria used to evaluate top management. Schilling has doubts about using information from the annual report for that purpose and suggests that Nickles consider other ways of evaluating the segment managers.

Questions

A. What legitimate concerns might Karen Schilling have regarding the evaluation of segment managers using segment information prepared for public reporting?

B. What could the possible behavioral impact be on Merriam Corporation's segment managers if their performance evaluations are based on information published in the annual report?

C. What types of financial information would be more appropriate for George Nickles to use in evaluating the performance of segment managers?

Question 1B-ES04

ARQ Enterprises was formed by the merger of Andersen, Rolvaag, and Quie Corporations. Its three divisions retain the names of the former companies and operate with complete autonomy. Corporate management evaluates the divisions and division management according to return on investment.

The Rolvaag and Quie divisions are currently negotiating a transfer price for a component that Quie manufactures and Rolvaag needs. Quie, which sells the component already into a market that it expects to grow rapidly, currently has excess capacity. Rolvaag could buy the component from other suppliers.

Three transfer prices are under consideration:

- Rolvaag has bid $3.84 for the component, which is Quie's standard variable manufacturing cost plus a 20% markup.
- Quie has offered the component to Rolvaag at $5.90, which is its regular selling price in the marketplace ($6.50) minus variable selling and distribution expenses.
- ARQ management, which has no established policy on transfer pricing, has offered the compromise price of $5.06, which is the standard full manufacturing cost plus 15%.

Both the Quie and Rolvaag divisions have rejected the compromise price.

Refer to the pricing chart for a summary of this information

Pricing Chart

Regular selling price	$6.50
Standard variable manufacturing cost	$3.20
Standard full manufacturing cost	$4.40
Variable selling and distribution expenses	$0.60
Standard variable manufacturing cost plus 20% ($3.20 x 1.20)	$3.84
Regular selling price less variable selling and distribution expenses ($6.50-$0.6)	$5.90
Standard full manufacturing cost plus 15% ($4.40 x 1.15)	$5.06

Questions

A. What effect might each of the three proposed prices have on the Quie division management's attitude toward intracompany business?

B. Would a negotiation of a price between Quie and Rolvaag be a satisfactory method to establish a transfer price in this situation? Explain your decision.

C. Should ARQ corporate management become involved in resolving this transfer price controversy? Explain your decision.

Question 1B-ES05

Within Sparta Enterprises, the extraction division transfers 100% of its total output of 500,000 units of a particular type of clay to the pet products division, which treats the clay and sells it as cat litter for $42 a unit. The pet products division currently pays a transfer price for the clay of cost plus 10%, or $22 a unit. The clay has many other uses and could be sold in the marketplace for $26 in virtually unlimited quantities. If the extraction division did sell the clay into the wider market, it would incur a variable selling cost of $1.50 per unit.

The extraction division recently hired a new manager, Keith Richardson, who immediately complained to top management about the disparity between the transfer price and the market price. For the most recent year, the pet products division's contribution margin on the sale of 500,000 units of cat litter was $5,775,000. The extraction unit's contribution margin on the transfer of an equal number of units of clay to the pet products division was $1,625,000.

Refer to the Unit Cost Structure chart for more information.

Unit Cost Structure

	Extraction Division	Pet Products Division
Transfer price for clay	—	$22
Material cost	$4	2
Labor cost	6	4
Overhead	11*	7**
Total cost per unit	$20	$35

*Overhead in the extraction division is 25% fixed and 75% variable.
**Overhead in the per products division is 65% fixed and 35% variable.

Questions

A. Why don't cost-based transfer prices provide an appropriate measure of divisional performance?

B. Using the market price for the clay, what is the contribution margin for the two divisions for the most recent year?

C. What price range for the clay would be acceptable to both divisions if Sparta instituted negotiated transfer pricing and allowed the divisions to buy and sell clay on the open market? Explain your answer.

D. Why should a negotiated transfer price result in desirable behavior from the management of the two divisions?

Question 1B-ES06

4-Cycle, Inc., manufactures small engines for recreational vehicles, motorcycles, boats, and stationary equipment. Each line has its own product manager. The company CFO, Stan Downs, prepares divisional budgets on a per-month basis using a standard cost system. Each product line occupies its own space, with square footage varying considerably among lines. Fixed production costs are allocated on the basis of square feet using a factory-wide rate. Variable factory overhead is based on machine hours. Other costs are based on revenue.

At the company's quarterly meeting, Laura Fleur, the new product manager for marine engines, received an unpleasant surprise. When distributing the performance report (see below) to each manager, Stan Downs remarked aloud that Fleur would need to see him after the meeting to discuss ways to improve her line's lackluster performance. Since she thought her first quarter's performance was impressive, she was taken aback by Downs' comments. The performance report (see background information) provided her with no clue to what had gone wrong.

Performance Report

4-Cycle, Inc.
Marine Engine Quarterly Performance Report

	Actual	Budget	Variance
Units	10,500	8,500	2,000 F
Revenue	17,500,000	14,700,000	2,800,000 F
Variable production costs			
Direct materials	2,500,000	2,164,750	335,250 U
Direct labor	2,193,000	1,790,000	403,000 U
Machine time	2,300,000	1,950,000	350,000 U
Factory overhead	4,500,000	3,825,000	675,500 U
Fixed production costs			
Indirect labor	925,000	580,250	344,750 U
Depreciation	500,000	500,000	—
Taxes	232,500	220,000	12,500 U
Insurance	437,000	437,000	—
Administrative expense	1,226,000	919,500	306,500 U
Marketing expense	848,000	540,000	308,000 U
Research and development	613,000	460,000	153,000 U
Operating profit	$1,225,000	$1,313,500	$88,500 U

Questions

A. What are at least three weaknesses in 4-Cycle's quarterly performance report? Explain your answer.

B. What are some ways in which 4-Cycle can eliminate the weaknesses in the way it reports quarterly performance to its managers? Revise the quarterly report accordingly.

Part 1 Section C Questions

Question 1C-ES01

Many companies recognize that their cost systems are inadequate for today's powerful global competition. Managers in companies selling multiple products are making important product decisions based on distorted cost information, as most cost systems designed in the past focused on inventory valuation. In order to elevate the level of management information, it has been suggested that companies should have as many as three cost systems for (1) inventory valuation, (2) management control of operations, and (3) an activity-based costing system for decision-making.

Questions

A. Discuss why the traditional cost system, developed to value inventory, distorts product cost information.

B. 1. Describe the benefits that management can expect from activity-based costing.

2. List the steps that a company, using a traditional cost system, would take to implement activity-based costing.

Question 1C-ES02

TruJeans, a new startup company, plans to produce blue jean pants, customized with the buyer's first name stitched across the back pocket. The product will be marketed exclusively via an internet website. For the coming year, sales have been projected at three different levels: optimistic, neutral, and pessimistic. TruJeans does keep inventory on hand, but prefers to minimize this investment.

The controller is preparing to assemble the budget for the coming year, and is unsure about a number of issues, including the following.

- The level of sales to enter into the budget.
- How to allocate the significant fixed costs to individual units.
- Whether to use job order costing or process costing.

In addition, the controller has heard of kaizen budgeting and is wondering if such an approach could be used by TruJeans.

Questions

A. How could the use of variable (direct) costing mitigate the problem of how to allocate the fixed costs to individual units?

B. Which cost system seems to make more sense for TruJeans, job order costing or process costing? Explain your answer.

Part 1 Section D Questions

Question 1D-ES01

Superior Co. manufactures automobile parts for sale to major automakers. Superior's internal audit staff is reviewing the internal controls over machinery and equipment and making recommendations for improvements where appropriate.

The internal auditors obtained the information presented below during this review.

- Purchase requests for machinery and equipment are normally initiated by the supervisor in need of the asset. The supervisor discusses the proposed acquisition with the plant manager. A purchase requisition is submitted to the purchasing department when the plant manager determines that the request is reasonable and that there is a remaining balance in the plant's share of the total corporate budget for capital acquisitions.
- Upon receiving a purchase requisition for machinery or equipment, the purchasing department manager looks through the records for an appropriate supplier. A formal purchase order is then completed and mailed. When the machine or equipment is received, it is immediately sent to the user department for installation. This allows the economic benefits from the acquisition to be realized at the earliest possible date.
- The property, plant, and equipment ledger control accounts are supported by lapsing schedules organized by year of acquisition. These lapsing schedules are used to compute depreciation as a unit for all assets of a given type that are acquired in the same year. Standard rates, depreciation methods, and salvage values are used for each major type of fixed asset. These rates, methods, and salvage values were set ten years ago during the company's initial year of operation.
- When machinery or equipment is retired, the plant manager notifies the accounting department so that the appropriate entries can be made in the accounting records.
- There has been no reconciliation since the company began operations between the accounting records and the machinery and equipment on-hand.

Questions

Identify the internal control weaknesses and recommend improvements that the internal audit staff of Superior Co. should include in its report regarding the internal controls employed for fixed assets. Use the following format in preparing your answer.

Weaknesses	*Recommendations*

1. 1.

Question 1D-ES02

The Board of Directors of a Large Corporation recently learned that some members of the senior management team had circumvented the company's internal controls for personal gain. The Board appointed a special task force of external auditors and outside legal counsel to investigate the situation.

After extensive review, the task force has concluded that for a period of several years the expenses of the company's chief executive officer, president, and vice president-public relations were charged to an account called the Limited Expenditure Account (LEA). The account was established five years ago and was not subject to the company's normal approval authorization process. Approximately $2,000,000 of requests for reimbursement were routinely processed and charged to LEA. Accounting personnel were advised by the controller to process such requests based on the individual approval of any of the three executives, even when the requests were not adequately documented.

The vice president-public relations and his department were in charge of political fundraising activities. The task force determined, however, that only a small portion of the $1,000,000 raised last year was actually used for political purposes. In addition, departmental resources were used for personal projects of the three identified executives. The task force also uncovered an additional $4,000,000 of expenditures that were poorly documented so that even the amounts for proper business purposes could not be identified.

The task force noted that these payment practices, as well as LEA, were never disclosed in the Internal Audit Department's audit reports even though company disbursements were tested annually. References to these practices and LEA were included on two occasions in recent year's work papers. The director of internal audit, who reports to the controller, advised that she reviewed these findings with the controller who, in turn, advised that he mentioned these findings to the president. The president recommended that they not be included in the internal audit reports. Furthermore, the external auditors, who reviewed the internal audit work papers, did not mention LEA or these payment practices in their recommendations for improved internal control procedures to management or in their external audit reports. The task force also noted that the company did not have a formal, published ethics policy.

Questions

A. Identify at least three internal control weaknesses in the company's internal control system.

B. Identify at least three illegal or improper practices uncovered at the company.

C. Identify at least four important steps the company should take, both procedurally and organizationally, to correct the problems that were uncovered in order to prevent a similar situation in the future.

Question 1D-ES03

Brawn Technology, Inc. is a manufacturer of large wind energy systems. The company has its corporate headquarters in Buenos Aires and a central manufacturing facility about 200 miles away. Since the manufacturing facility is so remote, it does not receive the attention or the support from the staff that the other units do. The president of Brawn is concerned about whether proper permits have been issued for new construction work being done to handle industrial waste at the facility. In addition, he wants to be sure that all occupational safety laws and environmental issues are being properly addressed. He has asked the company's internal auditor to conduct an audit focusing on these areas of concern.

Questions

A. Identify and describe the two fundamental types of internal audits. Using examples, describe two situations where each type of audit would be applicable.

B. Referring to Brawn Technology,

1. Identify the type of audit that would best address the concerns of the president
2. Identify the objective of this audit.
3. Give two reasons why this type of audit would best address the concerns of the president.

C. Recommend two procedures that could be implemented at Brawn's manufacturing plant that would lessen the president's concerns. Explain each of your recommendations.

Part 1 Section E Questions

Question 1E-ES01

FulRange Inc. produces complex chips for personal electronic products such as music recording devices. The chips are sold primarily to major manufacturers, and any production overruns are sold to small manufacturers at a substantial discount. The small manufacturer market segment appears very profitable because the basic operating budget assigns all fixed expenses to production for the major manufacturers, the only predictable market.

A common product defect that occurs in production is a "drift" that is caused by failure to maintain precise heat levels during the production process. Production managers maintain that rejects from the 100% testing program can be reworked to acceptable levels. However, in a recent analysis of customer complaints, George Wilson, the cost accountant, and the quality control engineer have ascertained that normal rework does not bring the chips up to standard. Sampling shows that about one-half of the reworked chips will fail after extended use. The incidence of failure in the reworked chips is projected to be about 10% over one to five years' operation.

Unfortunately, there is no way to determine which reworked chips will fail because testing will not detect this problem. The rework process could be changed to correct the problem, but the cost-benefit analysis for the suggested change in the rework process indicates that it is not feasible. FulRange's marketing analyst has indicated that this problem will have a significant impact on the company's reputation and customer satisfaction if the problem is not corrected. Consequently, the Board of Directors would interpret this problem as having serious negative implications on the company's profitability.

Wilson has included the chip failure and rework problem in his report that has been prepared for the upcoming quarterly meeting of the Board of Directors. Due to the potential adverse economic impact, Wilson has followed a long-standing practice of highlighting this information.

After reviewing the reports to be presented, the plant manager and his staff were upset and indicated to the controller that he should control his people better. "We can't upset the Board with this kind of material. Tell Wilson to tone that down."

The controller called Wilson into his office and said, "George, you'll have to bury this one. The probable failure of reworks can be referred to briefly in the oral presentation, but it should not be mentioned or highlighted in the advance material mailed to the Board."

Wilson feels strongly that the Board will be misinformed on a potentially serious loss of income if he follows the controller's orders. Wilson discussed the problem with the quality control engineer who simply remarked, "That's your problem, George."

Questions

A. Discuss the ethical considerations that George Wilson should recognize in this situation by referring to the specific standards the IMA Statement of Ethical Professional Practice.

B. What should George Wilson do in this situation? Explain your answer.

Question 1E-ES02

Borealis Industries has three operating divisions – Sandstone Books, Corus Games, and Sterling Extraction Services. Each division maintains its own accounting system and method of revenue recognition.

Sandstone Books

Sandstone Books sells novels to regional distributors who then sell to independent bookstores and retail chains in their territory. The distributors are allowed to return up to 25% of their purchases to Sandstone, and the distributors have the same return allowance with the bookstores. The returns from distributors have averaged 20% over the past five years. During the fiscal year just ended, Sandstone's sales to distributors totaled $15,000,000. At year end, $6,800,000 of sales are still subject to return privileges over the next six months. The balance of the book sales, $8,200,000, had actual returns of 19%. Sales from the previous fiscal year totaling $5,500,000 were collected in the current fiscal year, with 21% of sales returned. Sandstone records revenue in accordance with the method referred to as revenue recognition when the right of return exists as the company's operations meet all the applicable criteria for use of this method.

Corus Games

Corus Games supplies video arcades with new games and updated versions of standard games. The company works through a network of sales agents in various cities. Orders are received from the sales agents along with down payments; Corus then ships the product directly to the customer, f.o.b. shipping point. The customer is billed for the balance due plus the actual shipping costs. During the fiscal year just ended, Corus received orders for $12,000,000 from the sales agents along with $1,200,000 in down payments. Customers were billed $150,000 in freight costs and $9,180,000 for goods shipped. After an order has been shipped, the sales agent receives a 12% commission on the product price. The goods are warranted for 90 days after sales, and warranty returns have been about 3% of sales. Corus recognizes revenue at the point of sale.

Sterling Extraction Services

Sterling specializes in the extraction of precious metals. During the fiscal year just ended, Sterling entered into contracts worth $36,000,000 and shipped metals worth $32,400,000. One quarter of the shipments was made from inventories on hand at the beginning of the year, and the remaining shipments were made from metals that were mined during the year. Sterling uses the completion-of-production method to recognize revenue, because the operations meet the specified criteria, i.e., reasonably assured sales prices, interchangeable units, and insignificant distribution costs.

Questions

The CEO of Sterling Extraction Services has asked the controller, "How do you know which orders were filled from inventory? I want you to take another look at the revenue calculation. At the current level, our incentive payments will be much lower than expected. Besides, I promised the Board of Directors that this year's revenue would exceed last year's by at least 12%; I don't like not keeping my promises."

The controller is very uncomfortable with the implications of the CEO's statement and has turned to the IMA Standards of Ethical Professional Practice for guidance. According to this guidance:

A. Identify the principles that should guide the work of a management accountant.

B. Identify and describe the standards that would be violated if the controller of Sterling were to manipulate the revenue calculation.

C. Identify the steps the controller should take to resolve this situation.

Question 1E-ES03

Alex Raminov is a management accountant at Carroll Mining and Manufacturing Company (CMMC), a large processor of ores and minerals. While working late one night to complete the footnotes for the financial statements, Raminov was looking for a file in his supervisor's office and noticed a report regarding procedures for disposing of plant wastes. According to handwritten notes on the face of the report, CMMC had been using a residential landfill in a nearby township to dump toxic coal cleaning fluid wastes over a considerable period of time. The report stated that locating a new dump site was urgent because the current one was nearing capacity.

Raminov realized that it was possible CMMC had been improperly disposing of highly toxic fluids in a landfill that was restricted to residential refuse. Besides the obvious hazards to residents of the area, there could be legal problems if and when the authorities were notified. The financial consequences of clean-up actions, as well as the loss of CMMC's generally good environmental reputation, could be catastrophic for the company.

Raminov asked his supervisor how this item was to be included in the footnotes and inquired whether an accrual for clean-up costs was anticipated. His supervisor told him to "forget about this matter" and that he had no intention of mentioning one word about waste disposal in this year's financial statements.

Questions

A. Using the categories outlined in IMA's Standards of Ethical Professional Practice, identify the standards that are specifically relevant to Alex Raminov's ethical conflict and explain why the standards are applicable to the situation.

B. According to the IMA's Standards of Ethical Professional Practice, what further steps, if any, should Raminov take in resolving his ethical dilemma?

C. If he continues to be rebuffed by his employer, should Raminov notify the appropriate authorities? Should he anonymously release the information to the local newspaper? Explain your answers.

Question 1E-ES04

Amy Kimbell was recently hired as an accounting manager for Hi-Quality Productions Inc., a publicly-held company producing components for the automotive industry. One division, Alpha, uses a highly automated process that had been outsourced for a number of years because the capital investment required was high and the technology was constantly changing. Two years ago, the company decided to make the necessary capital investment and bring the operation in house. Since all major capital investments must be approved by the Board of Directors, the budget committee for the Alpha Division recommended the $4 million investment to the Board, projecting a significant cost savings.

In her new job as accounting manager, Kimbell is on the budget committee for the Alpha Division. The Board has requested from the committee a post-audit review of the actual cost savings. While working on the review, Kimball noted that several of the projections in the original proposal were very aggressive, including an unusually high salvage value and an excessively long useful life. If more realistic projections had been used, Kimbell doubts that the Board would have approved the investment.

When Kimbell expressed her concerns at the next meeting of Alpha's budget committee, she was told that it had been the unanimous decision of the committee to recommend the investment because it was thought to be in the best long-term interest of the company. According to the committee members, the post-audit report would not discuss these issues; the committee members believe that certain adjustments to the review are justified to ensure the success of the Alpha division and the company as a whole.

Questions

A. Using the categories outlined in the *IMA Statement of Ethical Professional Practice*, identify the standards that are specifically relevant to Kimbell's ethical conflict and explain why the identified standards are applicable to the situation.

B. According to the *IMA Statement of Ethical Professional Practice*, what specific actions should Kimbell take to resolve her ethical conflict?

Question 1E-ES05

Pro-Kleen specializes in cleaning carpets and upholstery for residences and businesses. Three years ago, the company upgraded its equipment in order to remain competitive and take advantage of new technology. At that time, Pro-Kleen purchased two truck-mounted steam cleaners; the details are shown below.

Purchase date	March 15, 2005
Cost	$200,000
Estimated life	8 years
Salvage value	$20,000

Pro-Kleen takes one-half year's depreciation in both the year of acquisition and the year of disposal, and uses the straight-line method for calculating depreciation expense.

Based on recent information, John Morgan, Pro-Kleen's assistant controller, has changed the estimated useful lives of the equipment to five years. The salvage value of the equipment has been reduced to $10,000 due to unexpected obsolescence. These revisions are effective January 1, 2008. After revising the depreciation amounts for the current year's financial reporting, Morgan was told by the controller, Eileen Ryan, that the revision was significant enough to change the small profit projected for the year into a loss. As a result, Ryan has asked Morgan to reduce by half the total depreciation expense for the current year.

Questions

A. Referring to the specific standards outlined in the *IMA Statement of Ethical Professional Practice*, identify and discuss the specific ethical conflicts that Ryan's instruction presents to Morgan.

B. According to the *IMA Statement of Ethical Professional Practice*, identify the steps that Morgan should take to resolve this situation.

Question 1E-ES06

United Forest Products (UFP) is a $1 billion corporation with many large timber and wood processing plants. The company is decentralized into divisions that operate as profit centers. The majority of the centers are evaluated on cost control and the achievement of budgeted output and profits. If "target numbers" are met, all division employees participate in a profit-sharing plan, and senior management potentially can receive substantial bonuses.

Charlene White is the controller of the Allegheny Division of UFP. Over the past six months, she discussed the division's performance several times with the president of the Allegheny Division, William Jefferson, and it became apparent that the division would not meet its targeted goals unless drastic changes were made. The Allegheny Division is actually a cost center that has been required to use a non-market-based transfer price, but it is evaluated as a profit center. Jefferson realized this problem and told White that the only way to meet budget was "to maximize output and make some serious changes in our cost control." Several weeks later, White noted a dramatic increase in the profitability of the division.

When analyzing the monthly profit and loss details, White noted only a slight increase in output but a significant decrease in the purchase cost of raw timber. She knew her responsibilities required her to understand fully how this sudden change was taking place and began investigating. At the log yard where timber is received and scaled to determine its price, she noticed that a trucker-timber contractor was quite aggravated when he was given the scale report (board feet and quality). When she asked one of the employees what was bothering the contractor, he said, "Are you kidding? You wouldn't believe how much we've been lowering scale measures the last three months!" Further conversations revealed that Jefferson had apparently told the division’s mill workers to significantly reduce both the size scale (in inches of log diameter) and quality measures of logs sold to the mill. The impact has been a significant reduction in the price paid to contractors for timber purchased by the division.

White suspects that Jefferson has instructed employees to deliberately give logging contractors arbitrary and inaccurate evaluations of raw material quantity and quality, an unethical business practice.

Questions

A. Identify and discuss Charlene White’s ethical conflict and determine if she has an obligation to act? Be sure to refer to the relevant standards outlined in IMA’s Standards of Ethical Professional Practice to support your answer.

B. According to IMA’s Standards of Ethical Professional Practice, what steps should White take to resolve the perceived ethical dilemma?

C. Explain how the performance evaluation system affected behavior at the Allegheny Division and recommend improvements to the system.

Part 1 Section A Answers

Answer to Question 1A-ES01

Answer A:

Rein Company
Budgeted Income Statement
For the Year Ended December 31, 2006

Sales [100,000 **x** 1.1 **x** ($110 + 15)]		$13,750,000
Cost of goods sold at standard [110,000 **x** (65.20 + 19.80)[1]]		9,350,000
Gross margin at standard		$ 4,400,000
Variances		
Material-brass-unfavorable [(111,650 compressors[2]) x (4 lbs/compressor) x ($.30/lb)]	$(133,980)	
Labor efficiency-unfavorable [(111,650 compressors) x (0.25 hours/compressor) x ($7/hr)]	(195,388)	
Variable overhead efficiency-unfavorable [(111,650 compressors) **x** (0.25 hrs/compressor) **x** ($3.30/hour[3])]	(92,111)	
Fixed overhead volume-favorable [(111,650-110,000 compressors) **x** $6.60/compressor[4])]	10,890	(410,589)
Gross margin at actual		$ 3,989,411
Operating expenses		
Selling expense ($13,750,000 x .12)	$1,650,000	
Administrative expense ($907,850 **x** 1.2)	1,089,420	2,739,420
Income before taxes		$ 1,249,991
Income tax expense (45%)		562,496
Net income		$ 687,495
Earnings per share (250,000 shares)		$2.75

[1]Standard cost of compressor

Brass 4 lbs. @ $5.35/lb.	$21.40
Steel alloy 5 lbs. @ $3.16/lb.	15.80
Direct labor 4 hrs. @ $7.00/hr.	28.00
Overhead (2,178,000 ÷ 110,000)	19.80
Total cost per compressor	$85.00

[2]Production schedule

2006 sales 110,000	
Desired ending inventory 12/31/06 (110,000 **x** 1.1 **x** .15)	18,150
Required inventory	128,150
Beginning inventory 1/1/06 (110,000 **x** .15)	16,500
2006 production	111,650

[3]Determination of the variable overhead rate and total fixed overhead

Variable overhead rate per compressor	=	Change in Overhead / Change in Activity
($2,178,000-$2,046,000) / 110,000- 100,000	=	$132,000 / 10,000
	=	$13.20/compressor
Variable overhead rate/direct labor hour	=	$13.20/compressor / 4 hrs./compressor
	=	$3.30/direct labor hour

Total overhead at 110,000 compressors	$2,178,000
Total variable overhead at 110,000 compressors (110,000 **x** $13.20)	-1,452,000
Total budgeted fixed overhead	$ 726,000

[4]Normal activity level and fixed overhead rate

Fixed overhead rate	=	Budgeted fixed overhead (See [3]) / Normal production activity level
	=	$726,000 / 110,000
	=	$6.60/compressor

Answer B:

Based upon the results of the 2006 budgeted income statement, the president's objective cannot be achieved. A review of the statement highlights the following circumstances.

- A 2006 income statement prepared using the worst situation gives a net income of $687,495 and earnings per share of $2.75 which is a decrease from the 2005 income of $700,000 and earnings per share of $2.80. These budgeted figures are also considerably below the president's objective of $750,000 net income and $3 earnings per share.
- If the unfavorable variances do not occur, net income will increase by $231,813 after taxes ($421,479 x .55) resulting in an increase in earnings per share of $.927, giving a total earnings per share of $3.677 which is well above the president's objective.
- Manufacturing costs are 65.5% of the selling price ($72/$110) in 2005, and 68% of the selling price in 2006. Administrative expenses increased 20% in 2006. Therefore, the 13.6% sales price increase in 2006 was not sufficient to cover the increases in manufacturing cost and increases in administrative expense.

Answer to Question 1A-ES02

Answer A:

Robbins and Crowe introduce slack into their budgets for the following reasons:

- To hedge against uncertainties that might cause actual results to differ markedly from their projections.
- To allow their employees to exceed expectations, show consistent performance, or both. This becomes especially significant if their performance is evaluated by comparing actual results to budget projections.
- To bring the organization's goals into alignment with their own goals by using budgetary slack to improve the organization's assessment of their performance, thus earning higher salaries, better bonuses, or promotions.

Answer B:

Slack might adversely affect Robbins and Crowe as follows:

- By limiting the usefulness of the budget to motivate top performance from their employees
- By affecting their ability to identify trouble spots and take appropriate corrective action
- By reducing their credibility in the eyes of management

The use of budgetary slack may also affect management decisions, since the budgets will show lower contribution margins (fewer sales, higher expenses). Decisions regarding profitability of product lines, staffing levels, incentives, and other matters could adversely affect Robbins's and Crowe's departments.

Answer to Question 1A-ES03

Answer A:

At least three advantages and three disadvantages of budgetary slack from the point of view of Artech Corporation's management group as a whole include the following.

Advantages:

- It provides flexibility for operating under unknown circumstances, such as an extra margin for discretionary expenses in case budget assumptions on inflation are incorrect or adverse circumstances arise.
- Additional slack may be included to offset the costly setups from design changes and/or small lot size orders.
- The increased pressure to meet current year earnings per share targets may result in postponing expenditures into the next year or aggressively pulling

sales into the current year. Budgetary slack in the next year may compensate for shifting those earnings from next year into the current year.

Disadvantages:

- It decreases the ability to highlight weaknesses and take timely corrective actions on problem areas.
- It decreases the overall effectiveness of corporate planning. Actions such as pricing changes or reduced promotional spending may be taken from a perceived need to improve earnings when eliminating the budgetary slack could accomplish the same objective without marketplace changes.
- It limits the objective evaluation of departmental managers and performance of subordinates by using budgetary information.

Answer B:

Zero-based budgeting (ZBB) could be advantageous to Artech Corporation's overall budget process for the following reasons:

- The ZBB process evaluates all proposed operating and administrative expenses as if they were being initiated for the first time. Each expenditure is justified, ranked, and prioritized according to its order of importance to the overall corporation, not just its role in one department.
- The focus is on evaluation of all activities rather than just incremental changes from the prior year. This allows addressing activities which have been ongoing to determine if they are still useful in the current environment. The objectives, operations, and costs of all activities are evaluated, and alternative means of accomplishing the objectives are more likely to be identified.

Answer to Question 1A-ES04

Answer A:

MRC Cash Budget Proposed

	Third Quarter (only)
Beginning cash balance (given)	$186,000
Add: Third quarter cash receipts[1]	200,650
Less: Third quarter cash expenditures[2]	178,000
Ending cash balance	$208,650

Supporting calculations

[1]Third Quarter Cash Receipts

Memberships	Fee	Distribution			
	Individual	$300	60%	$ 36,000	*[(50 new+150 renew) x 0 .60 x $300]*
	Student	180	10%	3,600	*[(50+150) x 0.10 x $180]*
	Family	600	30%	36,000	*[(50+150) x 0.30 x $600]*
	Total			$ 75,600	
Court Fees					
	Individual	$ 50	60%	$ 61,500	*[(50 new +2,000 reg.) x 0.60 x $50]*
	Student	40	10%	8,200	*[2,050 x 0.10 x $40]*
	Family	90	30%	55,350	*[2,050 x 0.30 x $90]*
	Total			125,050	
	Total Third Quarter Cash Receipts:			$200,650	

[2]Cash Expenditures

Fixed costs	$ 157,500	
Less: Depreciation	24,500	
Add: Variable costs	45,000	*[(1000 hours + 2000 hours) x $15]*
Total Costs	$ 178,000	

Answer B:

Sensitivity analysis would help MRC management by testing the assumed projections and seeing how sensitive the cash flows are to changes in the number of members or the distribution of members.

Answer C:

Other factors that MRC should consider include:

- Communication strategy to current members.
- Market acceptance of the new pricing strategy.
- Cost associated with the change.
- Timing of the change.
- The effect on the mix of membership class.
- The anticipated rate of return for excess cash and the costs of borrowing funds.
- The reliability of the projections.
- The capacity of the tennis and racquet ball courts.
- Price elasticity for memberships in similar clubs.
- The reaction of the competition.
- Quality of its facilities and staff.

- Cost of advertising/communicating this price change.

Part 1 Section B Answers

Answer to Question 1B-ES01

Answer A:

Sales Price Variance	Budget Sales Price	Actual Sales Price	Unit Variance	Actual Unit Sales	Sales Price Variance	Total
Hand Drills	$ 60	$ 59	$1 U	86,000	$ 86,000	
Table Saws	$120	$115	$5 U	74,000	$370,000	$456,000 U
Cost Price Variance	Budgeted Cost	Actual Cost	Unit Variance	Actual Unit Purchases	Cost Price Variance	
Hand Drills	$50	$50	$0	86,000	None	
Table Saws	$80	$82	$2 U	74,000	$148,000	$148,000 U
Volume Variance	Budgeted Volume in Units	Actual Volume in Units	Unit Variance	Budgeted[1] Contribution Margin/Unit	Volume Variance	
Hand Drills	120,000	86,000	34,000U	$10	$340,000	
Table Saws	80,000	74,000	6,000 U	$40	240,000	$580,000 U
Total Gross Margin Variance						$1,184,000 U

	Hand Drills	Table Saws
[1]budgeted total margin ÷ budget unit sales	$1,200,000	$3,200,000
	120,000	80,000
	$10/unit	$40/unit

Answer B:

The effectiveness of Handler's marketing program is difficult to judge in the absence of actual industry-wide performance data. If the industry estimate of a 10% decline in the market for these tools is used as a basis for comparison, then Handler's gross margin should have fallen to $3,960,000 ($4,400,000 x .9) as summarized below ($000 omitted).

	Hand Drill	Table Saw	Total
Budgeted gross margin	$1,200	$3,200	$4,400
Budget adjusted for 10% industry decline	$1,080	$2,880	$3,960
Less: Actual gross margin	774	2,442	3,216
Shortage	$ 306	$ 438	$ 744

Handler's gross margin actually fell to $3,216,000 which is $744,000 lower than might have been expected. To have been considered a success, the marketing program should have generated a gross margin above $4,020,000 (the original budget minus the projected industry decline plus the incremental cost of the marketing program, i.e., $4,400 - 440 + 60).

Handler hoped to do better than the industry average by giving dealer discounts and increasing direct advertising. However, to be successful, the discounts and advertising must be offset by an increase in volume. Handler was not successful in this regard in total; sales volume dropped 7.5% in the table saw line as compared to a 28.3% decline in hand drill volume. Note that the table saw price was dropped by 4.2% as against a price decline of only 1.7% on hand drilled. Apparently the discounts and advertising did not generate enough unit sales volume to offset and compensate for the promotion.

Answer to Question 1B-ES02

Answer A:

The shortcomings or possible inconsistencies of using return on investment (ROI) as the sole criterion to evaluate divisional management performance include the following:

- ROI tends to emphasize short-run performance at the possible expense of long-run profitability.
- ROI is not consistent with cash flow models used for capital expenditure analysis.
- ROI frequently is not controllable by the division manager because many components included in the computation are committed in amount or are the responsibility of others.
- Reliance on ROI as the only measurement indicator could lead to an inaccurate decision or investment at either the divisional or corporate level.

Answer B:

The advantages of using a multiple criteria to evaluate divisional management performance include the following.

- Multiple performance measures provide a more comprehensive picture of performance by considering a wider range of responsibilities.
- Multiple performance measures emphasize both the short-term and long-term results thereby emphasizing the total performance of the division.
- Multiple performance measures may highlight non-quantitative as well as quantitative-oriented aspects.

- Multiple performance criteria will enhance goal congruence and reduce the importance of the dysfunctional short-run goal of profit maximization.

Answer C:

The problems or disadvantages of implementing a multiple performance criteria measurement system include the following.

- The measurement criteria are not all equally quantifiable.
- Management may have difficulty applying the criteria on a consistent basis, some criteria may be subjectively more heavily weighted than other criteria, and some criteria may be in conflict with each other.
- A multiple performance measurement system may be confusing to division management.
- Over-emphasis on multiple evaluation criteria may lead to diffusion of effort and the failure to perform as well as expected in any one area.

Answer to Question 1B-ES03

Answer A:

Segment information prepared for public reporting may be inappropriate for evaluation of segment managers for the following reasons:

- An allocation of common costs incurred for the benefit of more than one segment must be included for public reporting purposes.
- Common costs are generally allocated on an arbitrary basis.
- Segments identified for public reporting may not coincide with actual management responsibilities.
- Information in the annual report does not distinguish between a segment that is a poor investment and one in which the manager has done well despite adverse circumstances.

Answer B:

Segment managers may become frustrated and dissatisfied if their performance is evaluated on the basis of information in the annual financial report. Using that information may lead to their being held responsible for earnings figures that include the arbitrary allocation of common costs and costs that are traceable to them but are not under their control. Such evaluations reduce motivation and may even cause managers to seek other employment.

Answer C:

Merriam Corporation should define responsibility centers that coincide with managers' actual responsibilities rather than using segment rules developed for public reporting. All reports should be prepared using the contribution approach, which separates costs by behavior and assigns costs only to segments that control them. The report should disclose contribution margin, contributions controllable by segment managers, and contribution by each segment after the allocation of common costs.

Answer to Question 1B-ES04

Answer A:

Because Quie's management apparently has excess capacity, it should be positive toward each suggested price in decreasing order. Each price exceeds variable costs and thus will increase Quie's ROI, which is the basis of its evaluation by corporate management.

Answer B:

Negotiating a price between the two divisions is the best method to resolve the controversy in this situation. ARQ is highly decentralized and exhibits all four conditions required for negotiating a transfer price:

- Outside markets exist to give both parties alternatives to dealing with each other.
- Both parties have access to market price information.
- Both parties are free to buy and sell outside the corporation.
- Top management supports the continuation of the decentralized arrangement.

Answer C:

ARQ management should not become involved in resolving the controversy. This would violate the autonomous relationship of the divisions, which ARQ intends to maintain. Imposing conditions upon the pricing will adversely affect the current ROI-based evaluation system, since the two divisions will no longer be in control of their profits. Finally, division management would most likely respond negatively to a loss of the autonomy they are used to exercising.

Answer to Question 1B-ES05

Answer A:

Transfer prices based on cost are not appropriate measures of divisional performance for several reasons, including the following:

- The selling division has little incentive to control costs if all costs will be recovered in the transfer price.
- The company as a whole often makes poor decisions when one division is covering another's full costs.

Answer B:

The following table shows the results for both the extraction and pet products divisions of using the market price as the transfer price.

Results of Using Market-Based Transfer Pricing

	Extraction Division	Pet Products Division
Selling price	$26.00	$42.00
Less variable costs		
Material cost	$4.00	$2.00
Labor cost	$6.00	$4.00
Overhead (variable)	$8.25 *	$2.45 **
Transfer price	—	$26.00
Unit contribution margin	$7.75	$7.55
Volume	X 5000,000	X 5000,000
Total contribution margin	$3,875,000.00	$3,775,000.00

*Variable overhead = $11 x 75% = $8.25.
**Variable overhead = $7 x 35% = $2.45.

Answer C:

If Sparta Enterprises let its divisions buy and sell in the open market and also allowed them to negotiate an acceptable transfer price, the result would be as follows:

- Any price between $24.50 and $26 will result in an overall benefit to the company.
- The extraction division would prefer to sell its clay to the pet products division at the same price it receives in the market: $26 per unit. But it would be willing to sell at $24.50, because it saves $1.50 in selling costs per unit by selling within the company.
- Similarly, the pet products division would like to continue paying $22 per unit for the clay, but if it cannot purchase the clay within the company it will

have to pay the full $26 market price. Therefore, it will be willing to pay the $24.50 transfer price it can negotiate with the extraction division.

Answer D:

Using a negotiated transfer price should result in desirable management behavior because it will:

- Encourage the management of the extraction division to control costs.
- Benefit the pet products division by providing the clay at a below-market price.
- Provide a more realistic measure of divisional performance.

Answer to Question 1B-ES06

Answer A:

The quarterly performance report that 4-Cycle provides to its managers includes at least the following three weaknesses:

- It is based upon a static budget. The company should switch to a flexible budget that compares the same levels of activity and shows variances between the actual budget and the flexible budget.
- The report includes costs that supervisors cannot control, such as fixed production costs and overhead.
- The report allocates fixed production costs using a single rate for all lines. Since the amount of space occupied by production may not, in fact, determine fixed production costs, the company should select an appropriate base to determine the rate for each product line.

Answer B:

Improving the way 4-Cycle reports quarterly performance to its managers may involve the following:

To remove the weaknesses in the performance report, you could recommend the following to the CFO at 4-Cycle, Inc.:

- Use flexible rather than static budgeting.
- Stop holding product managers responsible for costs they cannot control.
- Include footnotes to make the report easier to understand.

A revised quarterly report that incorporates these suggested changes follows:

4-Cycle, Inc.
Marine Engine Quarterly Performance Report

	Actual	**Flexible Budget**	**Flexible Budget Variance**
Units	10,500	10,500	
Revenue	17,500,000	$18,158,805 (1)	$658,805 U
Variable production costs			
Direct material	2,500,000	2,674,140 (2)	174,140 F
Direct labor	2,193,000	2,211,195 (3)	18,195 F
Machine time	2,300,000	2,408,805 (4)	108,805 F
Factory overhead	4,500,500	4,725,000 (5)	224,500 F
Total variable costs	11,493,500	12,019,140	525,640 F
Contribution margin	$6,006,500	$6,139,665	$133,165 U

(1) ($14,700,000 budget ÷ 8,500 budgeted units) x 10,500 actual units
(2) ($2,164,750 budget ÷ 8,500 budgeted units) x 10,500 actual units
(3) ($1,790,000 budget ÷ 8,500 budgeted units) x 10,500 actual units
(4) ($1,950,000 budget ÷ 8,500 budgeted units) x 10,500 actual units
(5) ($3,825,000 budget ÷ 8,500 budgeted units) x 10,500 actual units
Note: All calculations rounded amounts to two decimal places.

Part 1 Section C Answers

Answer to Question 1C-ES01

Answer A:

The traditional cost system, developed to value inventory, distorts product cost information because the cost system

- Was designed to value inventory in the aggregate and not relate to product cost information.
- Uses a common departmental or factory-wide measure of activity, such as direct labor hours or dollars (now a small portion of overall production costs) to distribute manufacturing overhead to products.
- Deemphasizes long-term product analysis (when fixed costs become variable costs).
- Causes managers, who are aware of distortions in the traditional system, to make intuitive, imprecise adjustments to the traditional cost information without understanding the complete impact.

Answer B:

1. The benefits that management can expect from activity-based costing include the following.

- Leads to a more competitive position by evaluating cost drivers, e.g., costs associated with the complexity of the transaction rather that the production volume.
- Streamlines production processes by reducing non-value adding activities, e.g., reduced set-up times, optimal plant layout, and improved quality.
- Provides management with a more thorough understanding of product costs and product profitability for strategies and pricing decisions.

2. The steps that a company, using a traditional cost system, would take to implement activity-based costing include the following.

- Evaluation of the existing system to assess how well the system supports the objective of an activity-based cost system.
- Identification of the activities for which cost information is needed with differentiation between value adding and non-value adding activities.

Answer to Question 1C-ES02

Answer A:

Under direct costing, fixed manufacturing costs are expensed rather than being added to the inventoriable cost of each unit. Thus, it is not necessary to determine the allocation of fixed costs to individual units.

B. At first glance, job order costing appears to make more sense, as each pair of jeans is literally unique, given that the buyer's name is stitched on the back pocket. However, in reality, process costing should be used, because jeans will be produced continually, and for cost purposes, will be same for each pair.

Part 1 Section D Answers

Answer to Question 1D-ES01

	Weakness	Recommendation
1.	An authorization document which describes the item to be acquired, indicates the benefits to be derived, and estimates its cost is not prepared and reviewed with management.	To obtain approval for the purchase of machinery and equipment, an appropriations request should be prepared, describing the item, indicating why it is needed, and estimating its expected costs and benefits. The document also could include the item's accounting classification, expected useful life, depreciation method and rate, and name the approving company executives.
2.	There is no control over authorized acquisitions. The purchase requisitions and purchase orders for fixed assets are interspersed with other requisitions and purchase orders and handled through normal purchasing procedures.	Authorized acquisitions should be processed using special procedures and purchase orders. These purchase orders should be subjected to numerical control. Copies of purchase orders should be distributed to all appropriate departments so that the acquisition can be monitored.
3.	Plant engineering does not appear to be inspecting machinery and equipment upon receipt.	Purchases of machinery and equipment should be subject to normal receiving inspection routines. In the case of machinery and equipment, plant engineering is usually responsible for reviewing the receipt to make certain the correct item was delivered and that it was not damaged in transit. All new machinery and equipment would be assigned a control number and tagged at the time of receipt.
4.	The lapsing schedules are not reconciled periodically to general ledger control accounts to verify agreement.	At least once each year, machinery and equipment lapsing schedules, which provide information on asset cost and accumulated depreciation, should be reconciled to general ledger control accounts. Furthermore, an actual physical inventory of existing fixed assets should be taken periodically and reconciled to the lapsing schedules and general ledger control account to assure accuracy.
5.	Machinery and equipment accounting policies, including depreciation, have not been updated to make certain that the most desirable methods are being used.	Machinery and equipment accounting procedures, including depreciation, must be updated periodically to reflect actual experience, and changes in accounting pronouncements and income tax legislation.

Answer to Question 1D-ES02

Answer A:

At least three weaknesses in the company's internal control system include

- The Limited Expenditure Account (LEA) not being subject to normal accounting controls.
- The lack of adequate supporting documentation for personal and other expenditures. There is an improper or inadequate identification of the use of these resources, which makes proper accounting classification difficult or impossible. This increases the possibility of illegal use and material misstatements.
- The Internal Audit Department not reporting its findings in connection with the payment practices and the LEA.

Answer B:

At least three illegal or improper practices uncovered at the company include:

- Funds raised for political purposes were diverted to other uses. This misappropriation of funds included Public Relations Department resources being used for personal projects and the authorizing of payments to vendors for personal services and goods.
- Management fraud. Senior management advised the Internal Audit Department to conceal their findings; this act is detrimental to the company. There also appears to be a senior management conspiracy.
- The external auditors not reporting these practices in their recommendations for improved internal control procedures.

Answer C:

At least four important steps that the company should take, both procedurally and organizationally, to correct the problems that were uncovered in order to prevent a similar situation in the future include:

- Terminating the employment of the chief executive officer, president, vice president-public relations, as well as the controller and director of the Internal Audit Department.
- Strengthening the company's internal controls, including

  Topic 1: The establishment of a company policy that all payments and reimbursements must be supported by appropriate documentation and, also, approved by at least one higher level of authority.

  Topic 2: Establishing dollar limits which can be approved at each level of authority.

- Issuing a strong formal company-wide code of ethics.
- Restructuring the organization so that the Internal Audit Department reports to the Audit Committee of the Board of Directors.

Answer to Question 1D-ES03

Answer A:

The two fundamental types of internal audits are operational audits and compliance audits.

An operational audit is a comprehensive review of the varied functions within an enterprise to appraise the efficiency and economy of operations and the effectiveness with which those functions achieve their objective. An example would be an audit to assess productivity. Other examples could include an evaluation of processes to reduce rework, or reduce the time required to process paperwork or goods.

A compliance audit is the review of both financial and operating controls to see how they conform to established laws, standards, regulations, and procedures. An environmental audit would be an example of a compliance audit. Other examples of compliance audits could include the review of controls over industrial wastes or the review of procedures ensuring that proper disclosure is made regarding hazardous materials on site.

Answer B:

1. A compliance audit would best fit the requirements of the president of Brawn.

2. The objective of this compliance audit is to assure the president that the manufacturing facility has appropriate policies and procedures in place for obtaining the needed permits, has obtained all the required permits in accordance with the law, and that environmental and safety issues are being properly addressed.

3. The assignment specifically is to address the proper use of permits, compliance with safety regulations, and compliance with environmental standards. These issues can only be properly addressed by conducting a compliance audit. Although financial and operational areas might be involved, they would be secondary to the compliance issues. For example, a financial impact could result from the evaluation of compliance with safety regulations.

The findings might result in additional expenditures for safety precautions or a reduction in the company's risk of being fined for lack of compliance.

Answer C:

To mitigate the president's concern, the following activities and procedures could be implemented.

- Set the tone at the top. The president should communicate to all employees that the company expects appropriate business practices on the part of all employees in all divisions.
- Ensure that all employees have the necessary information to perform their duties. Keep the lines of communication open. For example, involve senior mangers from the manufacturing facility in monthly operational meetings for the whole company.
- Conduct regularly scheduled audits of compliance with applicable laws, regulations, and standards.
- Periodically review and update policies, rules, and procedures to ensure that internal controls prevent or help to detect material risks. Make sure all employees have access to the relevant policies and procedures. For example, post the policies and procedures on the company's intranet.

Part 1 Section E Answers

Answer to Question 1E-ES01

Answer A:

As an accountant, George Wilson has an obligation to act in accordance with the ethical principles of honesty, fairness, objectivity, and responsibility and to encourage others in his organization to adhere to these principles. He has acted properly by including and highlighting the rework problem in the report to the Board of Directors but has been told to remove this information from the report.

The standards from the *IMA Statement of Ethical Professional Practice* that are applicable to the situation at FulRange are:

Competence

- Provide decision support information and recommendations that are accurate, clear, concise, and timely.

Integrity

- Refrain from engaging in any conduct that would prejudice carrying out duties ethically.

- Abstain from engaging in or supporting any activity that might discredit the profession.

Credibility

- Communicate information fairly and objectively.
- Disclose all relevant information that could reasonably be expected to influence an intended user's understanding of the reports, analyses, or recommendations.

Answer B:

If FulRange has established policies for resolving ethical conflicts, George Wilson should follow the procedures of his company. If the company does not have these procedures or the procedures fail to resolve the ethical conflict, he should consider the following actions:

- Since Wilson's superior, the controller, appears to be the cause of this ethical dilemma, Wilson should present the issue to the next higher level. Wilson is not required to inform the controller of his actions because of the controller's involvement. Wilson should proceed to successively higher levels, e.g., audit committee, board of directors, etc., until the matter is satisfactorily resolved.
- Wilson should not communicate the situation to individuals or authorities outside of FulRange unless there is a clear violation of the law.
- Wilson should clarify the ethical issues with an impartial advisor to obtain a better understanding of possible courses of action.
- Wilson should consult his own attorney about his legal obligations and rights concerning the ethical situation.

Answer to Question 1E-ES02

Answer A:

The overarching principles identified in the *IMA Statement of Ethical Professional Practice* that should guide the work of a management accountant are Honesty, Fairness, Objectivity, and Responsibility.

If the controller were to manipulate the revenue in accordance with the implied wishes of the CEO, the following standards would be violated:

Competence

Perform professional duties in accordance with relevant laws, regulations, and technical standards

Confidentiality – not applicable

Integrity

- Mitigate actual conflicts of interest, regularly communicate with business associates to avoid apparent conflicts of interest. Advise all parties of potential conflicts.
- Refrain from engaging in any conduct that would prejudice carrying out duties ethically.
- Abstain from engaging in or supporting any activity that might discredit the profession.

Credibility

- Communicate information fairly and objectively.
- Disclose all relevant information that could reasonably be expected to influence an intended user's understanding of the reports, analyses, or recommendations.
- Disclose delays or deficiencies in information, timeliness, processing, or internal controls in conformance with organization policy and/or applicable law.

To resolve this situation, the controller should:

- Follow Sterling's policy for resolving ethical issues. If there is no policy or the policy does not resolve the situation, the controller should consider:
- Discussing the issue with the immediate supervisor unless the supervisor is involved in which case the issue should be presented to the next higher level. If the CEO is the controller's immediate supervisor, the acceptable reviewing authority may be the Audit Committee or the Board of Directors. Communication with those outside the organization is not appropriate unless there is a clear violation of the law.
- The controller may have a confidential discussion of the issues with an IMA Ethics Counselor or other impartial advisor and may consult an attorney to discuss legal obligations and rights concerning the ethical conflict.

Answer to Question 1E-ES03

Answer A:

The standards from the *IMA Statement of Ethical Professional Practice* that specifically relate to Alex Raminov and the situation at Carroll Mining and Manufacturing are the following.

Competence

Perform professional duties in accordance with relevant laws, regulations, and technical standards. It appears that CMMC is not incompliance with the relevant laws and regulations regarding the dumping of toxic materials; at a minimum, Raminov has an obligation to report this situation to higher authorities in the company.

Confidentially

Keep information confidential except when disclosure is authorized or legally required. This standard may or may not relate to the CMMC situation depending on the requirements of the environmental regulations in effect in the jurisdiction where CMMC is operating. Raminov may be required by law to disclose the information.

Integrity

Refrain from engaging in any conduct that would prejudice carrying out duties ethically.

Abstain from engaging in or supporting any activity that might discredit the profession.

If Raminov does not report the apparent illegal dumping to those in authority at CMMC, his behavior would not be considered ethical under these standards and his lack of action would discredit the profession.

Credibility

- Communicate information fairly and objectively.
- Disclose all relevant information that could reasonably be expected to influence an intended user's understanding of the reports, analyses, or recommendations.
- Disclose delays or deficiencies in information, timeliness, processing, or internal controls in conformance with organization policy and/or applicable law.
- All of these standards make it clear that Raminov has an obligation to act objectively in this matter and report the situation to those in authority at CMMC. The risks and exposures of illegal dumping should be disclosed in the financial reports that Raminov is preparing.

Answer B:

Initially, Raminov should follow CMMC's policy regarding the resolution of an ethical conflict. If there is no policy or the policy does not resolve the issue, he should consider the courses of action recommended in the *IMA Statement of Ethical Professional Practice*.

Since Raminov's immediate supervisor appears to be involved in the dumping situation, he should submit the issue to the next higher level. If the situation is not satisfactorily resolved, Raminov should approach successive levels of authority, e.g., CFO, audit committee, Board of Directors. He can also contact an IMA ethics counselor or other impartial advisor to discuss possible courses of action.

Raminov should consult an attorney regarding his legal obligations and rights in this ethical conflict.

Answer C:

It is not considered appropriate for Raminov to inform authorities or individuals not employed or engaged by CMMC unless he believes there is a clear violation of the law. In discussions with his attorney, Raminov should clarify his obligations under the law. If CMMC does not take action after Raminov has informed the appropriate in-house authorities, he may be obligated to inform the regulatory agency involved. He should not under any circumstances anonymously release this information to the local newspaper.

Answer to Question 1E-ES04

Answer A:

The standards from the *IMA Statement of Ethical Professional Practice* that specifically relate to Amy Kimbell and the situation at Hi-quality Productions are the following.

Competence

- Provide decision support information and recommendations that are accurate, clear, concise, and timely.
- Recognize and communicate professional limitations or other constraints that would preclude responsible judgment or successful performance of an activity.
- Amy Kimbell has an ethical conflict because she has been told to "keep quiet" about errors she has discovered in the original budgeting process. The incorrect data used makes the decision support data provided suspect and the decisions made based on that data risky.

Integrity

- Refrain from engaging in any conduct that would prejudice carrying out duties ethically.
- Abstain from engaging in or supporting any activity that might discredit the profession.
- Amy Kimball has an ethical conflict as she has an obligation to disclose the errors in the budgets presented but has been told not to. If she does not

correct the situation, she will not be carrying out her duties ethically and therefore will discredit her profession.

Credibility

- Communicate information fairly and objectively.
- Disclose all relevant information could reasonably be expected to influence an intended user's understanding of the reports, analyses, or recommendations.
- It is clear that the budget committee has not been objective in its presentation of information and therefore has distorted the decisions based on that information. Kimbell should correct the information so that future expectations are realistic.

Answer B:

Initially, Kimbell should follow Hi-Quality Productions' policy regarding the resolution of an ethical conflict. If there is no policy or the policy does not resolve the issue, she should consider the courses of action recommended in the *IMA Statement of Ethical Professional Practice*.

Kimbell should present her findings to her immediate supervisor. If her immediate supervisor is involved in the incorrect budgeting situation or if the supervisor takes not action, she should submit the issue to the next higher level. If the situation is not satisfactorily resolved, Kimbell should approach successive levels of authority, e.g., CFO, audit committee, Board of Directors. She can also contact an IMA ethics counselor or other impartial advisor to discuss possible courses of action. Kimbell should consult an attorney regarding her legal obligations and rights in this ethical conflict.

Answer to Question 1E-ES05

Answer A:

The standards from the *IMA Statement of Ethical Professional Practice* that specifically relate to John Morgan and the situation at Pro-Kleen are the following.

Competence

- Perform professional duties in accordance with relevant laws, regulations and technical standards.

Integrity

- Refrain from engaging in any conduct that would prejudice carrying out duties ethically.
- Abstain from engaging in or supporting any activity that might discredit the profession.

Credibility

- Communicate information fairly and objectively.
- Disclose all relevant information that could reasonably be expected to influence an intended user's understanding of the reports, analyses or recommendations.

Answer B:

Initially, Morgan should follow Pro-Kleen's policy regarding the resolution of an ethical conflict. If there is no policy or the policy does not resolve the issue, he should consider the courses of action recommended in the *IMA Statement of Ethical Professional Practice*.

Since Morgan's immediate supervisor appears to be involved in the situation, he should submit the issue to the next higher level. If the situation is not satisfactorily resolved, Morgan should approach successive levels of authority, e.g., CFO, audit committee, Board of Directors. He can also contact an IMA ethics counselor or other impartial advisor to discuss possible courses of action. Morgan should consult an attorney regarding his legal obligations and rights in this ethical conflict.

Answer to Question 1E-ES06

Answer A:

Management accountants should not condone the commission of unethical acts by others within their organizations. It is stated that the low-quality, low-size estimates sought by Jefferson were unethical business practices. Therefore, Charlene White should take action to resolve this situation. Specific standards that relate to this situation include the following.

Competence

- Perform professional duties in accordance with relevant laws, regulations and technical standards.

Integrity

- Mitigate actual conflicts of interest, regularly communicate with business associates to avoid apparent conflicts of interest. Advise all parties of any potential conflicts.
- Refrain from engaging in or supporting any activity that might discredit the profession.

Credibility

- Communicate information fairly and objectively.
- Disclose fully all relevant information that could reasonably be expected to influence an intended user's understanding of the reports, analyses, or recommendations.

Answer B:

Initially, White should follow UFP's policy regarding the resolution of an ethical conflict. If there is no policy or the policy does not resolve the issue, she should consider the courses of action recommended in the *IMA Statement of Ethical Professional Practice*.

Since White's immediate supervisor appears to be involved in the situation, she should submit the issue to the next higher level. If the situation is not satisfactorily resolved, White should approach successive levels of authority, e.g., corporate CFO, audit committee, Board of Directors. She can also contact an IMA ethics counselor or other impartial advisor to discuss possible courses of action. White should consult an attorney regarding her legal obligations and rights in this ethical conflict.

Answer C:

The performance evaluation system directly affected performance at the Allegheny Division. The employees were paid bonuses on the basis of profitability but had no control over revenue because of the transfer pricing that was negotiated elsewhere. The division should be evaluated as a cost center only and included in the evaluation criteria should be quality standards that must be met in order to preclude the behavior exhibited.