

## CMA Part 1 – Financial Planning, Performance and Control Examination Practice Questions

### Section A: Planning, Budgeting and Forecasting

1. *CSO: 1A1a LOS: 1A1b*  
Cerawell Products Company is a ceramics manufacturer that is facing several challenges in its operations due to economic and industry conditions. The company is currently preparing its annual plan and budget. Which one of the following is subject to the **least** control by the management of Cerawell in the current fiscal year?
  - a. A new machine that was purchased this year has not helped reduce Cerawell's unfavorable labor efficiency variances.
  - b. A competitor has achieved an unexpected technological breakthrough that has given them a significant quality advantage, and has caused Cerawell to lose market share.
  - c. Vendors have asked that the contract price for the goods they supply to Cerawell be renegotiated and adjusted for inflation.
  - d. Experienced employees have decided to terminate their employment with Cerawell and go to work for the competition.
  
2. *CSO: 1A1a LOS: 1A1e*  
All of the following are advantages of the use of budgets in a management control system **except** that budgets
  - a. force management planning.
  - b. provide performance criteria.
  - c. promote communication and coordination within the organization.
  - d. limit unauthorized expenditures.
  
3. *CSO: 1A1b LOS: 1A1e*  
In developing the budget for the next year, which one of the following approaches would most likely result in a successful budget with the **greatest** amount of positive motivation and goal congruence?
  - a. Permit the divisional manager to develop the goal for the division that in the manager's view will generate the greatest amount of profits.
  - b. Have senior management develop the overall goals and permit the divisional manager to determine how these goals will be met.
  - c. Have the divisional and senior management jointly develop goals and objectives while constructing the corporation's overall plan of operation.
  - d. Have the divisional and senior management jointly develop goals and the divisional manager develop the implementation plan.

4. *CSO: 1A1b LOS: 1A1e*  
Which one of the following statements concerning approaches for the budget development process is **correct**?
- The authoritative approach to budgeting discourages strict adherence to strategic organizational goals.
  - To prevent ambiguity, once departmental budgeted goals have been developed, they should remain fixed even if the sales forecast upon which they are based proves to be wrong in the middle of the fiscal year.
  - With the information technology available, the role of budgets as an organizational communication device has declined.
  - Since department managers have the most detailed knowledge about organizational operations, they should use this information as the building blocks of the operating budget.
5. *CSO: 1A1b LOS: 1A1e*  
Which one of the following items would **most** likely cause the planning and budgeting system to fail? The lack of
- historical financial data.
  - input from several levels of management.
  - top management support.
  - adherence to rigid budgets during the year.
6. *CSO: 1A1b LOS: 1A1e*  
All of the following are disadvantages of authoritative budgeting as opposed to participatory budgeting, **except** that it
- may result in a budget that is not possible to achieve.
  - may limit the acceptance of proposed goals and objectives.
  - reduces the communication between employees and management.
  - reduces the time required for budgeting.
7. *CSO: 1A1d LOS: 1A1m*  
All of the following statements concerning standard costs are correct **except** that
- time and motion studies are often used to determine standard costs.
  - standard costs are usually set for one year.
  - standard costs can be used in costing inventory accounts.
  - standard costs are usually stated in total, while budgeted costs are usually stated on a per-unit basis.

8. *CSO: 1A1d LOS: 1A1o*  
One approach for developing standard costs incorporates communication, bargaining, and interaction among product line managers; the immediate supervisors for whom the standards are being developed; and the accountants and engineers before the standards are accepted by top management. This approach would **best** be characterized as a(n)
- imposed approach.
  - authoritative approach.
  - engineering approach.
  - participative approach.
9. *CSO: 1A1d LOS: 1A1n*  
When compared with ideal standards, practical standards
- produce lower per-unit product costs.
  - result in a less desirable basis for the development of budgets.
  - incorporate very generous allowances for spoilage and worker inefficiencies.
  - serve as a better motivating target for manufacturing personnel.
10. *CSO: 1A1d LOS: 1A1q*  
Jura Corporation is developing standards for the next year. Currently XZ-26, one of the material components, is being purchased for \$36.45 per unit. It is expected that the component's cost will increase by approximately 10% next year and the price could range from \$38.75 to \$44.18 per unit depending on the quantity purchased. The appropriate standard for XZ-26 for next year should be set at the
- current actual cost plus the forecasted 10% price increase.
  - lowest purchase price in the anticipated range to keep pressure on purchasing to always buy in the lowest price range.
  - highest price in the anticipated range to insure that there are only favorable purchase price variances.
  - price agreed upon by the purchasing manager and the appropriate level of company management.
11. *CSO: 1A1d LOS: 1A1m*  
Which one of the following will allow a better use of standard costs and variance analysis to help improve managerial decision-making?
- Company A does not differentiate between variable and fixed overhead in calculating its overhead variances.
  - Company B uses the prior year's average actual cost as the current year's standard.
  - Company C investigates only negative variances.
  - Company D constantly revises standards to reflect learning curves.

12. *CSO: 1A1d LOS: 1A1m*  
After performing a thorough study of Michigan Company's operations, an independent consultant determined that the firm's labor standards were probably too tight. Which one of the following facts would be **inconsistent** with the consultant's conclusion?
- a. A review of performance reports revealed the presence of many unfavorable efficiency variances.
  - b. Michigan's budgeting process was well-defined and based on a bottom-up philosophy.
  - c. Management noted that minimal incentive bonuses have been paid in recent periods.
  - d. Production supervisors found several significant fluctuations in manufacturing volume, with short-term increases on output being followed by rapid, sustained declines.
13. *CSO: 1A2a LOS: 1A2a*  
For cost estimation simple regression differs from multiple regression in that simple regression uses only
- a. one dependent variable, while multiple regression uses all available data to estimate the cost function.
  - b. dependent variables, while multiple regression can use both dependent and independent variables.
  - c. one independent variable, while multiple regression uses more than one independent variable.
  - d. one dependent variable, while multiple regression uses more than one dependent variable.
14. *CSO: 1A2a LOS: 1A2a*  
A company has accumulated data for the last 24 months in order to determine if there is an independent variable that could be used to estimate shipping costs. Three possible independent variables being considered are packages shipped, miles shipped, and pounds shipped. The quantitative technique that should be used to determine whether any of these independent variables might provide a good estimate for shipping costs is
- a. flexible budgeting.
  - b. linear programming.
  - c. linear regression.
  - d. variable costing.

15. *CSO: 1A2a LOS: 1A2b*  
 Dawson Manufacturing developed the following multiple regression equation, utilizing many years of data, and uses it to model, or estimate, the cost of its product.

$$\text{Cost} = \text{FC} + a*L + b*M$$

Where: FC = fixed costs  
 L = labor rate per hour  
 M = material cost per pound

Which one of the following changes would have the **greatest** impact on invalidating the results of this model?

- A significant reduction in factory overheads, which are a component of fixed costs.
  - Renegotiation of the union contract calling for much higher wage rates.
  - A large drop in material costs, as a result of purchasing the material from a foreign source.
  - A significant change in labor productivity.
16. *CSO: 1A2a LOS: 1A2c*  
 In order to analyze sales as a function of advertising expenses, the sales manager of Smith Company developed a simple regression model. The model included the following equation, which was based on 32 monthly observations of sales and advertising expenses with a related coefficient of determination of .90.

$$S = \$10,000 + \$2.50A$$

S = sales  
 A = advertising expenses

If Smith Company's advertising expenses in one month amounted to \$1,000, the related point estimate of sales would be

- \$2,500.
  - \$11,250.
  - \$12,250.
  - \$12,500.
17. *CSO: 1A2a LOS: 1A2a*  
 The results of regressing Y against X are as follows.

	<u>Coefficient</u>
Intercept	5.23
Slope	1.54

When the value of X is 10, the estimated value of Y is

- a. 6.78.
- b. 8.05.
- c. 20.63.
- d. 53.84.

18. *CSO: 1A2b LOS: 1A2d*

Which one of the following techniques would **most** likely be used to analyze reductions in the time required to perform a task as experience with that task increases?

- a. Regression analysis.
- b. Learning curve analysis.
- c. Sensitivity analysis.
- d. Normal probability analysis.

19. *CSO: 1A2b LOS: 1A2e*

Aerosub Inc. has developed a new product for spacecraft that includes the manufacturing of a complex part. The manufacturing of this part requires a high degree of technical skill. Management believes there is a good opportunity for its technical force to learn and improve as they become accustomed to the production process. The production of the first unit requires 10,000 direct labor hours. If an 80% learning curve is used and eight units are produced, the cumulative average direct labor hours required per unit of the product will be

- a. 5,120 hours.
- b. 6,400 hours.
- c. 8,000 hours.
- d. 10,000 hours.

20. *CSO: 1A2b LOS: 1A2d*

A manufacturing firm plans to bid on a special order of 80 units that will be manufactured in lots of 10 units each. The production manager estimates that the direct labor hours per unit will decline by a constant percentage each time the cumulative quantity of units produced doubles. The quantitative technique used to capture this phenomenon and estimate the direct labor hours required for the special order is

- a. cost-profit-volume analysis.
- b. the Markov process.
- c. linear programming analysis.
- d. learning curve analysis.

21. CSO: 1A2b LOS: 1A2e

A manufacturing company has the opportunity to submit a bid for 20 units of a product on which it has already produced two 10-unit lots. The production manager believes that the learning experience observed on the first two lots will continue for at least the next two lots. The direct labor required on the first two lots was as follows.

- 5,000 direct labor hours for the first lot of 10 units
- 3,000 additional direct labor hours for the second lot of 10 units

The learning rate experienced by the company on the first two lots of this product is

- a. 40.0%.
- b. 60.0%.
- c. 62.5%.
- d. 80.0%.

22. CSO: 1A2b LOS: 1A2e

Aerosub Inc. has developed a new product for spacecraft that includes the manufacture of a complex part. The manufacturing of this part requires a high degree of technical skill. Management believes there is a good opportunity for its technical force to learn and improve as they become accustomed to the production process. The production of the first unit requires 10,000 direct labor hours. If an 80% learning curve is used, the cumulative direct labor hours required for producing a total of eight units would be

- a. 29,520 hours.
- b. 40,960 hours.
- c. 64,000 hours.
- d. 80,000 hours.

23. CSO: 1A2b LOS: 1A2e

Propeller Inc. plans to manufacture a newly designed high-technology propeller for airplanes. Propeller forecasts that as workers gain experience, they will need less time to complete the job. Based on prior experience, Propeller estimates a 70% cumulative learning curve and has projected the following costs.

Cumulative number of units produced	Manufacturing Projections	
	Average cost per unit	Total costs
1	\$20,000	\$20,000
2	14,000	28,000

If Propeller manufactures eight propellers, the total manufacturing cost would be

- a. \$50,660.
- b. \$54,880.
- c. \$62,643.
- d. \$112,000.

24. CSO: 1A2b LOS: 1A2e

Martin Fabricating uses a cumulative average-time learning curve model to monitor labor costs. Data regarding two recently completed batches of a part that is used in tractor-trailer rigs is as follows.

<u>Batch Number</u>	<u>Number of Units</u>	<u>Cumulative Average Hours Per Unit</u>
1	50	20
2	50	16

If the same rate of learning continues for the next several batches produced, which of the following best describes (1) the type (i.e., degree) of learning curve that the firm is experiencing and (2) the average hours per unit for units included in the 201-400 range of units produced (i.e., the last 200 units)?

	<u>Type (Degree) of Learning Curve</u>	<u>Average Hours Per Unit for Units 201-400</u>
a.	20%	10.24.
b.	80%	10.24.
c.	80%	7.68.
d.	20%	3.84.

25. CSO: 1A2b LOS: 1A2e

Propeller Inc. plans to manufacture a newly designed high-technology propeller for airplanes. Propeller forecasts that as workers gain experience, they will need less time to complete the job. Based on prior experience, Propeller estimates a 70% cumulative learning curve and has projected the following costs.

<u>Cumulative number of units produced</u>	<u>Manufacturing Projections</u>	
	<u>Average cost per unit</u>	<u>Total costs</u>
1	\$20,000	\$20,000
2	14,000	28,000

If Propeller produces eight units, the average manufacturing cost per unit will be

- a. \$1,647.
- b. \$6,860.
- c. \$9,800.
- d. \$14,000.



26. *CSO: 1A2b LOS: 1A2e*  
 In competing as a subcontractor on a military contract, Aerosub Inc. has developed a new product for spacecraft that includes the manufacturing of a complex part. Management believes there is a good opportunity for its technical force to learn and improve as they become accustomed to the production process. Accordingly, management estimates an 80% learning curve would apply to this unit. The overall contract will call for supplying eight units. Production of the first unit requires 10,000 direct labor hours. The estimated total direct labor hours required to produce the seven additional units would be
- 30,960 hours.
  - 40,960 hours.
  - 56,000 hours.
  - 70,000 hours.

27. *CSO: 1A2b LOS: 1A2e*  
 A manufacturing company required 800 direct labor hours to produce the first lot of four units of a new motor. Management believes that a 90% learning curve will be experienced over the next four lots of production. How many direct labor hours will be required to manufacture the **next** 12 units?
- 1,792.
  - 1,944.
  - 2,016.
  - 2,160.

28. *CSO: 1A2b LOS: 1A2e*  
 Propeller Inc. plans to manufacture a newly designed high-technology propeller for airplanes. Propeller forecasts that as workers gain experience, they will need less time to complete the job. Based on prior experience, Propeller estimates a 70% cumulative learning curve and has projected the following costs.

<u>Cumulative number of units produced</u>	<u>Manufacturing Projections</u>	
	<u>Average cost per unit</u>	<u>Total costs</u>
1	\$20,000	\$20,000
2	14,000	28,000

The estimated cost of an order for seven additional propellers, after completing production of the first propeller, would be

- \$34,880.
- \$54,880.
- \$92,000.
- \$98,000.

29. *CSO: 1A2c LOS: 1A2f*  
 Sales of big-screen televisions have grown steadily during the past five years. A dealer predicted that the demand for February would be 148 televisions. Actual demand in February was 158 televisions. If the smoothing constant is  $\alpha=0.3$ , the demand forecast for March, using the exponential smoothing model, will be
- 148 televisions.
  - 151 televisions.
  - 153 televisions.
  - 158 televisions.

30. *CSO: 1A2e LOS: 1A2i*  
 Johnson Software has developed a new software package. Johnson's sales manager has prepared the following probability distribution describing the relative likelihood of monthly sales levels and relative income (loss) for the company's new software package.

<u>Monthly Sales</u> <u>In Units</u>	<u>Probability</u>	<u>Income (Loss)</u>
10,000	.2	\$(4,000)
20,000	.3	10,000
30,000	.3	30,000
40,000	.2	60,000

If Johnson decides to market its new software package, the expected value of additional monthly income will be

- \$23,200.
  - \$24,000.
  - \$24,800.
  - \$25,000.
31. *CSO: 1A2e LOS: 1A2i*  
 According to recent focus sessions, Norton Corporation has a "can't miss" consumer product on its hands. Sales forecasts indicate either excellent or good results, with Norton's sales manager assigning a probability of .6 to a good results outcome. The company is now studying various sales compensation plans for the product and has determined the following contribution margin data.

	<u>Contribution</u> <u>Margin</u>
If sales are excellent and Plan 1 is adopted	\$300,000
Plan 2 is adopted	370,000
If sales are good and Plan 1 is adopted	240,000
Plan 2 is adopted	180,000

On the basis of this information, which of the following statements is **correct**?

- a. Plan 2 should be adopted because it is \$10,000 more attractive than Plan 1.
- b. Plan 1 should be adopted because it is \$8,000 more attractive than Plan 2.
- c. Plan 1 should be adopted because of the sales manager's higher confidence in good results.
- d. Either Plan should be adopted, the decision being dependent on the probability of excellent sales results.

32. *CSO: 1A2e LOS: 1A2i*

Denton Inc. manufactures industrial machinery and requires 100,000 switches per year in its assembly process. When switches are received from a vendor they are installed in the specific machine and tested. If the switches fail, they are scrapped and the associated labor cost of \$25 is considered lost productivity. Denton purchases "off the shelf" switches as opposed to custom-made switches and experiences quality problems with some vendors' products. A decision must be made as to which vendor to buy from during the next year based on the following information.

<u>Vendor</u>	<u>Price per switch</u>	<u>Percentage expected to pass the test</u>
P	\$35	90%
Q	37	94%
R	39	97%
S	40	99%

Which vendor should Denton's controller recommend to management?

- a. Vendor P.
- b. Vendor Q.
- c. Vendor R.
- d. Vendor S.

33. *CSO: 1A2e LOS: 1A2i*

Scarf Corporation's controller has decided to use a decision model to cope with uncertainty. With a particular proposal, currently under consideration, Scarf has two possible actions, invest or not invest in a joint venture with an international firm. The controller has determined the following.

Action 1: Invest in the Joint Venture

Events and Probabilities:

Probability of success = 60%.

Cost of investment = \$9.5 million.

Cash flow if investment is successful = \$15.0 million.

Cash flow if investment is unsuccessful = \$2.0 million.

Additional costs to be paid = \$0

Costs incurred up to this point = \$650,000.

Action 2: Do Not Invest in the Joint Venture

Events

Costs incurred up to this point = \$650,000.

Additional costs to be paid = \$100,000.

Which one of the following alternatives correctly reflects the respective expected values of investing versus not investing?

- a. \$300,000 and \$(750,000).
- b. \$(350,000) and \$(100,000).
- c. \$300,000 and (100,000).
- d. \$(350,000) and \$(750,000).

34. CSO: 1A2e LOS: 1A2i

Allbee Company has three possible investment opportunities. The controller calculated the payoffs and probabilities, as follows.

<u>Payoffs</u>	<u>Probabilities</u>		
	<u>Investment A</u>	<u>Investment B</u>	<u>Investment C</u>
\$(20,000)	.3	.2	.3
(10,000)	.1	.2	.1
30,000	.3	.2	.2
70,000	.2	.2	.3
100,000	.1	.2	.1

The cost of investments A, B, and C are the same. Using the expected-value criterion, which one of the following rankings of these investments, from highest payoff to lowest payoff, is correct?

- a. A, B, C.
- b. B, A, C.
- c. C, A, B.
- d. B, C, A.

35. CSO: 1A2e LOS: 1A2i

The sales manager of Serito Doll Company has suggested that an expanded advertising campaign costing \$40,000 would increase the sales and profits of the company. He has developed the following probability distribution for the effect of the advertising campaign on company sales.

<u>Sales increase</u> <u>(units)</u>	<u>Probability</u>
15,000	.10
30,000	.35
45,000	.10
60,000	.25
75,000	.20

The company sells the dolls at \$5.20 each. The cost of each doll is \$3.20. Serito's expected incremental profit, if the advertising campaign is adopted, would be

- a. \$6,500.
- b. \$46,500.
- c. \$53,000.
- d. \$93,000.

36. *CSO: 1A2e LOS: 1A2i*  
Stock X has the following probability distribution of expected future returns.

<u>Probability</u>	<u>Expected Return</u>
.10	-20%
.20	5%
.40	15%
.20	20%
.10	30%

The expected rate of return on stock X would be

- a. 10%.
- b. 12%.
- c. 16%.
- d. 19%.

37. *CSO: 1A2e LOS: 1A2i*  
Which one of the following four probability distributions provides the highest expected monetary value?

<u>Alternative #1</u>		<u>Alternative #2</u>		<u>Alternative #3</u>		<u>Alternative #4</u>	
<u>Prob.</u>	<u>Cash Inflows</u>	<u>Prob.</u>	<u>Cash Inflows</u>	<u>Prob.</u>	<u>Cash Inflows</u>	<u>Prob.</u>	<u>Cash Inflows</u>
10%	\$50,000	10%	\$50,000	10%	\$50,000	10%	\$150,000
20%	75,000	20%	75,000	20%	75,000	20%	100,000
40%	100,000	45%	100,000	40%	100,000	40%	75,000
30%	150,000	25%	150,000	30%	125,000	30%	50,000

- a. Alternative #1.
- b. Alternative #2.
- c. Alternative #3.
- d. Alternative #4.

38. CSO: 1A2e LOS: 1A2i

The Lions Club is planning to sell pretzels at a local football game and has estimated sales demand as follows.

Sales demand	8,000	10,000	12,000	15,000
Probability	10%	40%	30%	20%

The cost of the pretzels varies with the quantity purchased as follows.

Purchase quantity	8,000	10,000	12,000	15,000
Cost per unit	\$1.25	\$1.20	\$1.15	\$1.10

Any unsold pretzels would be donated to the local food bank. The calculated profits at the various sales demand levels and purchase quantities are as follows.

<u>Sales Demand</u>	<u>Expected Profits at Various Purchase Quantity Levels</u>			
	<u>8,000</u>	<u>10,000</u>	<u>12,000</u>	<u>15,000</u>
8,000	\$6,000	\$4,000	\$ 2,200	\$ (500)
10,000	6,000	8,000	6,200	3,500
12,000	6,000	8,000	10,200	7,500
15,000	6,000	8,000	10,200	13,500

Which one of the following purchase quantities would you recommend to the Lions Club?

- a. 8,000.
- b. 10,000.
- c. 12,000.
- d. 15,000.

39. CSO: 1A3a LOS: 1A3d

All of the following are criticisms of the traditional budgeting process **except** that it

- a. makes across-the-board cuts when early budget iterations show that planned expenses are too high.
- b. incorporates non-financial measures as well as financial measures into its output.
- c. overemphasizes a fixed time horizon such as one year.
- d. is not used until the end of the budget period to evaluate performance.

40. *CSO: 1A3a LOS: 1A3b*  
 Many companies use comprehensive budgeting in planning for the next year's activities. When both an operating budget and a financial budget are prepared, which one of the following is **correct** concerning the financial budget?

	<u>Included in the Financial Budget</u>		
	<u>Capital Budget</u>	<u>Pro-forma Balance Sheet</u>	<u>Cash Budget</u>
a.	Yes	No	Yes.
b.	No	Yes	No.
c.	Yes	Yes	Yes.
d.	No	No	No.

41. *CSO: 1A3a LOS: 1A3b*  
 What would be the correct chronological order of preparation for the following budgets?

- I. Cost of goods sold budget.
- II. Production budget.
- III. Purchases budget.
- IV. Administrative budget.

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

42. *CSO: 1A3a LOS: 1A3c*  
 Which one of the following **best** describes the order in which budgets should be prepared when developing the annual master operating budget?

- a. Production budget, direct material budget, revenue budget.
- b. Production budget, revenue budget, direct material budget.
- c. Revenue budget, production budget, direct material budget.
- d. Revenue budget, direct material budget, production budget.

43. *CSO: 1A3d LOS: 1A3a*  
 A budgeting approach that requires a manager to justify the entire budget for each budget period is known as

- a. performance budgeting.
- b. program budgeting.
- c. zero-base budgeting.
- d. incremental budgeting.

44. CSO: 1A3f LOS: 1A3d

Rainbow Inc. recently appointed Margaret Joyce as vice president of finance and asked her to design a new budgeting system. Joyce has changed to a monthly budgeting system by dividing the company's annual budget by twelve. Joyce then prepared monthly budgets for each department and asked the managers to submit monthly reports comparing actual to budget. A sample monthly report for Department A is shown below.

Rainbow Inc.  
Monthly Report for Department A

	<u>Actual</u>	<u>Budget</u>	<u>Variance</u>
<u>Units</u>	1,000	900	100F
Variable production costs			
Direct material	\$2,800	\$2,700	\$100U
Direct labor	4,800	4,500	300U
Variable factory overhead	4,250	4,050	200U
Fixed costs			
Depreciation	3,000	2,700	300U
Taxes	1,000	900	100U
Insurance	1,500	1,350	150U
Administration	1,100	990	110U
Marketing	<u>1,000</u>	<u>900</u>	<u>100U</u>
Total costs	<u>\$19,450</u>	<u>\$18,090</u>	<u>\$1,360U</u>

This monthly budget has been imposed from the top and will create behavior problems. All of the following are causes of such problems **except**

- a. the use of a flexible budget rather than a fixed budget.
- b. top management authoritarian attitude toward the budget process.
- c. the inclusion of non-controllable costs such as depreciation.
- d. the lack of consideration for factors such as seasonality.

45. CSO: 1A3f LOS: 1A3b

When compared to static budgets, flexible budgets

- a. offer managers a more realistic comparison of budget and actual fixed cost items under their control.
- b. provide a better understanding of the capacity variances during the period being evaluated.
- c. encourage managers to use less fixed costs items and more variable cost items that are under their control.
- d. offer managers a more realistic comparison of budget and actual revenue and cost items under their control.



46. *CSO: 1A3f LOS: 1A3a*  
 Country Ovens is a family restaurant chain. Due to an unexpected road construction project, traffic passing by the Country Ovens restaurant in Newtown has significantly increased. As a result, restaurant volume has similarly increased well beyond the level expected. Which type of budget would be **most** appropriate in helping the restaurant manager plan for restaurant labor costs?
- Zero-based budget.
  - Rolling budget.
  - Activity-based budget.
  - Flexible budget.

47. *CSO: 1A4a LOS: 1A4c*  
 Netco's sales budget for the coming year is as follows.

<u>Item</u>	<u>Volume in Units</u>	<u>Sales Price</u>	<u>Sales Revenue</u>
1	200,000	\$50	\$10,000,000
2	150,000	10	1,500,000
3	300,000	30	<u>9,000,000</u>
	Total sales revenue		<u>\$20,500,000</u>

Items 1 and 3 are different models of the same product. Item 2 is a complement to Item 1. Past experience indicates that the sales volume of Item 2 relative to the sales volume of Item 1 is fairly constant. Netco is considering an 10% price increase for the coming year for Item 1, which will cause sales of Item 1 to decline by 20%, while simultaneously causing sales of Item 3 to increase by 5%. If Netco institutes the price increase for Item 1, total sales revenue will decrease by

- \$1,050,000.
  - \$850,000.
  - \$750,000.
  - \$550,000.
48. *CSO: 1A4a LOS: 1A4i*  
 Hannon Retailing Company prices its products by adding 30% to its cost. Hannon anticipates sales of \$715,000 in July, \$728,000 in August, and \$624,000 in September. Hannon's policy is to have on hand enough inventory at the end of the month to cover 25% of the next month's sales. What will be the cost of the inventory that Hannon should budget for purchase in August?
- \$509,600.
  - \$540,000.
  - \$560,000.
  - \$680,000.

49. *CSO: 1A4a LOS: 1A4f*  
Streeter Company produces plastic microwave turntables. Sales for the next year are expected to be 65,000 units in the first quarter, 72,000 units in the second quarter, 84,000 units in the third quarter, and 66,000 units in the fourth quarter. Streeter maintains a finished goods inventory at the end of each quarter equal to one half of the units expected to be sold in the next quarter. How many units should Streeter produce in the second quarter?
- a. 72,000 units.
  - b. 75,000 units.
  - c. 78,000 units.
  - d. 84,000 units.
50. *CSO: 1A4a LOS: 1A4f*  
Ming Company has budgeted sales at 6,300 units for the next fiscal year, and desires to have 590 good units on hand at the end of that year. Beginning inventory is 470 units. Ming has found from past experience that 10% of all units produced do not pass final inspection, and must therefore be destroyed. How many units should Ming plan to produce in the next fiscal year?
- a. 6,890.
  - b. 7,062.
  - c. 7,133.
  - d. 7,186.
51. *CSO: 1A4a LOS: 1A4f*  
Savior Corporation assembles backup systems for home computers. For the first quarter, the budget for sales is 67,500 units. Savior will finish the fourth quarter of last year with an inventory of 3,500 units, of which 200 are obsolete. The target ending inventory is 10 days of sales (based upon 360 days). What is the budgeted production for the first quarter?
- a. 75,000.
  - b. 71,700.
  - c. 71,500.
  - d. 64,350

52. *CSO: 1A4a LOS: 1A4f*  
 Streeter Company produces microwave turntables. Sales for the next year are expected to be 65,000 units in the first quarter, 72,000 units in the second quarter, 84,000 units in the third quarter, and 66,000 units in the fourth quarter. Streeter usually maintains a finished goods inventory at the end of each quarter equal to one half of the units expected to be sold in the next quarter. However, due to a work stoppage, the finished goods inventory at the end of the first quarter is 8,000 units less than it should be. How many units should Streeter produce in the second quarter?
- 75,000 units.
  - 78,000 units.
  - 80,000 units.
  - 86,000 units.

53. *CSO: 1A4a LOS: 1A4f*  
 Data regarding Rombus Company's budget are shown below.

Planned sales	4,000 units
Material cost	\$2.50 per pound
Direct labor	3 hours per unit
Direct labor rate	\$7 per hour
Finished goods beginning inventory	900 units
Finished goods ending inventory	600 units
Direct materials beginning inventory	4,300 units
Direct materials ending inventory	4,500 units
Materials used per unit	6 pounds

Rombus Company's production budget will show total units to be produced of

- 3,700.
  - 4,000.
  - 4,300.
  - 4,600.
54. *CSO: 1A4a LOS: 1A4f*  
 Krouse Company is in the process of developing its operating budget for the coming year. Given below are selected data regarding the company's two products, laminated putter heads and forged putter heads, that are sold through specialty golf shops.

	Putter Heads	
	Forged	Laminated
Raw materials		
Steel	2 pounds @ \$5/lb.	1 pound @ \$5/lb.
Copper	None	1 pound @ \$15/lb.
Direct labor	1/4 hour @ \$20/hr.	1 hour @ \$22/hr.
Expected sales (units)	8,200	2,000
Selling price per unit	\$30	\$80
Ending inventory target (units)	100	60
Beginning inventory (units)	300	60
Beginning inventory (cost)	\$5,250	\$3,120

Manufacturing overhead is applied to units produced on the basis of direct labor hours. Variable manufacturing overhead is projected to be \$25,000, and fixed manufacturing overhead is expected to be \$15,000.

The estimated cost to produce one unit of the laminated putter head is

- \$42.
- \$46.
- \$52.
- \$62.

55. *CSO: 1A4a LOS: 1A4d*

Tidwell Corporation sells a single product for \$20 per unit. All sales are on account, with 60% collected in the month of sale and 40% collected in the following month. A partial schedule of cash collections for January through March of the coming year reveals the following receipts for the period.

	Cash Receipts		
	January	February	March
December receivables	\$32,000		
From January sales	54,000	\$36,000	
From February sales		66,000	\$44,000

Other information includes the following.

- Inventories are maintained at 30% of the following month's sales.
- Assume that March sales total \$150,000.

The number of units to be purchased in February is

- 3,850 units.
- 4,900 units.
- 6,100 units.
- 7,750 units.

56. CSO: 1A4a LOS: 1A4i

Stevens Company manufactures electronic components used in automobile manufacturing. Each component uses two raw materials, Geo and Clio. Standard usage of the two materials required to produce one finished electronic component, as well as the current inventory, are shown below.

<u>Material</u>	<u>Standard Per Unit</u>	<u>Price</u>	<u>Current Inventory</u>
Geo	2.0 pounds	\$15/lb.	5,000 pounds
Clio	1.5 pounds	\$10/lb.	7,500 pounds

Stevens forecasts sales of 20,000 components for the next two production periods. Company policy dictates that 25% of the raw materials needed to produce the next period's projected sales be maintained in ending direct materials inventory.

Based on this information, the budgeted direct material purchases for the coming period would be

	<u>Geo</u>	<u>Clio</u>
a.	\$450,000	\$450,000.
b.	\$675,000	\$300,000.
c.	\$675,000	\$400,000.
d.	\$825,000	\$450,000.

57. CSO: 1A4a LOS: 1A4i

Petersons Planters Inc. budgeted the following amounts for the coming year.

Beginning inventory, finished goods	\$ 10,000
Cost of goods sold	400,000
Direct material used in production	100,000
Ending inventory, finished goods	25,000
Beginning and ending work-in-process inventory	Zero

Overhead is estimated to be two times the amount of direct labor dollars. The amount that should be budgeted for direct labor for the coming year is

- a. \$315,000.
- b. \$210,000.
- c. \$157,500.
- d. \$105,000.

58. *CSO: 1A4a LOS: 1A4i*

Over the past several years, McFadden Industries has experienced the following regarding the company's shipping expenses.

Fixed costs	\$16,000
Average shipment	15 pounds
Cost per pound	\$.50

Shown below are McFadden's budget data for the coming year.

Number of units shipped	8,000
Number of sales orders	800
Number of shipments	800
Total sales	\$1,200,000
Total pounds shipped	9,600

McFadden's expected shipping costs for the coming year are

- a. \$4,800.
- b. \$16,000.
- c. \$20,000.
- d. \$20,800.

59. *CSO: 1A4a LOS: 1A4g*

Swan Company is a maker of men's slacks. The company would like to maintain 20,000 yards of fabric in ending inventory. The beginning fabric inventory is expected to contain 25,000 yards. The expected yards of fabric needed for sales is 90,000. Compute the yards of fabric that Swan needs to purchase.

- a. 85,000.
- b. 90,000.
- c. 95,000.
- d. 135,000.

60. *CSO: 1A4a LOS: 1A4g*

Manoli Gift Shop maintains a 35% gross profit margin percentage, and carries an ending inventory balance each month sufficient to support 30% of the next month's expected sales. Anticipated sales for the fourth quarter are as follows.

October	\$42,000
November	58,000
December	74,000

What amount of goods should Manoli Gift Shop plan to purchase during the month of November?

- a. \$40,820.
- b. \$51,220.
- c. \$52,130.
- d. \$62,800.

61. *CSO: 1A4a LOS: 1A4g*

In preparing the direct material purchases budget for next quarter, the plant controller has the following information available.

Budgeted unit sales	2,000
Pounds of materials per unit	4
Cost of materials per pound	\$3
Pounds of materials on hand	400
Finished units on hand	250
Target ending units inventory	325
Target ending inventory of pounds of materials	800

How many pounds of materials must be purchased?

- a. 2,475.
- b. 7,900.
- c. 8,700.
- d. 9,300.

62. *CSO: 1A4a LOS: 1A4g*

Playtime Toys estimates that it will sell 200,000 dolls during the coming year. The beginning inventory is 12,000 dolls; the target ending inventory is 15,000 dolls. Each doll requires two shoes which are purchased from an outside supplier. The beginning inventory of shoes is 20,000; the target ending inventory is 18,000 shoes. The number of shoes that should be purchased during the year is

- a. 396,000 shoes.
- b. 398,000 shoes.
- c. 402,000 shoes.
- d. 404,000 shoes.

63. *CSO: 1A4a LOS: 1A4g*

Maker Distributors has a policy of maintaining inventory at 15% of the next month's forecasted sales. The cost of Maker's merchandise averages 60% of the selling price. The inventory balance as of May 31 is \$63,000, and the forecasted dollar sales for the last seven months of the year are as follows.

June	\$700,000
July	600,000
August	650,000
September	800,000
October	850,000
November	900,000
December	840,000

What is the budgeted dollar amount of Maker's purchases for July?

- a. \$355,500.
- b. \$360,000.
- c. \$364,500.
- d. \$399,000.

64. *CSO: 1A4a LOS: 1A4j*

The pro forma statement of employee benefit costs, a budget schedule that is prepared as part of an organization's annual profit plan, would include costs related to

- a. employees' gross wages and salaries and the related company-paid benefits.
- b. employees' net wages and salaries and the related company-paid benefits.
- c. all payroll related deductions withheld from employees and company-paid benefits.
- d. company-paid benefits and company-paid payroll taxes.

65. *CSO: 1A4a LOS: 1A4n*

All of the following would appear on a projected schedule of cost of goods manufactured **except** for

- a. ending work-in-process inventory.
- b. beginning finished goods inventory.
- c. the cost of raw materials used.
- d. applied manufacturing overhead.

66. *CSO: 1A4a LOS: 1A4k*

A company that manufactures furniture is establishing its budget for the upcoming year. All of the following items would appear in its overhead budget **except** for the

- a. overtime paid to the workers who perform production scheduling.
- b. cost of glue used to secure the attachment of the legs to the tables.
- c. fringe benefits paid to the production supervisor.
- d. freight charges paid for the delivery of raw materials to the company.



67. CSO: 1A4a LOS: 1A4m

Using the following budget data for Valley Corporation, which produces only one product, calculate the company's predetermined factory overhead application rate for variable overhead.

Units to be produced	11,000
Units to be sold	10,000
Indirect materials, varying with production	\$ 1,000
Indirect labor, varying with production	10,000
Factory supervisor's salary, incurred regardless of production	20,000
Depreciation on factory building and equipment	30,000
Utilities to operate factory machines	12,000
Security lighting for factory	2,000
Selling, general and administrative expenses	5,000

- a. \$2.09.
- b. \$2.30.
- c. \$4.73.
- d. \$5.20.

68. CSO: 1A4a LOS: 1A4n

Given the following data for Scurry Company, what is the cost of goods sold?

Beginning inventory of finished goods	\$100,000
Cost of goods manufactured	700,000
Ending inventory of finished goods	200,000
Beginning work-in-process inventory	300,000
Ending work-in-process inventory	50,000

- a. \$500,000.
- b. \$600,000.
- c. \$800,000.
- d. \$950,000.

69. CSO: 1A4a LOS: 1A4p

Tut Company's selling and administrative costs for the month of August, when it sold 20,000 units, were as follows.

	Costs	
	<u>Per Unit</u>	<u>Total</u>
Variable costs	\$18.60	\$372,000
Step costs	4.25	85,000
Fixed costs	<u>8.80</u>	<u>176,000</u>
Total selling and administrative costs	<u>\$31.65</u>	<u>\$633,000</u>

The variable costs represent sales commissions paid at the rate of 6.2% of sales. The step costs depend on the number of salespersons employed by the company. In August there were 17 persons on the sales force. However, two members have taken early retirement effective August 31. It is anticipated that these positions will remain vacant for several months. Total fixed costs are unchanged within a relevant range of 15,000 to 30,000 units per month. Tut is planning a sales price cut of 10%, which it expects will increase sales volume to 24,000 units per month. If Tut implements the sales price reduction, the total budgeted selling and administrative costs for the month of September would be

- a. \$652,760.
- b. \$679,760.
- c. \$714,960.
- d. \$759,600.

70. *CSO: 1A4b LOS: 1A4y*

Granite Company sells products exclusively on account, and has experienced the following collection pattern: 60% in the month of sale, 25% in the month after sale, and 15% in the second month after sale. Uncollectible accounts are negligible. Customers who pay in the month of sale are given a 2% discount. If sales are \$220,000 in January, \$200,000 in February, \$280,000 in March, and \$260,000 in April, Granite's accounts receivable balance on May 1 will be

- a. \$107,120.
- b. \$143,920.
- c. \$146,000.
- d. \$204,000.

71. *CSO: 1A4b LOS: 1A4x*

Myers Company uses a calendar-year and prepares a cash budget for each month of the year. Which one of the following items should be considered when developing July's cash budget?

- a. Federal income tax and social security tax withheld from employee's June paychecks to be remitted to the Internal Revenue Service in July.
- b. Quarterly cash dividends scheduled to be declared on July 15 and paid on August 6 to shareholders of record as of July 25.
- c. Property taxes levied in the last calendar year scheduled to be paid quarterly in the coming year during the last month of each calendar quarter.
- d. Recognition that 0.5% of the July sales on account will be uncollectible.

72. *CSO: 1A4b LOS: 1A4x*  
Brown Company estimates that monthly sales will be as follows.

January	\$100,000
February	150,000
March	180,000

Historical trends indicate that 40% of sales are collected during the month of sale, 50% are collected in the month following the sale, and 10% are collected two months after the sale. Brown's accounts receivable balance as of December 31 totals \$80,000 (\$72,000 from December's sales and \$8,000 from November's sales). The amount of cash Brown can expect to collect during the month of January is

- a. \$76,800.
- b. \$84,000.
- c. \$108,000.
- d. \$133,000.

73. *CSO: 1A4b LOS: 1A4x*  
Cooper Company's management team is preparing a cash budget for the coming quarter. The following budgeted information is under review.

	<u>January</u>	<u>February</u>	<u>March</u>
Revenue	\$700,000	\$800,000	\$500,000
Inventory purchases	350,000	425,000	225,000
Other expenses	150,000	175,000	175,000

The company expects to collect 40% of its monthly sales in the month of sale and 60% in the following month. 50% of inventory purchases are paid in the month of purchase, and the other 50% in the following month. All payments for other expenses are made in the month incurred.

Cooper forecasts the following account balances at the beginning of the quarter.

Cash	\$100,000
Accounts receivable	300,000
Accounts payable (Inventory)	500,000

Given the above information, the projected change in cash during the coming quarter will be

- a. \$412,500.
- b. \$300,000.
- c. \$112,500.
- d. \$ -0-.

74. CSO: 1A4b LOS: 1A4x

Bootstrap Corporation anticipates the following sales during the last six months of the year.

July	\$460,000
August	500,000
September	525,000
October	500,000
November	480,000
December	450,000

20% of Bootstrap's sales are for cash. The balance is subject to the collection pattern shown below.

Percentage of balance collected in the month of sale	40%
Percentage of balance collected in the month following sale	30%
Percentage of balance collected in the second month following sale	25%
Percentage of balance uncollectible	5%

What is the planned net accounts receivable balance as of December 31?

- a. \$279,300.
- b. \$294,000.
- c. \$360,000.
- d. \$367,500.

75. CSO: 1A4b LOS: 1A4x

Projected monthly sales of Wallstead Corporation for January, February, March, and April are as follows.

January	\$300,000
February	340,000
March	370,000
April	390,000

- The company bills each month's sales on the last day of the month.
- Receivables are booked gross and credit terms of sale are: 2/10, n/30.
- 50% of the billings are collected within the discount period, 30% are collected by the end of the month, 15% are collected by the end of the second month, and 5% become uncollectible.

Budgeted cash collections for Wallstead Company during April would be

- a. \$343,300.
- b. \$347,000.
- c. \$349,300.
- d. \$353,000.

76. *CSO: 1A4b LOS: 1A4x*

Tip-Top Cleaning Supply carries a large number of different items in its inventory, giving the firm a competitive advantage in its industry. Below is part of Tip-Top's budget for the first quarter of next year.

Sales	\$855,000
Cost of goods sold	425,000
Rent and salary expenses	375,000

Historically, all of the sales are on account and are made evenly over the quarter. 5% of all sales are determined to be uncollectible and written off. The balance of the receivables is collected in 50 days. This sales and collection experience is expected to continue in the first quarter. The projected balance sheet for the first day of the quarter includes the following account balances.

Cash	\$ 10,000
Accounts receivable (net)	450,000
Inventory	900,000
Accounts payable	800,000

How much cash can Tip-Top anticipate collecting in the first quarter (based on a 360-day year)?

- a. \$811,000.
- b. \$830,000.
- c. \$901,250.
- d. \$902,500.

77. *CSO: 1A4b LOS: 1A4x*

Monroe Products is preparing a cash forecast based on the following information.

- Monthly sales: December \$200,000; January \$200,000; February \$350,000; March \$400,000.
- All sales are on credit and collected the month following the sale.
- Purchases are 60% of next month's sales and are paid for in the month of purchase.
- Other monthly expenses are \$25,000, including \$5,000 of depreciation.

If the January beginning cash balance is \$30,000, and Monroe is required to maintain a minimum cash balance of \$10,000, how much short-term borrowing will be required at the end of February?

- a. \$60,000.
- b. \$70,000.
- c. \$75,000.
- d. \$80,000.

78. *CSO: 1A4b LOS: 1A4x*

Prudent Corporation's budget for the upcoming accounting period reveals total sales of \$700,000 in April and \$750,000 in May. The sales cash collection pattern is

- 20% of each month's sales are cash sales.
- 5% of a month's credit sales are uncollectible.
- 70% of a month's credit sales are collected in the month of sale.
- 25% of a month's credit sales are collected in the month following the sale.

If Prudent anticipates the cash sale of a piece of old equipment in May for \$25,000, May's total budgeted cash receipts would be

- a. \$560,000.
- b. \$702,500.
- c. \$735,000.
- d. \$737,500.

79. *CSO: 1A4b LOS: 1A4x*

ANNCO sells products on account, and experiences the following collection schedule.

In the month of sale	10%
In the month after sale	60%
In the second month after sale	30%

At December 31, ANNCO reports accounts receivable of \$211,500. Of that amount, \$162,000 is due from December sales, and \$49,500 from November sales. ANNCO is budgeting \$170,000 of sales for January. If so, what amount of cash should be collected in January?

- a. \$129,050.
- b. \$174,500.
- c. \$211,500.
- d. \$228,500.

80. CSO: 1A4b LOS: 1A4x

Brooke Company's management team is preparing a cash budget for the coming quarter. The following budgeted information is under review.

	<u>January</u>	<u>February</u>	<u>March</u>
Revenue	\$700,000	\$800,000	\$500,000
Inventory purchases	350,000	425,000	225,000
Other expenses	150,000	175,000	175,000

The company expects to collect 40% of its monthly sales in the month of sale and 60% in the following month. 50% of inventory purchases are paid in the month of purchase, and 50% in the following month. Payments for all other expenses are made in the month incurred.

Brooke forecasts the following account balances at the beginning of the quarter.

Cash	\$200,000
Accounts receivable	300,000
Accounts payable (Inventory)	400,000

Given the above information, the projected ending cash balance for February will be

- a. \$712,500.
- b. \$500,000.
- c. \$232,500.
- d. \$120,000.

81. CSO: 1A4b LOS: 1A4x

Health Foods Inc. has decided to start a cash budgeting program to improve overall cash management. Information gathered from the past year reveals the following cash collection trends.

- 40% of sales are on credit
- 50% of credit sales are collected in month of sale
- 30% of credit sales are collected first month after sale
- 15% of credit sales are collected second month after sale
- 5% of credit sales result in bad debts

Gross sales for the last five months were as follows.

January	\$220,000
February	240,000
March	250,000
April	230,000
May	260,000

Sales for June are projected to be \$255,000. Based on this information, the expected cash receipts for March would be

- a. \$230,000.
- b. \$237,400.
- c. \$242,000.
- d. \$243,200.

82. *CSO: 1A4b LOS: 1A4x*

Tidwell Corporation sells a single product for \$20 per unit. All sales are on account, with 60% collected in the month of sale and 40% collected in the following month. A schedule of cash collections for January through March of the coming year reveals the following receipts for the period.

	Cash Receipts		
	January	February	March
December receivables	\$32,000		
From January sales	54,000	\$36,000	
From February sales		66,000	\$44,000
From March sales			72,000

Other information includes the following.

- Inventories are maintained at 30% of the following month's sales.
- Tidwell desires to keep a minimum cash balance of \$15,000. Total payments in January are expected to be \$106,500, which excludes \$12,000 of depreciation expense. Any required borrowings are in multiples of \$1,000.
- The December 31 balance sheet for the preceding year revealed a cash balance of \$24,900.

Ignoring income taxes, the financing needed in January to maintain the firm's minimum cash balance is

- a. \$8,000.
- b. \$10,600.
- c. \$11,000.
- d. \$23,000.



83. *CSO: 1A4b LOS: 1A4x*  
 Data regarding Johnsen Inc.'s forecasted dollar sales for the last seven months of the year and Johnsen's projected collection patterns are as follows.

<u>Forecasted sales</u>	
June	\$700,000
July	600,000
August	650,000
September	800,000
October	850,000
November	900,000
December	840,000

<u>Types of sales</u>	
Cash sales	30%
Credit sales	70%

<u>Collection pattern on credit sales (5% determined to be uncollectible)</u>	
During the month of sale	20%
During the first month following the sale	50%
During the second month following the sale	25%

Johnsen's budgeted cash receipts from sales and collections on account for September are

- \$635,000.
- \$684,500.
- \$807,000.
- \$827,000.

84. *CSO: 1A4b LOS: 1A4x*  
 The Mountain Mule Glove Company is in its first year of business. Mountain Mule had a beginning cash balance of \$85,000 for the quarter. The company has a \$50,000 short-term line of credit. The budgeted information for the first quarter is shown below.

	<u>January</u>	<u>February</u>	<u>March</u>
Sales	\$60,000	\$40,000	\$50,000
Purchases	35,000	40,000	75,000
Operating costs	25,000	25,000	25,000

All sales are made on credit and are collected in the second month following the sale. Purchases are paid in the month following the purchase, while operating costs are paid in the month that they are incurred. How much will Mountain Mule need to borrow at the end of the quarter if the company needs to maintain a minimum cash balance of \$5,000 as required by a loan covenant agreement?

- a. \$0.
- b. \$5,000.
- c. \$10,000.
- d. \$45,000.

## Section B: Performance Management

85. *CSO: 1B1a LOS: 1B1d*

A major **disadvantage** of a static budget is that

- a. it is more difficult to develop than a flexible budget.
- b. it is made for only one level of activity.
- c. variances tend to be smaller than when flexible budgeting is used.
- d. variances are more difficult to compute than when flexible budgeting is used.

86. *CSO: 1B1a LOS: 1B1d*

Arkin Co.'s controller has prepared a flexible budget for the year just ended, adjusting the original static budget for the unexpected large increase in the volume of sales. Arkin's costs are mostly variable. The controller is pleased to note that both actual revenues and actual costs approximated amounts shown on the flexible budget. If actual revenues and actual costs are compared with amounts shown on the original (static) budget, what variances would arise?

- a. Both revenue variances and cost variances would be favorable.
- b. Revenue variances would be favorable and cost variances would be unfavorable.
- c. Revenue variances would be unfavorable and cost variances would be favorable.
- d. Both revenue variances and cost variances would be unfavorable.

87. *CSO: 1B1b LOS: 1B1d*

Use of a standard cost system can include all of the following advantages **except** that it

- a. assists in performance evaluation.
- b. emphasizes qualitative characteristics.
- c. permits development of flexible budgeting.
- d. allows employees to better understand what is expected of them.

88. *CSO: 1B1b LOS: 1B1e*

Which one of the following statements is **correct** concerning a flexible budget cost formula? Variable costs are stated

- a. per unit and fixed costs are stated in total.
- b. in total and fixed costs are stated per unit.
- c. in total and fixed costs are stated in total.
- d. per unit and fixed costs are stated per unit.

89. *CSO: 1B1b LOS: 1B1e*

The monthly sales volume of Shugart Corporation varies from 7,000 units to 9,800 units over the course of a year. Management is currently studying anticipated selling expenses along with the related cash resources that will be needed. Which of the following types of budgets (1) should be used by Shugart in planning, and (2) will provide Shugart the **best** feedback in performance reports for comparing planned expenditures with actual amounts?

- |    | <u>Planning</u> | <u>Performance Reporting</u> |
|----|-----------------|------------------------------|
| a. | Static          | Static.                      |
| b. | Static          | Flexible.                    |
| c. | Flexible        | Static.                      |
| d. | Flexible        | Flexible.                    |

90. *CSO: 1B1b LOS: 1B1f*

The following performance report was prepared for Dale Manufacturing for the month of April.

	<u>Actual Results</u>	<u>Static Budget</u>	<u>Variance</u>
Sales units	<u>100,000</u>	<u>80,000</u>	<u>20,000F</u>
Sales dollars	\$190,000	\$160,000	\$30,000F
Variable costs	125,000	96,000	29,000U
Fixed costs	<u>45,000</u>	<u>40,000</u>	<u>5,000U</u>
Operating income	<u>\$ 20,000</u>	<u>\$ 24,000</u>	<u>\$ 4,000U</u>

Using a flexible budget, Dale's total sales-volume variance is

- \$4,000 unfavorable.
- \$6,000 favorable.
- \$16,000 favorable.
- \$20,000 unfavorable.

91. *CSO: 1B1b LOS: 1B1h*

Of the following pairs of variances found in a flexible budget report, which pair is **most likely** to be related?

- Material price variance and variable overhead efficiency variance.
- Labor rate variance and variable overhead efficiency variance.
- Material usage variance and labor efficiency variance.
- Labor efficiency variance and fixed overhead volume variance.

92. *CSO: 1B1b LOS: 1B1e*  
 An advantage of using a flexible budget compared to a static budget is that in a flexible budget
- shortfalls in planned production are clearly presented.
  - standards can easily be changed to adjust to changing circumstances.
  - fixed cost variances are more clearly presented.
  - budgeted costs for a given output level can be compared with actual costs for the same level of output.
93. *CSO: 1B1c LOS: 1B1i*  
 The benefits of management by exception reporting include all of the following **except** a reduction in
- reports production costs.
  - information overload.
  - reliance on advance planning.
  - unfocused management actions.
94. *CSO: 1B1d LOS: 1B1j*  
 Lee manufacturing uses a standard cost system with overhead applied based on direct labor hours. The manufacturing budget for the production of 5,000 units for the month of June included 10,000 hours of direct labor at \$15 per hour, \$150,000. During June, 4,500 units were produced, using 9,600 direct labor hours, incurring \$39,360 of variable overhead, and showing a variable overhead efficiency variance of \$2,400 unfavorable. The standard variable overhead rate per direct labor hour was
- \$3.85.
  - \$4.00.
  - \$4.10.
  - \$6.00.
95. *CSO: 1B1d LOS: 1B1k*  
 MinnOil performs oil changes and other minor maintenance services (e.g., tire pressure checks) for cars. The company advertises that all services are completed within 15 minutes for each service. On a recent Saturday, 160 cars were serviced resulting in the following labor variances: rate, \$19 unfavorable; efficiency, \$14 favorable. If MinnOil's standard labor rate is \$7 per hour, determine the actual wage rate per hour and the actual hours worked.
- |    | <u>Wage Rate</u> | <u>Hours Worked</u> |
|----|------------------|---------------------|
| a. | \$6.55           | 42.00.              |
| b. | \$6.67           | 42.71.              |
| c. | \$7.45           | 42.00.              |
| d. | \$7.50           | 38.00.              |

96. *CSO: 1B1e LOS: 1B1l*

A company applies variable overhead based upon direct labor hours and has a variable overhead efficiency variance that is \$25,000 favorable. A possible cause of this variance is that

- a. higher skilled labor was used.
- b. electricity rates were lower than expected.
- c. less supplies were used than anticipated.
- d. less units of finished goods were produced.

97. *CSO: 1B1e LOS: 1B1t*

A company has a raw material price variance that is unfavorable. An analysis of this variance indicates that the company's only available supplier of one of its raw materials unexpectedly raised the price of the material. The action management should take regarding this situation should be to

- a. negatively evaluate the performance of the purchasing manager.
- b. negatively evaluate the performance of the production manager.
- c. change the raw material price standard.
- d. ask the production manager to lower the material usage standard to compensate for higher material costs.

98. *CSO: 1B1e LOS: 1B1t*

The following information is from the accounting records of St. Charles Enterprises.

	Static	
	<u>Budget</u>	<u>Actual</u>
Sales volume (units)	<u>82,000</u>	<u>75,000</u>
Selling price/unit	\$ 15.00	\$ 15.00
Variable cost/unit	9.00	9.25
Fixed cost	280,000	285,000

A staff assistant performed a comparison of budget and actual data, and calculated an unfavorable operating income variance of \$65,750. The assistant concluded that performance did not meet expectations because there was an unfavorable variance in operating income. Which one of the following is the **best** evaluation of this preliminary conclusion?

- a. Both the conclusion and the variance calculation are correct.
- b. The conclusion is incorrect, but the variance calculation is informative.
- c. The conclusion is correct, but the variance calculation could be more informative.
- d. Both the conclusion and the variance calculation are incorrect.

99. *CSO: 1B1e LOS: 1B1t*  
 For a given time period, a company had a favorable material quantity variance, a favorable direct labor efficiency variance, and a favorable fixed overhead volume variance. Of the following, the one factor that could **not** have caused all three variances is
- the purchase of higher quality materials.
  - the use of lower-skilled workers.
  - the purchase of more efficient machinery.
  - an increase in production supervision.

100. *CSO: 1B1e LOS: 1B1a*  
 Marten Company has a cost-benefit policy to investigate any variance that is greater than \$1,000 or 10% of budget, whichever is larger. Actual results for the previous month indicate the following.

	<u>Budget</u>	<u>Actual</u>
Raw material	\$100,000	\$89,000
Direct labor	50,000	54,000

The company should investigate

- neither the material variance nor the labor variance.
  - the material variance only.
  - the labor variance only.
  - both the material variance and the labor variance.
101. *CSO: 1B1e LOS: 1B1t*  
 A company has a direct labor price variance that is favorable. Of the following, the **most** serious concern the company may have about this variance is that
- the circumstances giving rise to the favorable variance will not continue in the future.
  - the production manager may not be using human resources as efficiently as possible.
  - the cause of the favorable variance may result in other larger unfavorable variances in the value-chain.
  - actual production is less than budgeted production.

102. *CSO: 1B1e LOS: 1B1k*

Frisco Company recently purchased 108,000 units of raw material for \$583,200. Three units of raw materials are budgeted for use in each finished good manufactured, with the raw material standard set at \$16.50 for each completed product. Frisco manufactured 32,700 finished units during the period just ended and used 99,200 units of raw material. If management is concerned about the timely reporting of variances in an effort to improve cost control and bottom-line performance, the materials purchase price variance should be reported as

- a. \$6,050 unfavorable.
- b. \$9,920 favorable.
- c. \$10,800 unfavorable.
- d. \$10,800 favorable.

103. *CSO: 1B1e LOS: 1B1k*

Christopher Akers is the chief executive officer of SBL Inc., a masonry contractor. The financial statements have just arrived showing a \$3,000 loss on the new stadium job that was budgeted to show a \$6,000 profit. Actual and budget information relating to the materials for the job are as follows.

	<u>Actual</u>	<u>Budget</u>
Bricks - number of bundles	3,000	2,850
Bricks - cost per bundle	\$7.90	\$8.00

Which one of the following is a **correct** statement regarding the stadium job for SBL?

- a. The price variance was favorable by \$285.
- b. The price variance was favorable by \$300.
- c. The efficiency variance was unfavorable by \$1,185.
- d. The flexible budget variance was unfavorable by \$900.

104. *CSO: 1B1e LOS: 1B1k*

A company isolates its raw material price variance in order to provide the earliest possible information to the manager responsible for the variance. The budgeted amount of material usage for the year was computed as follows.

$$150,000 \text{ units of finished goods} \times 3 \text{ pounds/unit} \times \$2.00/\text{pound} = \$900,000.$$

Actual results for the year were the following.

Finished goods produced	160,000 units
Raw materials purchased	500,000 pounds
Raw materials used	490,000 pounds
Cost per pound	\$2.02

The raw material price variance for the year was

- a. \$9,600 unfavorable.
- b. \$9,800 unfavorable.
- c. \$10,000 unfavorable.
- d. \$20,000 unfavorable.

105. *CSO: 1B1e LOS: 1B1l*

Lee Manufacturing uses a standard cost system with overhead applied based on direct labor hours. The manufacturing budget for the production of 5,000 units for the month of May included the following information.

Direct labor (10,000 hours at \$15 per hour)	\$150,000
Variable overhead	30,000
Fixed overhead	80,000

During May, 6,000 units were produced and the direct labor efficiency variance was \$1,500 unfavorable. Based on this information, the actual number of direct labor hours used in May was

- a. 9,900 hours.
- b. 10,100 hours.
- c. 11,900 hours.
- d. 12,100 hours.

106. *CSO: 1B1e LOS: 1B1k*

At the beginning of the year, Douglas Company prepared the following monthly budget for direct materials.

<u>Units produced and sold</u>	<u>10,000</u>	<u>15,000</u>
Direct material	\$15,000	\$22,500

At the end of the month, the company's records showed that 12,000 units were produced and sold and \$20,000 was spent for direct materials. The variance for direct materials is

- a. \$2,000 favorable.
- b. \$2,000 unfavorable.
- c. \$5,000 favorable.
- d. \$5,000 unfavorable.



107. *CSO: 1B1e LOS: 1B1k*  
Randall Company uses standard costing and flexible budgeting and is evaluating its direct labor. The total budget variance can usually be broken down into two other variances identified as the
- direct labor rate variance and direct labor efficiency variance.
  - direct labor cost variance and the direct labor volume variance.
  - direct labor rate variance and direct labor volume variance.
  - direct labor cost variance and direct labor efficiency variance.
108. *CSO: 1B1e LOS: 1B1k*  
Richter Company has an unfavorable materials efficiency (usage) variance for a particular month. Which one of the following is **least** likely to be the cause of this variance?
- Inadequate training of the direct labor employees.
  - Poor performance of the shipping employees.
  - Poor design of the production process or product.
  - Poor quality of the raw materials.
109. *CSO: 1B1e LOS: 1B1k*  
A company had a total labor variance of \$15,000 favorable and a labor efficiency variance of \$18,000 unfavorable. The labor price variance was
- \$3,000 favorable.
  - \$3,000 unfavorable.
  - \$33,000 favorable.
  - \$33,000 unfavorable.
110. *CSO: 1B1e LOS: 1B1s*  
Cordell Company uses a standard cost system. On January 1 of the current year, Cordell budgeted fixed manufacturing overhead cost of \$600,000 and production at 200,000 units. During the year, the firm produced 190,000 units and incurred fixed manufacturing overhead of \$595,000. The production volume variance for the year was
- \$5,000 unfavorable.
  - \$10,000 unfavorable.
  - \$25,000 unfavorable.
  - \$30,000 unfavorable.

111. *CSO: 1B1e LOS: 1B1s*  
 Highlight Inc. uses a standard cost system and applies factory overhead to products on the basis of direct labor hours. If the firm recently reported a favorable direct labor efficiency variance, then the
- variable overhead spending variance must be favorable.
  - variable overhead efficiency variance must be favorable.
  - fixed overhead volume variance must be unfavorable.
  - direct labor rate variance must be unfavorable.

112. *CSO: 1B1e LOS: 1B1s*  
 Harper Company's performance report indicated the following information for the past month.

Actual total overhead	\$1,600,000
Budgeted fixed overhead	1,500,000
Applied fixed overhead at \$3 per labor hour	1,200,000
Applied variable overhead at \$.50 per labor hour	200,000
Actual labor hours	430,000

Harper's total overhead spending variance for the month was

- \$100,000 favorable.
  - \$115,000 favorable.
  - \$185,000 unfavorable.
  - \$200,000 unfavorable.
113. *CSO: 1B1e LOS: 1B1s*  
 The JoyT Company manufactures Maxi Dolls for sale in toy stores. In planning for this year, JoyT estimated variable factory overhead of \$600,000 and fixed factory overhead of \$400,000. JoyT uses a standard costing system, and factory overhead is allocated to units produced on the basis of standard direct labor hours. The denominator level of activity budgeted for this year was 10,000 direct labor hours, and JoyT used 10,300 actual direct labor hours.
- Based on the output accomplished during this year, 9,900 standard direct labor hours should have been used. Actual variable factory overhead was \$596,000, and actual fixed factory overhead was \$410,000 for the year. Based on this information, the variable overhead spending variance for JoyT for this year was
- \$24,000 unfavorable.
  - \$2,000 unfavorable.
  - \$4,000 favorable.
  - \$22,000 favorable.

114. *CSO: 1B1e LOS: 1B1s*  
A company has a fixed overhead volume variance that is \$10,000 unfavorable. The **most** likely cause for this variance is that
- the production supervisory salaries were greater than planned.
  - the production supervisory salaries were less than planned.
  - more was produced than planned.
  - less was produced than planned.
115. *CSO: 1B1e LOS: 1B1s*  
When using a flexible budgeting system, the computation for the variable overhead spending variance is the difference between
- actual variable overhead and the previously budgeted amount.
  - the previously budgeted amount and actual inputs times the budgeted rate.
  - the amount applied to work-in-process and actual variable overhead.
  - actual variable overhead and actual inputs times the budgeted rate.
116. *CSO: 1B1e LOS: 1B1t*  
Fortune Corporation's Marketing Department recently accepted a rush order for a nonstock item from a valued customer. The Marketing Department filed the necessary paperwork with the Production Department, which complained greatly about the lack of time to do the job the right way. Nevertheless, the Production Department accepted the manufacturing commitment and filed the required paperwork with the Purchasing Department for the needed raw materials. A purchasing clerk temporarily misplaced the paperwork. By the time the paperwork was found, it was too late to order from the company's regular supplier. A new supplier was located, and that vendor quoted a very attractive price. The materials arrived and were rushed into production, bypassing the normal inspection processes (as directed by the Production Department supervisor) to make up for lost time. Unfortunately, the goods were of low quality and created considerable difficulty for Fortune's assembly-line personnel. Which of the following **best** indicates the responsibility for the materials usage variance in this situation?
- Purchasing.
  - Purchasing and Marketing.
  - Marketing and Production.
  - Purchasing, Marketing, and Production.

117. *CSO: 1B1e LOS: 1B1t*

Johnson Inc. has established per unit standards for material and labor for its production department based on 900 units normal production capacity as shown below.

3 lbs. of direct materials @ \$4 per lb.	\$12
1 direct labor hour @ \$15 per hour	<u>15</u>
Standard cost per unit	<u>\$27</u>

During the year 1,000 units were produced. The accounting department has charged the production department supervisor with the following unfavorable variances.

<u>Materials Quantity Variance</u>		<u>Material Price Variance</u>	
Actual usage	3,300 lbs.	Actual cost	\$12,600
Standard usage	3,000 lbs.	Standard cost	12,000
Unfavorable	300 lbs.	Unfavorable	\$600

Bob Sterling, the production supervisor, has received a memorandum from his boss stating that he did not meet the established standards for material prices and quantity and corrective action should be taken. Sterling is very unhappy about the situation and is preparing to reply to the memorandum explaining the reasons for his dissatisfaction. All of the following are valid reasons for Sterling's dissatisfaction **except** that the

- material price variance is the responsibility of the purchasing department.
- cause of the unfavorable material usage variance was the acquisition of substandard material.
- standards have not been adjusted to the engineering changes.
- variance calculations fail to properly reflect that actual production exceeded normal production capacity.

118. *CSO: 1B1e LOS: 1B1t*

During the month of May, Tyler Company experienced a significant unfavorable material efficiency variance in the production of its single product at one of Tyler's plants. Which one of the following reasons would be **least** likely to explain why the unfavorable variance arose?

- Inferior materials were purchased.
- Actual production was lower than planned production.
- Workers used were less-skilled than expected.
- Replacement production equipment had just been installed.

119. *CSO: 1B2a LOS: 1B2a*  
Sara Bellows, manager of the telecommunication sales team, has the following department budget.

Billings - long distance	\$350,000
Billings - phone card	75,000
Billings - toll free	265,000

Her responsibility center is **best** described as a

- a. cost center.
  - b. revenue center.
  - c. profit center.
  - d. investment center.
120. *CSO: 1B2a LOS: 1B2b*  
The production manager of the Super T-shirt Company is responsible for the activity of her department and the costs associated with production. Super T adheres to a responsibility centered budget process, and the manager's performance is measured by how well she performs to budget. Recently, the dark horse team won the local college basketball tournament. As a result, the sales department, which operates as a profit center, received an order for 10,000 t-shirts, but only if they could be delivered in three days. The production manager said she could meet the schedule, but only by incurring overtime pay that would cause her to be over budget for hourly wages paid. What would be the **best** course of action for the sales department and the production manager to undertake in this case?
- a. Accept the order and overrun the production manager's budget.
  - b. Refuse the overtime and produce only what the production department is capable of while staying within the budget.
  - c. Accept the order and ignore the effect on the production department budget when conducting the performance review.
  - d. Charge the overtime to the sales department's budget.
121. *CSO: 1B2a LOS: 1B2f*  
Most firms allocate corporate and other support costs to divisions and departments for all of the following reasons **except** to
- a. remind profit-center managers that earnings must be adequate to cover some share of the indirect costs.
  - b. stimulate profit-center managers to put pressure on central managers to control service costs.
  - c. create competition between divisions and departments, and their managers.
  - d. fix accountability and evaluate profit centers.

122. *CSO: 1B2a LOS: 1B2f*  
 Which one of the following allocation approaches will ensure that the production departments do not underestimate their planned usage of service at the start of the budget period as well as make the service departments cost efficient?

- a. The use of actual rates and actual hours for both fixed and variable costs.
- b. Budgeted rates and standard hours allowed for output attained for variable costs and budgeted rates and capacity available for fixed costs.
- c. The use of rates and quantities based on long-term historical averages for both variable and fixed costs.
- d. The use of a budgeted lump-sum amount based on estimates provided by the production departments for both variable and fixed costs.

123. *CSO: 1B2b LOS: 1B2h*  
 Which one of the following is an **incorrect** description of transfer pricing?

- a. It measures the value of goods or services furnished by a profit center to other responsibility centers within a company.
- b. If a market price exists, this price may be used as a transfer price.
- c. It measures exchanges between a company and external customers.
- d. If no market price exists, the transfer price may be based on cost.

124. *CSO: 1B2b LOS: 1B2i*  
 Manhattan Corporation has several divisions that operate as decentralized profit centers. At the present time, the Fabrication Division has excess capacity of 5,000 units with respect to the UT-371 circuit board, a popular item in many digital applications. Information about the circuit board follows.

Market price	\$48
Variable selling/distribution costs on external sales	5
Variable manufacturing cost	21
Fixed manufacturing cost	10

Manhattan's Electronic Assembly Division wants to purchase 4,500 circuit boards either internally, or else use a similar board in the marketplace that sells for \$46. The Electronic Assembly Division's management feels that if the first alternative is pursued, a price concession is justified, given that both divisions are part of the same firm. The **best** process to determine the price ultimately charged by the Fabrication Division to the Assembly Division for the circuit board is to

- a. establish the price by top management.
- b. establish the price by an arbitration committee.
- c. establish the price through negotiations between the Fabrication's and Electronic Assembly's Division management.
- d. set the price equal to the price that would be charged if the Fabrication Department had no excess capacity.

125. *CSO: 1B2b LOS: 1B2i*  
 Happy Time Industries uses segment reporting for all of its decentralized divisions. It has several products that are transferred from one division to other divisions. Happy Time wants to motivate the manager of the selling division to produce efficiently. Assuming the following methods are available, the **optimal** transfer pricing method should be a
- cost-based transfer price that uses actual amounts.
  - cost-based transfer price that uses budgeted amounts.
  - variable cost-based transfer price that uses actual amounts.
  - market-based transfer price.
126. *CSO: 1B2b LOS: 1B2k*  
 Morrison's Plastics Division, a profit center, sells its products to external customers as well as to other internal profit centers. Which one of the following circumstances would justify the Plastics Division selling a product internally to another profit center at a price that is below the market-based transfer price?
- The buying unit has excess capacity.
  - The selling unit is operating at full capacity.
  - Routine sales commissions and collection costs would be avoided.
  - The profit centers' managers are evaluated on the basis of unit operating income.
127. *CSO: 1B2b LOS: 1B2i*  
 With respect to a firm's transfer pricing policy, an advantage of using a dual pricing arrangement is that it
- provides an incentive for the supplying subunit to control costs.
  - exposes the supplying subunit to the discipline of market prices.
  - promotes goal congruence between the supplying and buying subunits of the firm.
  - simplifies tax calculations when the buying and supplying subunits are taxed in different jurisdictions.
128. *CSO: 1B2b LOS: 1B2j*  
 Manhattan Corporation has several divisions that operate as decentralized profit centers. At the present time, the Fabrication Division has excess capacity of 5,000 units with respect to the UT-371 circuit board, a popular item in many digital applications. Information about the circuit board follows.

Market price	\$48
Variable selling/distribution costs on external sales	5
Variable manufacturing cost	21
Fixed manufacturing cost	10

Manhattan's Electronic Assembly Division wants to purchase 4,500 circuit boards either internally, or else use a similar board in the marketplace that sells for \$46. The Electronic Assembly Division's management feels that if the first alternative is pursued, a price concession is justified, given that both divisions are part of the same firm. To optimize the overall goals of Manhattan, the minimum price to be charged for the board from the Fabrication Division to the Electronic Assembly Division should be

- a. \$21.
- b. \$26.
- c. \$31.
- d. \$46.

129. *CSO: 1B2b LOS: 1B2k*

Kern Manufacturing has several divisions and evaluates performance using segment income. Since sales include transfers to other divisions, Kern has established a price for internal sales as cost plus 10%. Red Division has requested 10,000 units of Green Division's product. Green Division is selling its product externally at a 60% markup over cost. The corporate policy will encourage the Green Division to

- a. transfer the product to the Red Division because all costs are being covered and the division will earn a 10% profit.
- b. reject the sale to the Red Division because it does not provide the same markup as external sales.
- c. accept the sale to the Red Division if it is operating at full capacity and the sale will contribute to fixed costs.
- d. transfer the product to the Red Division if it does not require the Green Division to give up any external sales.

130. *CSO: 1B3b LOS: 1B3r*

Consider the following categories of performance measures.

- I. Profitability measures.
- II. Customer-satisfaction measures.
- III. Efficiency, quality, and time measures.
- IV. Innovation measures.

A cruise line operates on a national scale in a very competitive marketplace. In view of this information, which measures should the company use in the evaluation of its managers?

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



131. *CSO: 1B3b LOS: 1B3a*  
All of the following are considered appropriate goals for measuring a division manager's efficiency for a budgeting period **except**
- budgeted operating income.
  - a targeted share of the market.
  - earnings per share projections.
  - a reduction in the organizational structure (fewer employees doing a given amount of work).
132. *CSO: 1B3b LOS: 1B3a*  
David Burke is manager of claims processing for Continental Health Care System. His performance is evaluated using various measures agreed upon in advance with Diane Lewis, general manager. Lewis asked Burke to recommend several measures to evaluate the performance of his unit next year. Which one of the following performance measures would likely have the **least** positive effect on Burke's motivation and performance?
- Processing cost per claim.
  - Average processing time per claim.
  - Percentage of claims processed accurately the first time.
  - Total dollar amount of claims processed per month.
133. *CSO: 1B3b LOS: 1B3a*  
Paul Cooper, shipping manager for DFG Distributors, is responsible for managing the staff and all related transportation equipment to fill orders for bakery products from local retailers and deliver the products to those retailers. Which one of the following groups of three performance measures **most** likely would result in the highest level of goal congruence?
- Labor cost per order; transportation cost per order; number of orders completed per day.
  - The percentage of orders filled on time; the percentage of orders filled accurately; average cost to fill and deliver an order.
  - Customer satisfaction; elapsed time to complete an order; percentage of orders filled accurately.
  - Orders completed per employee per day; employee injuries per hour worked; number of vehicle accidents per year.
134. *CSO: 1B3b LOS: 1B3a*  
P.C. Programs Inc. produces software for individual users and small businesses. Rita Morgan manages the customer hot line department for the firm and is responsible for answering customer questions related to software products produced by all divisions of the firm. For purposes of promoting goal congruence, which one of the following would be the **least** appropriate measure of her performance?

- a. Average time to provide an answer or solution to a customer.
- b. Number of calls to the hot line for each new release of software.
- c. Average time a customer is on hold.
- d. Number of customer complaints due to incorrect responses given to customers.

135. *CSO: 1B3b LOS: 1B3a*

Which one of the following should be used for evaluating the performance of the Repair and Maintenance Department that repairs production equipment in a firm devoted to making keyboards for computers?

- a. The variance between the firm's budgeted and actual net income.
- b. The total factory overhead variances.
- c. The fixed overhead volume variances.
- d. The response time and degree of satisfaction among the production departments.

136. *CSO: 1B3b LOS: 1B3a*

Albert Hathaway recently joined Brannen University as the chief information officer of the University Computing Services Department. His assigned task is to help reduce the recurrent problem of cost overruns due to uncontrolled computer usage by the user community, while at the same time not curtailing the use of information technology for research and teaching. To ensure goal congruence, which one of the following algorithms should be used to allocate the cost of the University Computing Services Department to other departments within the university?

- a. Actual rate times actual hours of computer usage.
- b. Actual rate times budgeted hours of computer usage.
- c. Budgeted rate times actual hours of computer usage.
- d. Budgeted rate times budgeted hours of computer usage.

137. *CSO: 1B3d LOS: 1B3i*

For several years, Northern Division of Marino Company has maintained a positive residual income. Northern is currently considering investing in a new project that will lower the division's overall return on investment (ROI) but increase its residual income. What is the relationship between the expected rate of return on the new project, the firm's cost of capital, and the division's current ROI?

- a. The expected rate of return on the new project is higher than the division's current return on investment, but lower than the firm's cost of capital.
- b. The firm's cost of capital is higher than the expected rate of return on the new project, but lower than the division's current return on investment.
- c. The division's current return on investment is higher than the expected rate of return on the new project, but lower than the firm's cost of capital.
- d. The expected rate of return on the new project is higher than the firm's cost of capital, but lower than the division's current return on investment.

138. *CSO: 1B3d LOS: 1B3f*

KHD Industries is a multidivisional firm that evaluates its managers based on the return on investment (ROI) earned by their divisions. The evaluation and compensation plans use a targeted ROI of 15% (equal to the cost of capital) and managers receive a bonus of 5% of basic compensation for every one-percentage point that the division's ROI exceeds 15%. David Evans, manager of the Consumer Products Division, has made a forecast of the division's operations and finances for next year that indicates the ROI would be 24%. In addition, new short-term programs were identified by the Consumer Products Division and evaluated by the finance staff as follows.

<u>Program</u>	<u>Projected ROI</u>
A	13%
B	19%
C	22%
D	31%

Assuming no restrictions on expenditures, what is the optimal mix of new programs that would add value to KHD Industries?

- a. A, B, C, and D.
- b. B, C, and D only.
- c. C and D only.
- d. D only.

139. *CSO: 1B3d LOS: 1B3f*

Performance results for four geographic divisions of a manufacturing company are shown below.

<u>Division</u>	<u>Target Return on Investment</u>	<u>Actual Return on Investment</u>	<u>Return on Sales</u>
A	18%	18.1%	8%
B	16	20.0	8
C	14	15.8	6
D	12	11.0	9

The division with the **best** performance is

- a. Division A.
- b. Division B.
- c. Division C.
- d. Division D.

140. *CSO: 1B3d LOS: 1B3f*  
Vincent Hospital has installed a new computer system. The system was designed and constructed based on the anticipated number of hours of usage required by the various hospital departments according to projections made by the departmental managers. Virtually all of the operating costs of the system are fixed. What would be the **most** systematic and rational manner in which to allocate the new computer system costs to the various hospital departments?
- To each department equally.
  - By the anticipated number of hours of usage.
  - By actual usage by each department.
  - By the revenue generated in each department.
141. *CSO: 1B3d LOS: 1B3i*  
Oakmont Company has two divisions, Household Appliances and Construction Equipment. The manager of the Household Appliances Division is evaluated on the basis of return on investment (ROI). The manager of the Construction Equipment Division is evaluated on the basis of residual income. The cost of capital has been 12% and the return on investment has been 16% for the two divisions. Each manager is currently considering a project with a 14% rate of return. According to the current evaluation system for managers, which manager(s) would have incentive to undertake the project?
- Both managers would have incentive to undertake the project.
  - Neither manager would have incentive to undertake the project.
  - The manager of the Household Appliances Division would have incentive to undertake the project while the manager of the Construction Equipment Division would not have incentive to undertake the project.
  - The manager of the Construction Equipment Division would have incentive to undertake the project while the manager of the Household Appliances Division would not have incentive to undertake the project.
142. *CSO: 1B3e LOS: 1B3g*  
A company is concerned that its divisional managers are not making decisions that are in the **best** interests of the overall corporation. In order to prevent this, the company should use a performance evaluation system that focuses on
- flexible budget variances.
  - operating income.
  - controllable costs.
  - residual income.

143. *CSO: 1B3h LOS: 1B3m*  
To insure that a divisional vice president places appropriate focus on both the short-term and the long-term objectives of the division, the **best** approach would be to evaluate the vice president's performance by using
- return on investment (ROI) which permits easy and quick comparisons to other similar divisions.
  - residual income since it will eliminate the rejection of capital investments that have a return less than ROI but greater than the cost of capital.
  - division segment margin or profit margin.
  - financial and nonfinancial measures, including the evaluation of quality, customer satisfaction, and market performance.
144. *CSO: 1B3i LOS: 1B3n*  
The balanced scorecard provides an action plan for achieving competitive success by focusing management attention on critical success factors. Which one of the following is **not** one of the competitive success factors commonly focused upon in the balanced scorecard?
- Competitor business strategies.
  - Financial performance measures.
  - Internal business processes.
  - Employee innovation and learning.
145. *CSO: 1B3i LOS: 1B3n*  
Which one of the following statements about a balanced scorecard is **incorrect**?
- It seeks to address the problems associated with traditional financial measures used to assess performance.
  - The notion of value chain analysis plays a major role in the drawing up of a balanced scorecard.
  - It relies on the perception of the users with regard to service provided.
  - It is directly derived from the scientific management theories.

## Section C: Cost Management

146. *CSO: 1C1a LOS: 1C1a*

Manchester Airlines is in the process of preparing a contribution margin income statement that will allow a detailed look at its variable costs and profitability of operations. Which one of the following cost combinations should be used to evaluate the variable cost per flight of the company's Boston-Las Vegas flights?

- a. Flight crew salary, fuel, and engine maintenance.
- b. Fuel, food service, and airport landing fees.
- c. Airplane depreciation, baggage handling, and airline marketing.
- d. Communication system operation, food service, and ramp personnel.

147. *CSO: 1C1a LOS: 1C1a*

Which one of the following items would **not** be considered a manufacturing cost?

- a. Cream for an ice cream maker.
- b. Sales commissions for a car manufacturer.
- c. Plant property taxes for an ice cream maker.
- d. Tires for an automobile manufacturer.

148. *CSO: 1C1a LOS: 1C1a*

Taylor Corporation is determining the cost behavior of several items in order to budget for the upcoming year. Past trends have indicated the following dollars were spent at three different levels of output.

	<u>Unit Levels</u>		
	<u>10,000</u>	<u>12,000</u>	<u>15,000</u>
Cost A	\$25,000	\$29,000	\$35,000
Cost B	10,000	15,000	15,000
Cost C	15,000	18,000	22,500

In establishing a budget for 14,000 units, Taylor should treat Costs A, B, and C, respectively, as

- a. semivariable, fixed, and variable.
- b. variable, fixed, and variable.
- c. semivariable, semivariable, and semivariable.
- d. variable, semivariable, and semivariable.

149. *CSO: 1C1a LOS: 1C1a*  
 Which one of the following refers to a cost that remains the same as the volume of activity decreases within the relevant range?
- Average cost per unit.
  - Variable cost per unit.
  - Unit fixed cost.
  - Total variable cost.

150. *CSO: 1C1a LOS: 1C1a*  
 Fowler Co. provides the following summary of its total budgeted production costs at three production levels.

	<u>Volume in Units</u>		
	<u>1,000</u>	<u>1,500</u>	<u>2,000</u>
Cost A	\$1,420	\$2,130	\$2,840
Cost B	\$1,550	\$2,200	\$2,900
Cost C	\$1,000	\$1,000	\$1,000
Cost D	\$1,630	\$2,445	\$3,260

The cost behavior of each of the Costs A through D, respectively, is

- semi-variable, variable, fixed, and variable.
  - variable, semi-variable, fixed, and semi-variable.
  - variable, fixed, fixed, and variable.
  - variable, semi-variable, fixed, and variable.
151. *CSO: 1C1a LOS: 1C1a*  
 Roberta Johnson is the manager of SleepWell Inn, one of a chain of motels located throughout the United States. An example of an operating cost at SleepWell that is semivariable is
- the security guard's salary.
  - electricity.
  - postage for reservation confirmations.
  - local yellow pages advertising.

152. *CSO: 1C1a LOS: 1C1b*  
The marketing manager of Ames Company has learned the following about a new product that is being introduced by Ames. Sales of this product are planned at \$100,000 for the first year. Sales commission expense is budgeted at 8% of sales plus the marketing manager's incentive budgeted at an additional ½%. The preparation of a product brochure will require 20 hours of marketing salaried staff time at an average rate of \$100 per hour, and 10 hours, at \$150 per hour, for an outside illustrator's effort. The variable marketing cost for this new product will be
- \$8,000.
  - \$8,500.
  - \$10,000.
  - \$10,500.
153. *CSO: 1C1a LOS: 1C1c*  
Indirect and common costs often make up a significant portion of the cost of a product. All of the following are reasons for indirect cost allocation to cost objects **except** to
- reduce total costs identified with products.
  - measure income and assets for external reporting purposes.
  - justify costs for reimbursement purposes.
  - provide information for economic decision making.
154. *CSO: 1C1a LOS: 1C1a*  
The relevant range refers to the activity levels over which
- cost relationships hold constant.
  - costs fluctuate.
  - production varies.
  - relevant costs are incurred.
155. *CSO: 1C1a LOS: 1C1a*  
Cell Company has discovered that the cost of processing customer invoices is strictly variable within the relevant range. Which one of the following statements concerning the cost of processing customer invoices is **incorrect**?
- The total cost of processing customer invoices will increase as the volume of customer invoices increases.
  - The cost per unit for processing customer invoices will decline as the volume of customer invoices increases.
  - The cost of processing the 100th customer invoice will be the same as the cost of processing the first customer invoice.
  - The average cost per unit for processing a customer invoice will equal the incremental cost of processing one more customer invoice.



156. *CSO: 1C1a LOS: 1C1a*  
 When identifying fixed and variable costs, which one of the following is a typical assumption concerning cost behavior?
- General and administrative costs are assumed to be variable costs.
  - Cost behavior is assumed to be realistic for all levels of activity from zero to maximum capacity.
  - Total costs are assumed to be linear when plotted on a graph.
  - The relevant time period is assumed to be five years.
157. *CSO: 1C1a LOS: 1C1a*  
 Lar Company has found that its total electricity cost has both a fixed component and a variable component within the relevant range. The variable component seems to vary directly with the number of units produced. Which one of the following statements concerning Lar's electricity cost is **incorrect**?
- The total electricity cost will increase as production volume increases.
  - The total electricity cost per unit of production will increase as production volume increases.
  - The variable electricity cost per unit of production will remain constant as production volume increases.
  - The fixed electricity cost per unit of production will decline as production volume increases.
158. *CSO: 1C1b LOS: 1C1e*  
 Kimber Company has the following unit cost for the current year.

Raw material	\$20.00
Direct labor	25.00
Variable manufacturing overhead	10.00
Fixed manufacturing overhead	<u>15.00</u>
Total unit cost	<u>\$70.00</u>

Fixed manufacturing cost is based on an annual activity level of 8,000 units. Based on these data, the total manufacturing cost expected to be incurred to manufacture 9,000 units in the current year is

- \$560,000.
- \$575,000.
- \$615,000.
- \$630,000.

159. *CSO: 1C1b LOS: 1C1a*

A review of Plunkett Corporation's accounting records for last year disclosed the following selected information.

Variable costs	
Direct materials used	\$ 56,000
Direct labor	179,100
Manufacturing overhead	154,000
Selling costs	108,400
Fixed costs	
Manufacturing overhead	267,000
Selling costs	121,000
Administrative costs	235,900

In addition, the company suffered a \$27,700 uninsured factory fire loss during the year. What were Plunkett's product costs and period costs for last year?

	<u>Product</u>	<u>Period</u>
a.	\$235,100	\$914,000.
b.	\$497,500	\$651,600.
c.	\$656,100	\$493,000.
d.	\$683,800	\$465,300.

160. *CSO: 1C1b LOS: 1C1e*

Normal costing systems are said to offer a user several distinct benefits when compared with actual costing systems. Which one of the following is **not** a benefit associated with normal costing systems?

- More timely costing of jobs and products.
- A smoothing of product costs throughout the period.
- Improved accuracy of job and product costing.
- A more economical way of attaching overhead to a job or product.

161. *CSO: 1C1b LOS: 1C1e*

From the following budgeted data, calculate the budgeted indirect cost rate that would be used in a normal costing system.

Total direct labor hours	250,000
Direct costs	\$10,000,000
Total indirect labor hours	50,000
Total indirect-labor-related costs	\$ 5,000,000
Total indirect non-labor related costs	\$ 7,000,000

- a. \$20.
- b. \$28.
- c. \$40.
- d. \$48.

162. *CSO: 1C1c LOS: 1C1e*

Merlene Company uses a standard cost accounting system. Data for the last fiscal year are as follows.

	<u>Units</u>
Beginning inventory of finished goods	100
Production during the year	700
Sales	750
Ending inventory of finished goods	50

	<u>Per Unit</u>
Product selling price	\$200
Standard variable manufacturing cost	90
Standard fixed manufacturing cost	20*

Budgeted selling and administrative costs (all fixed) \$45,000

\*Denominator level of activity is 750 units for the year.

There were no price, efficiency, or spending variances for the year, and actual selling and administrative expenses equaled the budget amount. Any volume variance is written off to cost of goods sold in the year incurred. There are no work-in-process inventories.

The amount of operating income earned by Merlene for the last fiscal year using variable costing was

- a. \$21,500.
- b. \$22,500.
- c. \$28,000.
- d. \$31,000.

163. *CSO: 1C1c LOS: 1C1e*

Loyal Co. produces three types of men's undershirts: T-shirts, V-neck shirts, and athletic shirts. In the Folding and Packaging Department, operations costing is used to apply costs to individual units, based on the standard time allowed to fold and package each type of undershirt. The standard time to fold and package each type of undershirt is as follows.

T-shirt	40 seconds per shirt
V-neck shirt	40 seconds per shirt
Athletic shirt	20 seconds per shirt

During the month of April, Loyal produced and sold 50,000 T-shirts, 30,000 V-neck shirts, and 20,000 athletic shirts. If costs in the Folding and Packaging Department were \$78,200 during April, how much folding and packaging cost should be applied to each T-shirt?

- a. \$.52134.
- b. \$.6256.
- c. \$.7820.
- d. \$.8689.

164. *CSO: 1C1d LOS: 1C1g*

Dremmon Corporation uses a standard cost accounting system. Data for the last fiscal year are as follows.

	<u>Units</u>
Beginning inventory of finished goods	100
Production during the year	700
Sales	750
Ending inventory of finished goods	50
<u>Per Unit</u>	
Product selling price	\$200
Standard variable manufacturing cost	90
Standard fixed manufacturing cost	20*

Budgeted selling and administrative costs (all fixed)                      \$45,000

\*Denominator level of activity is 750 units for the year.

There were no price, efficiency, or spending variances for the year, and actual selling and administrative expenses equaled the budget amount. Any volume variance is written off to cost of goods sold in the year incurred. There are no work-in-process inventories.

Assuming that Dremmon used absorption costing, the amount of operating income earned in the last fiscal year was

- a. \$21,500.
- b. \$27,000.
- c. \$28,000.
- d. \$30,000.

165. *CSO: 1C1d LOS: 1C1g*

Chassen Company, a cracker and cookie manufacturer, has the following unit costs for the month of June.

<u>Variable manufacturing cost</u>	<u>Variable marketing cost</u>	<u>Fixed manufacturing cost</u>	<u>Fixed marketing cost</u>
\$5.00	\$3.50	\$2.00	\$4.00

A total of 100,000 units were manufactured during June of which 10,000 remain in ending inventory. Chassen uses the first-in, first-out (FIFO) inventory method, and the 10,000 units are the only finished goods inventory at month-end. Using the full absorption costing method, Chassen's finished goods inventory value would be

- a. \$50,000.
- b. \$70,000.
- c. \$85,000.
- d. \$145,000.

166. *CSO: 1C1d LOS: 1C1g*

Consider the following situation for Weisman Corporation for the prior year.

- The company produced 1,000 units and sold 900 units, both as budgeted.
- There were no beginning or ending work-in-process inventories and no beginning finished goods inventory.
- Budgeted and actual fixed costs were equal, all variable manufacturing costs are affected by volume of production only, and all variable selling costs are affected by sales volume only.
- Budgeted per unit revenues and costs were as follows.

	<u>Per Unit</u>
Sales price	\$100
Direct materials	30
Direct labor	20
Variable manufacturing costs	10
Fixed manufacturing costs	5
Variable selling costs	12
Fixed selling costs (\$3,600 total)	4
Fixed administrative costs (\$1,800 total)	2

The operating income for Weisman for the prior year using absorption costing was

- a. \$13,600.
- b. \$14,200.
- c. \$15,300.
- d. \$15,840.

167. CSO: 1C1d LOS: 1C1f

When comparing absorption costing with variable costing, the difference in operating income can be explained by the difference between the

- a. units sold and the units produced, multiplied by the unit sales price.
- b. ending inventory in units and the beginning inventory in units, multiplied by the budgeted fixed manufacturing cost per unit.
- c. ending inventory in units and the beginning inventory in units, multiplied by the unit sales price.
- d. units sold and the units produced, multiplied by the budgeted variable manufacturing cost per unit.

168. CSO: 1C1d LOS: 1C1g

Mill Corporation had the following unit costs for the recently concluded calendar year.

	<u>Variable</u>	<u>Fixed</u>
Manufacturing	\$8.00	\$3.00
Nonmanufacturing	\$2.00	\$5.50

Inventory for Mill's sole product totaled 6,000 units on January 1 and 5,200 units on December 31. When compared to variable costing income, Mill's absorption costing income is

- a. \$2,400 lower.
- b. \$2,400 higher.
- c. \$6,800 lower.
- d. \$6,800 higher.

169. CSO: 1C1d LOS: 1C1f

Which of the following correctly shows the treatment of (1) factory insurance, (2) direct labor, and (3) finished goods shipping costs under absorption costing and variable costing?

	<u>Absorption Costing</u>		<u>Variable Costing</u>	
	<u>Product Cost</u>	<u>Period Cost</u>	<u>Product Cost</u>	<u>Period Cost</u>
a.	1, 2	3	2	1, 3.
b.	2	1, 3	1, 2	3.
c.	1, 2	3	1	2, 3.
d.	1	2, 3	2, 3	1.

170. CSO: 1C1d LOS: 1C1g

Troughton Company manufactures radio-controlled toy dogs. Summary budget financial data for Troughton for the current year are as follows.

Sales (5,000 units at \$150 each)	\$750,000
Variable manufacturing cost	400,000
Fixed manufacturing cost	100,000
Variable selling and administrative cost	80,000
Fixed selling and administrative cost	150,000

Troughton uses an absorption costing system with overhead applied based on the number of units produced, with a denominator level of activity of 5,000 units. Underapplied or overapplied manufacturing overhead is written off to cost of goods sold in the year incurred. The \$20,000 budgeted operating income from producing and selling 5,000 toy dogs planned for this year is of concern to Trudy George, Troughton's president. She believes she could increase operating income to \$50,000 (her bonus threshold) if Troughton produces more units than it sells, thus building up the finished goods inventory. How much of an increase in the number of units in the finished goods inventory would be needed to generate the \$50,000 budgeted operating income?

- a. 556 units.
- b. 600 units.
- c. 1,500 units.
- d. 7,500 units.

171. CSO: 1C1e LOS: 1C1f

If a manufacturing company uses variable costing to cost inventories, which of the following costs are considered inventoriable costs?

- a. Only raw material, direct labor, and variable manufacturing overhead costs.
- b. Only raw material, direct labor, variable and fixed manufacturing overhead costs.
- c. Only raw material, direct labor, variable manufacturing overhead and variable selling and administrative costs.
- d. Only raw material and direct labor costs.

172. CSO: 1C1e LOS: 1C1f

Xylon Company uses direct (variable) costing for internal reporting and absorption costing for the external financial statements. A review of the firm's internal and external disclosures will likely find

- a. a difference in the treatment of fixed selling and administrative costs.
- b. a higher inventoriable unit cost reported to management than to the shareholders.
- c. a contribution margin rather than gross margin in the reports released to shareholders.
- d. internal income figures that vary closely with sales and external income figures that are influenced by both units sold and productive output.

173. *CSO: 1C1e LOS: 1C1g*

Bethany Company has just completed the first month of producing a new product but has not yet shipped any of this product. The product incurred variable manufacturing costs of \$5,000,000, fixed manufacturing costs of \$2,000,000, variable marketing costs of \$1,000,000, and fixed marketing costs of \$3,000,000.

If Bethany uses the variable cost method to value inventory, the inventory value of the new product would be

- a. \$5,000,000.
- b. \$6,000,000.
- c. \$8,000,000.
- d. \$11,000,000.

174. *CSO: 1C1e LOS: 1C1g*

Consider the following situation for Donaldson Company for the prior year.

- The company produced 1,000 units and sold 900 units, both as budgeted.
- There were no beginning or ending work-in-process inventories and no beginning finished goods inventory.
- Budgeted and actual fixed costs were equal, all variable manufacturing costs are affected by volume of production only, and all variable selling costs are affected by sales volume only.
- Budgeted per unit revenues and costs were as follows.

	<u>Per Unit</u>
Sales price	\$100
Direct materials	30
Direct labor	20
Variable manufacturing costs	10
Fixed manufacturing costs	5
Variable selling costs	12
Fixed selling costs (\$3,600 total)	4
Fixed administrative costs (\$1,800 total)	2

Assuming that Donaldson uses variable costing, the operating income for the prior year was

- a. \$13,600.
- b. \$14,200.
- c. \$14,800.
- d. \$15,300.



175. *CSO: 1C1e LOS: 1C1g*

During the month of May, Robinson Corporation sold 1,000 units. The cost per unit for May was as follows.

	<u>Cost Per Unit</u>
Direct materials	\$ 5.50
Direct labor	3.00
Variable manufacturing overhead	1.00
Fixed manufacturing overhead	1.50
Variable administrative costs	.50
Fixed administrative costs	<u>3.50</u>
Total	<u>\$15.00</u>

May's income using absorption costing was \$9,500. The income for May, if variable costing had been used, would have been \$9,125. The number of units Robinson produced during May was

- a. 750 units.
- b. 925 units.
- c. 1,075 units.
- d. 1,250 units.

176. *CSO: 1C1e LOS: 1C1f*

Which one of the following is the **best** reason for using variable costing?

- a. Fixed factory overhead is more closely related to the capacity to produce than to the production of specific units.
- b. All costs are variable in the long term.
- c. Variable costing is acceptable for income tax reporting purposes.
- d. Variable costing usually results in higher operating income than if a company uses absorption costing.

177. *CSO: 1C1e LOS: 1C1f*

Dawn Company has significant fixed overhead costs in the manufacturing of its sole product, auto mufflers. For internal reporting purposes, in which one of the following situations would ending finished goods inventory be higher under direct (variable) costing rather than under absorption costing?

- a. If more units were produced than were sold during a given year.
- b. If more units were sold than were produced during a given year.
- c. In all cases when ending finished goods inventory exists.
- d. None of these situations.

178. *CSO: 1C1f LOS: 1C1j*  
The primary purpose for allocating common costs to joint products is to determine
- the selling price of a by-product.
  - whether or not one of the joint products should be discontinued.
  - the variance between budgeted and actual common costs.
  - the inventory cost of joint products for financial reporting.
179. *CSO: 1C1f LOS: 1C1j*  
The distinction between joint products and by-products is largely dependent on
- historical costs.
  - prime costs.
  - market value.
  - salvage value.
180. *CSO: 1C1f LOS: 1C1j*  
In a production process where joint products are produced, the **primary** factor that will distinguish a joint product from a by-product is the
- relative total sales value of the products.
  - relative total volume of the products.
  - relative ease of selling the products.
  - accounting method used to allocate joint costs.
181. *CSO: 1C1f LOS: 1C1I*  
All of the following are methods of allocating joint costs to joint products **except**
- physical quantities method.
  - net realizable value method.
  - separable production cost method.
  - gross market value method.
182. *CSO: 1C1f LOS: 1C1I*  
Tucariz Company processes Duo into two joint products, Big and Mini. Duo is purchased in 1,000 gallon drums for \$2,000. Processing costs are \$3,000 to process the 1,000 gallons of Duo into 800 gallons of Big and 200 gallons of Mini. The selling price is \$9 per gallon for Big and \$4 per gallon for Mini. Big can be processed further into 600 gallons of Giant if \$1,000 of additional processing costs are incurred. Giant can be sold for \$17 per gallon. If the net-realizable-value method were used to allocate costs to the joint products, the total cost of producing Giant would be

- a. \$5,600.
- b. \$5,564.
- c. \$5,520.
- d. \$4,600.

183. *CSO: 1C1f LOS: 1C11*

Tucariz Company processes Duo into two joint products, Big and Mini. Duo is purchased in 1,000 gallon drums for \$2,000. Processing costs are \$3,000 to process the 1,000 gallons of Duo into 800 gallons of Big and 200 gallons of Mini. The selling price is \$9 per gallon for Big and \$4 per gallon for Mini. If the sales value at splitoff method is used to allocate joint costs to the final products, the per gallon cost (rounded to the nearest cent) of producing Big is

- a. \$5.63 per gallon.
- b. \$5.00 per gallon.
- c. \$4.50 per gallon.
- d. \$3.38 per gallon.

184. *CSO: 1C1f LOS: 1C11*

Tempo Company produces three products from a joint process. The three products are sold after further processing as there is no market for any of the products at the split-off point. Joint costs per batch are \$315,000. Other product information is shown below.

	<u>Product A</u>	<u>Product B</u>	<u>Product C</u>
Units produced per batch	20,000	30,000	50,000
Further processing and marketing cost per unit	\$ .70	\$3.00	\$1.72
Final sales value per unit	5.00	6.00	7.00

If Tempo uses the net realizable value method of allocating joint costs, how much of the joint costs will be allocated to each unit of Product C?

- a. \$2.10.
- b. \$2.65.
- c. \$3.15.
- d. \$3.78.

185. *CSO: 1C1f LOS: 1C11*

Fitzpatrick Corporation uses a joint manufacturing process in the production of two products, Gummo and Xylo. Each batch in the joint manufacturing process yields 5,000 pounds of an intermediate material, Valdene, at a cost of \$20,000. Each batch of Gummo uses 60% of the Valdene and incurs \$10,000 of separate costs. The resulting 3,000 pounds of Gummo sells for \$10 per pound. The remaining Valdene is used in the production of Xylo which incurs \$12,000 of separable costs per batch. Each batch of

Xylo yields 2,000 pounds and sells for \$12 per pound. Fitzpatrick uses the net realizable value method to allocate the joint material costs. The company is debating whether or not to process Xylo further into a new product, Zinten, which would incur an additional \$4,000 in costs and sell for \$15 per pound. If Zinten is produced, income would increase by

- a. \$2,000.
- b. \$5,760.
- c. \$14,000.
- d. \$26,000.

186. *CSO: 1C2a LOS: 1C2c*

Darden Manufacturing, a calendar-year corporation, had \$17,000 of spoilage during April that production management characterized as abnormal. The spoilage was incurred on Job No. 532, that was sold three months later for \$459,000. Which of the following correctly describes the impact of the spoilage on Darden's unit manufacturing cost for Job No. 532 and on the year's operating income?

- |    | <u>Unit Manufacturing Cost</u> | <u>Operating Income</u>          |
|----|--------------------------------|----------------------------------|
| a. | Increase.                      | No effect.                       |
| b. | Increase.                      | Decrease.                        |
| c. | No effect.                     | Decrease.                        |
| d. | No effect.                     | Not enough information to judge. |

187. *CSO: 1C2a LOS: 1C2b*

Baldwin Printing Company uses a job order costing system and applies overhead based on machine hours. A total of 150,000 machine hours have been budgeted for the year. During the year, an order for 1,000 units was completed and incurred the following.

Direct material costs	\$1,000
Direct labor costs	1,500
Actual overhead	1,980
Machine hours	450

The accountant calculated the inventory cost of this order to be \$4.30 per unit. The annual budgeted overhead in dollars was

- a. \$577,500.
- b. \$600,000.
- c. \$645,000.
- d. \$660,000.

188. *CSO: 1C2a LOS: 1C2b*

John Sheng, cost accountant at Starlet Company, is developing departmental factory overhead application rates for the company's tooling and fabricating departments. The budgeted overhead for each department and the data for one job are shown below.

	<u>Departments</u>	
	<u>Tooling</u>	<u>Fabricating</u>
Supplies	\$ 850	\$ 200
Supervisors' salaries	1,500	2,000
Indirect labor	1,200	4,880
Depreciation	1,000	5,500
Repairs	<u>4,075</u>	<u>3,540</u>
 Total budgeted overhead	 <u>\$8,625</u>	 <u>\$16,120</u>
 Total direct labor hours	 460	 620
 Direct labor hours on Job #231	 12	 3

Using the departmental overhead application rates, total overhead applied to Job #231 in the Tooling and Fabricating Departments will be

- a. \$225.
- b. \$303.
- c. \$537.
- d. \$671.

189. *CSO: 1C2b LOS: 1C2b*

Mack Inc. uses a weighted-average process costing system. Direct materials and conversion costs are incurred evenly during the production process. During the month of October, the following costs were incurred.

Direct materials	\$39,700
Conversion costs	70,000

The work-in-process inventory as of October 1 consisted of 5,000 units, valued at \$4,300, that were 20% complete. During October, 27,000 units were transferred out. Inventory as of October 31 consisted of 3,000 units that were 50% complete. The weighted-average inventory cost per unit completed in October was

- a. \$3.51.
- b. \$3.88.
- c. \$3.99.
- d. \$4.00.

190. CSO: 1C2b LOS: 1C2b

During December, Krause Chemical Company had the following selected data concerning the manufacture of Xyzine, an industrial cleaner.

<u>Production Flow</u>	<u>Physical Units</u>
Completed and transferred to the next department	100
Add: Ending work-in-process inventory	<u>10</u> (40% complete as to conversion)
Total units to account for	110
Less: Beginning work-in-process inventory	<u>20</u> (60% complete as to conversion)
Units started during December	<u><u>90</u></u>

All material is added at the beginning of processing in this department, and conversion costs are added uniformly during the process. The beginning work-in-process inventory had \$120 of raw material and \$180 of conversion costs incurred. Material added during December was \$540 and conversion costs of \$1,484 were incurred. Krause uses the weighted-average process-costing method. The total raw material costs in the ending work-in-process inventory for December is

- a. \$120.
- b. \$72.
- c. \$60.
- d. \$36.

191. CSO: 1C2b LOS: 1C2c

A company that uses a process costing system inspects its goods at the 60% stage of completion. If the firm's ending work-in-process inventory is 80% complete, how would the firm account for its normal and abnormal spoilage?

- a. Both normal and abnormal spoilage costs would be added to the cost of the good units completed during the period.
- b. Both normal and abnormal spoilage costs would be written off as an expense of the period.
- c. Normal spoilage costs would be added to the cost of the good units completed during the period; in contrast, abnormal spoilage costs would be written off as a loss.
- d. Normal spoilage costs would be allocated between the cost of good units completed during the period and the ending work-in-process inventory. In contrast, abnormal spoilage costs would be written off as a loss.

192. CSO: 1C2b LOS: 1C2c

When considering normal and abnormal spoilage, which one of the following is theoretically the **best** accounting method for spoilage in a process-costing system?

- a. Both normal and abnormal spoilage cost should be charged to a separate expense account.
- b. Normal spoilage cost should be charged to good units and abnormal spoilage cost should be charged to a separate expense account.
- c. Both normal and abnormal spoilage costs should be charged to good units.
- d. Normal spoilage costs should be charged to a separate expense account and abnormal spoilage cost should be charged to good units.

193. CSO: 1C2b LOS: 1C2b

Southwood Industries uses a process costing system and inspects its goods at the end of manufacturing. The inspection as of June 30 revealed the following information for the month of June.

Good units completed	16,000
Normal spoilage (units)	300
Abnormal spoilage (units)	100

Unit costs were: materials, \$3.50; and conversion costs, \$6.00. The number of units that Southwood would transfer to its finished goods inventory and the related cost of these units are

	<u>Units Transferred</u>	<u>Cost</u>
a.	16,000	\$152,000.
b.	16,000	\$154,850.
c.	16,000	\$155,800.
d.	16,300	\$154,850.

194. CSO: 1C2b LOS: 1C2f

Colt Company uses a weighted-average process cost system to account for the cost of producing a chemical compound. As part of production, Material B is added when the goods are 80% complete. Beginning work-in-process inventory for the current month was 20,000 units, 90% complete. During the month, 70,000 units were started in process, and 65,000 units were completed. There were no lost or spoiled units. If the ending inventory was 60% complete, the total equivalent units for Material B for the month was

- a. 65,000 units.
- b. 70,000 units.
- c. 85,000 units.
- d. 90,000 units.

195. CSO: 1C2b LOS: 1C2b

Oster Manufacturing uses a weighted-average process costing system and has the following costs and activity during October.

Materials	\$40,000
Conversion cost	<u>32,500</u>
Total beginning work-in-process inventory	<u>\$72,500</u>

Materials	\$ 700,000
Conversion cost	<u>617,500</u>
Total production costs - October	<u>\$1,317,500</u>

Production completed	60,000 units
Work-in-process, October 31	20,000 units

All materials are introduced at the start of the manufacturing process, and conversion cost is incurred uniformly throughout production. Conversations with plant personnel reveal that, on average, month-end in-process inventory is 25% complete. Assuming no spoilage, how should Oster's October manufacturing cost be assigned?

	<u>Production Completed</u>	<u>Work-in-Process</u>
a.	\$1,042,500	\$347,500.
b.	\$1,095,000	\$222,500.
c.	\$1,155,000	\$235,000.
d.	\$1,283,077	\$106,923.

196. CSO: 1C2b LOS: 1C2f

San Jose Inc. uses a weighted-average process costing system. All materials are introduced at the start of manufacturing, and conversion cost is incurred evenly throughout production. The company started 70,000 units during May and had the following work-in-process inventories at the beginning and end of the month.

May 1            30,000 units, 40% complete

May 31           24,000 units, 25% complete

Assuming no spoilage or defective units, the total equivalent units used to assign costs for May are

	<u>Materials</u>	<u>Conversion Cost</u>
a.	70,000	70,000.
b.	82,000	82,000.
c.	100,000	70,000.
d.	100,000	82,000.

197. CSO: 1C2b LOS: 1C2b



During December, Krause Chemical Company had the following selected data concerning the manufacture of Xyzine, an industrial cleaner.

<u>Production Flow</u>	<u>Physical Units</u>
Completed and transferred to the next department	100
Add: Ending work-in-process inventory	<u>10</u> (40% complete as to conversion)
Total units to account for	110
Less: Beginning work-in-process inventory	<u>20</u> (60% complete as to conversion)
Units started during December	<u>90</u>

All material is added at the beginning of processing in this department, and conversion costs are added uniformly during the process. The beginning work-in-process inventory had \$120 of raw material and \$180 of conversion costs incurred. Material added during December was \$540 and conversion costs of \$1,484 were incurred. Krause uses the weighted-average process-costing method. The total conversion cost assigned to units transferred to the next department in December was

- a. \$1,664.
- b. \$1,600.
- c. \$1,513.
- d. \$1,484.

198. *CSO: 1C2b LOS: 1C2f*

During December, Krause Chemical Company had the following selected data concerning the manufacture of Xyzine, an industrial cleaner.

<u>Production Flow</u>	<u>Physical Units</u>
Completed and transferred to the next department	100
Add: Ending work-in-process inventory	<u>10</u> (40% complete as to conversion)
Total units to account for	110
Less: Beginning work-in-process inventory	<u>20</u> (60% complete as to conversion)
Units started during December	<u>90</u>

All material is added at the beginning of processing in this department, and conversion costs are added uniformly during the process. The beginning work-in-process inventory had \$120 of raw material and \$180 of conversion costs incurred. Material added during December was \$540 and conversion costs of \$1,484 were incurred. Krause uses the first-

in, first-out (FIFO) process-costing method. The equivalent units of production used to calculate conversion costs for December was

- a. 110 units.
- b. 104 units.
- c. 100 units.
- d. 92 units.

199. *CSO: 1C2b LOS: 1C2f*

Jones Corporation uses a first-in, first-out (FIFO) process costing system. Jones has the following unit information for the month of August.

	<u>Units</u>
Beginning work-in-process inventory, 100% complete for materials, 75% complete for conversion cost	10,000
Units completed and transferred out	90,000
Ending work-in-process inventory, 100% complete for materials, 60% complete for conversion costs	8,000

The number of equivalent units of production for conversion costs for the month of August is

- a. 87,300.
- b. 88,000.
- c. 92,300.
- d. 92,700.

200. *CSO: 1C2b LOS: 1C2f*

Waller Co. uses a weighted-average process-costing system. Material B is added at two different points in the production of shirms, 40% is added when the units are 20% completed, and the remaining 60% of Material B is added when the units are 80% completed. At the end of the quarter, there are 22,000 shirms in process, all of which are 50% completed. With respect to Material B, the ending shirms in process represent how many equivalent units?

- a. 4,400 units.
- b. 8,800 units.
- c. 11,000 units.
- d. 22,000 units.

201. *CSO: 1C2c LOS: 1C2a*

When using activity-based costing techniques, which one of the following departmental activities would be expected to use machine hours as a cost driver to allocate overhead costs to production?

- a. Plant cafeteria.
- b. Machine setups.
- c. Material handling.
- d. Robotics painting.

202. *CSO: 1C2c LOS: 1C2a*

A company is considering the implementation of an activity-based costing and management program. The company

- a. should focus on manufacturing activities and avoid implementation with service-type functions.
- b. would probably find a lack of software in the marketplace to assist with the related recordkeeping.
- c. would normally gain added insights into causes of cost.
- d. would likely use fewer cost pools than it did under more traditional accounting methods.

203. *CSO: 1C2c LOS: 1C2a*

All of the following are likely to be used as a cost allocation base in activity-based costing **except** the

- a. number of different materials used to manufacture the product.
- b. units of materials used to manufacture the product.
- c. number of vendors supplying the materials used to manufacture the product.
- d. cost of materials used to manufacture the product.

204. *CSO: 1C2c LOS: 1C2h*

Pelder Products Company manufactures two types of engineering diagnostic equipment used in construction. The two products are based upon different technologies, x-ray and ultra-sound, but are manufactured in the same factory. Pelder has computed the manufacturing cost of the x-ray and ultra-sound products by adding together direct materials, direct labor, and overhead cost applied based on the number of direct labor hours. The factory has three overhead departments that support the single production line that makes both products. Budgeted overhead spending for the departments is as follows.

Department			
Engineering design	Material handling	Setup	Total
\$6,000	\$5,000	\$3,000	\$14,000

Pelder's budgeted manufacturing activities and costs for the period are as follows.

Product

<u>Activity</u>	<u>X-Ray</u>	<u>Ultra-Sound</u>
Units produced and sold	50	100
Direct materials used	\$5,000	\$8,000
Direct labor hours used	100	300
Direct labor cost	\$4,000	\$12,000
Number of parts used	400	600
Number of engineering changes	2	1
Number of product setups	8	7

The budgeted cost to manufacture one ultra-sound machine using the activity-based costing method is

- a. \$225.
- b. \$264.
- c. \$293.
- d. \$305.

205. *CSO: 1C2c LOS: 1C2h*

The Chocolate Baker specializes in chocolate baked goods. The firm has long assessed the profitability of a product line by comparing revenues to the cost of goods sold. However, Barry White, the firm's new accountant, wants to use an activity-based costing system that takes into consideration the cost of the delivery person. Listed below are activity and cost information relating to two of Chocolate Baker's major products.

	<u>Muffins</u>	<u>Cheesecake</u>
Revenue	\$53,000	\$46,000
Cost of goods sold	26,000	21,000
<u>Delivery Activity</u>		
Number of deliveries	150	85
Average length of delivery	10 Minutes	15 Minutes
Cost per hour for delivery	\$20.00	\$20.00

Using activity-based costing, which one of the following statements is **correct**?

- a. The muffins are \$2,000 more profitable.
- b. The cheesecakes are \$75 more profitable.
- c. The muffins are \$1,925 more profitable.
- d. The muffins have a higher profitability as a percentage of sales and, therefore, are more advantageous.

206. *CSO: 1C2c LOS: 1C2h*

Atmel Inc. manufactures and sells two products. Data with regard to these products are given below.

	<u>Product A</u>	<u>Product B</u>
Units produced and sold	30,000	12,000
Machine hours required per unit	2	3
Receiving orders per product line	50	150
Production orders per product line	12	18
Production runs	8	12
Inspections	20	30

Total budgeted machine hours are 100,000. The budgeted overhead costs are shown below.

Receiving costs	\$ 450,000
Engineering costs	300,000
Machine setup costs	25,000
Inspection costs	<u>200,000</u>
Total budgeted overhead costs	<u>\$ 975,000</u>

Using activity-based costing, the per unit overhead cost allocation of receiving costs for product A is

- a. \$3.75.
- b. \$10.75.
- c. \$19.50.
- d. \$28.13.

207. *CSO: 1C2c LOS: 1C2h*

A profitable company with five departments uses plantwide overhead rates for its highly diversified operation. The firm is studying a change to either allocating overhead by using departmental rates or using activity-based costing (ABC). Which one of these two methods will likely result in the use of a greater number of cost allocation bases and more accurate costing results?

	<u>Greater Number of Allocation Bases</u>	<u>More Accurate Costing Results</u>
a.	Departmental	Departmental.
b.	Departmental	ABC.
c.	ABC	Departmental.
d.	ABC	ABC.

208. *CSO: 1C3a LOS: 1C3e*

In practice, items such as wood screws and glue used in the production of school desks and chairs would **most** likely be classified as

- a. direct labor.
- b. factory overhead.
- c. direct materials.
- d. period costs.

209. *CSO: 1C3b LOS: 1C23c*

Young Company is beginning operations, and is considering three alternative ways in which to allocate manufacturing overhead to individual units produced. Young can use a plantwide rate, departmental rates, or activity based costing. Young will produce many types of products in its single plant, and not all products will be processed through all departments. In which one of the following independent situations would reported net income for the first year be the same regardless of which overhead allocation method had been selected?

- a. All production costs approach those costs that were budgeted.
- b. The sales mix does not vary from the mix that was budgeted.
- c. All manufacturing overhead is a fixed cost.
- d. All ending inventory balances are zero.

210. *CSO: 1C3b LOS: 1C3d*

The **most** important criterion in accurate cost allocations is

- a. using a simple allocation method.
- b. allocating fixed and variable costs by using the same allocation base.
- c. using homogeneous cost pools.
- d. using multiple drivers for each cost pool.

211. *CSO: 1C3b LOS: 1C3g*

Cynthia Rogers, the cost accountant for Sanford Manufacturing, is preparing a management report which must include an allocation of overhead. The budgeted overhead for each department and the data for one job are shown below.

	<u>Department</u>	
	<u>Tooling</u>	<u>Fabricating</u>
Supplies	\$ 690	\$ 80
Supervisor's salaries	1,400	1,800
Indirect labor	1,000	4,000
Depreciation	1,200	5,200
Repairs	<u>4,400</u>	<u>3,000</u>
Total budgeted overhead	<u>\$8,690</u>	<u>\$14,080</u>
Total direct labor hours	440	640
Direct labor hours on Job #231	10	2

Using the departmental overhead application rates, and allocating overhead on the basis of direct labor hours, overhead applied to Job #231 in the Tooling Department would be

- a. \$44.00
- b. \$197.50
- c. \$241.50
- d. \$501.00.

212. *CSO: 1C3b LOS: 1C3g*

Patterson Corporation expects to incur \$70,000 of factory overhead and \$60,000 of general and administrative costs next year. Direct labor costs at \$5 per hour are expected to total \$50,000. If factory overhead is to be applied per direct labor hour, how much overhead will be applied to a job incurring 20 hours of direct labor?

- a. \$28.
- b. \$120.
- c. \$140.
- d. \$260.

213. *CSO: 1C3c LOS: 1C3f*

Henry Manufacturing, which uses direct labor hours to apply overhead to its product line, undertook an extensive renovation and modernization program two years ago. Manufacturing processes were reengineered, considerable automated equipment was acquired, and 60% of the company's nonunion factory workers were terminated. Which of the following statements would apply to the situation at Henry?

- I. The company's factory overhead rate has likely increased.
  - II. The use of direct labor hours seems to be appropriate.
  - III. Henry will lack the ability to properly determine labor variances.
  - IV. Henry has likely reduced its ability to quickly cut costs in order to respond to economic downturns.
- a. I, II, III, and IV.
  - b. I and IV only.
  - c. II and IV only.
  - d. I and III only.

214. *CSO: 1C3c LOS: 1C3h*

Jones Tax Company has three divisions - Compliance, Tax Planning, and Financial Consulting. Based on the divisional data presented below, which one of the allocation bases for common company expenses would likely have the **least** negative behavioral impact on the Financial Consulting Division manager?

Compliance    Tax Planning    Financial Consulting

Revenues	\$4,500,000	\$6,000,000	\$4,500,000
Variable expenses	1,500,000	3,750,000	2,250,000
No. of employees	68	76	56

- Revenues.
- Contribution margin.
- Equal sharing.
- Number of employees.

215. *CSO: 1C3c LOS: 1C3g*

Atmel Inc. manufactures and sells two products. Data with regard to these products are given below.

	<u>Product A</u>	<u>Product B</u>
Units produced and sold	30,000	12,000
Machine hours required per unit	2	3
Receiving orders per product line	50	150
Production orders per product line	12	18
Production runs	8	12
Inspections	20	30

Total budgeted machine hours are 100,000. The budgeted overhead costs are shown below.

Receiving costs	\$450,000
Engineering costs	300,000
Machine setup costs	25,000
Inspection costs	<u>200,000</u>
Total budgeted overhead	<u>\$975,000</u>

The cost driver for engineering costs is the number of production orders per product line. Using activity-based costing, the engineering cost per unit for Product B would be

- \$4.00.
- \$10.00.
- \$15.00.
- \$29.25.

216. *CSO: 1C3d LOS: 1C3p*

When allocating costs from one department to another, a dual-rate cost-allocation method may be used. The dual-rate cost-allocation method is **most** useful when

- two or more cost pools are to be allocated.
- two or more departments' costs are to be allocated.
- two or more products are produced.
- costs are separated into variable-cost and fixed-cost subpools.



217. *CSO: 1C3d LOS: 1C3p*  
The management of ROX Company wishes to encourage all other departments to use the legal department, as circumstances warrant. To accomplish this, legal department costs should be
- allocated to users on the basis of the actual cost of hours used.
  - allocated to users on the basis of the budgeted cost of actual hours used.
  - allocated to users on the basis of standard cost for the type of service provided.
  - absorbed as a corporate expense.
218. *CSO: 1C3d LOS: 1C3o*  
Boston Furniture Company manufactures several steel products. It has three production departments, Fabricating, Assembly, and Finishing. The service departments include Maintenance, Material Handling, and Designing. Currently, the company does not allocate service department costs to the production departments. John Baker, who has recently joined the company as the new cost accountant, believes that service department rates should be developed and charged to the production departments for services requested. If the company adopts this new policy, the production department managers would be **least** likely to
- request an excessive amount of service.
  - replace outdated and inefficient systems.
  - refrain from using necessary services.
  - be encouraged to control costs.
219. *CSO: 1C3d LOS: 1C3p*  
Cotton Company has two service departments and three operating departments. In allocating service department costs to the operating departments, which of the following three methods (direct, step-down, reciprocal) will result in the same amount of service department costs being allocated to each operating department, regardless of the order in which the service department costs are allocated?
- Direct and reciprocal methods only.
  - Step-down and reciprocal methods only.
  - Direct and step-down methods only.
  - Direct method only.
220. *CSO: 1C3d LOS: 1C3p*  
Wilcox Industrial has two support departments, the Information Systems Department and the Personnel Department, and two manufacturing departments, the Machining Department and the Assembly Department. The support departments service each other as well as the two production departments. Company studies have shown that the Personnel Department provides support to a greater number of departments than the

Information Systems Department. Which one of the following departmental allocations is present in the reciprocal method of departmental allocation? The costs of the

- a. Assembly Department are allocated to the Information Systems Department and the Personnel Department.
- b. Information Systems Department are allocated to the Machining Department and the costs of the Machining Department are allocated to the Assembly Department.
- c. Personnel Department are allocated solely to the Information Systems Department.
- d. Information Systems Department are allocated to the Personnel Department, Machining Department, and Assembly Department.

221. *CSO: 1C3d LOS: 1C3p*

Wilcox Industrial has two support departments, the Information Systems Department and the Personnel Department, and two manufacturing departments, the Machining Department and the Assembly Department. The support departments service each other as well as the two production departments. Company studies have shown that the Personnel Department provides support to a greater number of departments than the Information Systems Department. If Wilcox uses the step-down method of departmental allocation, which one of the following cost allocations would **not** occur? Some of the costs of the

- a. Personnel Department would be allocated to the Information Systems Department.
- b. Information Systems Department would be allocated to the Personnel Department.
- c. Personnel Department would be allocated to the Assembly Department.
- d. Personnel Department would be allocated to the Assembly Department and the Machining Department.

222. *CSO: 1C3d LOS: 1C3p*

Render Inc. has four support departments (maintenance, power, human resources, and legal) and three operating departments. The support departments provide services to the operating departments as well as to the other support departments. The method of allocating the costs of the support departments that **best** recognizes the mutual services rendered by support departments to other support departments is the

- a. direct allocation method.
- b. dual-rate allocation method.
- c. step-down allocation method.
- d. reciprocal allocation method.

223. CSO: 1C3d LOS: 1C3p

Logo Inc. has two data services departments (the Systems Department and the Facilities Department) that provide support to the company's three production departments (Machining Department, Assembly Department, and Finishing Department). The overhead costs of the Systems Department are allocated to other departments on the basis of computer usage hours. The overhead costs of the Facilities Department are allocated based on square feet occupied (in thousands). Other information pertaining to Logo is as follows.

<u>Department</u>	<u>Overhead</u>	<u>Computer Usage Hours</u>	<u>Square Feet Occupied</u>
Systems	\$200,000	300	1,000
Facilities	100,000	900	600
Machining	400,000	3,600	2,000
Assembly	550,000	1,800	3,000
Finishing	620,000	<u>2,700</u>	<u>5,000</u>
		<u>9,300</u>	<u>11,600</u>

If Logo employs the direct method of allocating service department costs, the overhead of the Systems Department would be allocated by dividing the overhead amount by

- 1,200 hours.
- 8,100 hours.
- 9,000 hours.
- 9,300 hours.

224. CSO: 1C3d LOS: 1C3p

Adam Corporation manufactures computer tables and has the following budgeted indirect manufacturing cost information for next year.

	<u>Support Departments</u>		<u>Operating Departments</u>		<u>Total</u>
	<u>Maintenance</u>	<u>Systems</u>	<u>Machining</u>	<u>Fabrication</u>	
Budgeted overhead	\$360,000	\$95,000	\$200,000	\$300,000	\$955,000
Support work furnished					
From Maintenance		10%	50%	40%	100%
From Systems	5%		45%	50%	100%

If Adam uses the step-down method, beginning with the Maintenance Department, to allocate support department costs to production departments, the total overhead (rounded to the nearest dollar) for the Machining Department to allocate to its products would be

- \$415,526.
- \$422,750.
- \$442,053.
- \$445,000.

225. CSO: 1C3d LOS: 1C3p

Wilcox Industrial has two support departments, the Information Systems Department and the Personnel Department, and two manufacturing departments, the Machining Department and the Assembly Department. The support departments service each other as well as the two production departments. Company studies have shown that the Personnel Department provides support to a greater number of departments than does the Information Systems Department. If Wilcox uses the direct method of departmental allocation, which one of the following cost allocations would occur? Some of the costs of the

- a. Personnel Department would be allocated to the Information Systems Department.
- b. Machining Department would be allocated to the Information Systems Department.
- c. Information Systems Department would be allocated to the Assembly Department.
- d. Assembly Department would be allocated to the Machining Department.

226. CSO: 1C3d LOS: 1C3p

Logo Inc. has two data services departments (the Systems Department and the Facilities Department) that provide support to the company's three production departments (Machining Department, Assembly Department, and Finishing Department). The overhead costs of the Systems Department are allocated to other departments on the basis of computer usage hours. The overhead costs of the Facilities Department are allocated based on square feet occupied (in thousands). Other information pertaining to Logo is as follows.

<u>Department</u>	<u>Overhead</u>	<u>Computer Usage Hours</u>	<u>Square Feet Occupied</u>
Systems	\$200,000	300	1,000
Facilities	100,000	900	600
Machining	400,000	3,600	2,000
Assembly	550,000	1,800	3,000
Finishing	620,000	<u>2,700</u>	<u>5,000</u>
		<u>9,300</u>	<u>11,600</u>

Logo employs the step-down method of allocating service department costs and begins with the Systems Department. Which one of the following correctly denotes the amount of the Systems Department's overhead that would be allocated to the Facilities Department and the Facilities Department's overhead charges that would be allocated to the Machining Department?

- |    | <u>Systems to Facilities</u> | <u>Facilities to Machining</u> |
|----|------------------------------|--------------------------------|
| a. | \$0                          | \$20,000.                      |
| b. | \$19,355                     | \$20,578.                      |
| c. | \$20,000                     | \$20,000.                      |
| d. | \$20,000                     | \$24,000.                      |

227. CSO: 1C3d LOS: 1C3p

Adam Corporation manufactures computer tables and has the following budgeted indirect manufacturing cost information for next year.

	<u>Support Departments</u>		<u>Operating Departments</u>		<u>Total</u>
	<u>Maintenance</u>	<u>Systems</u>	<u>Machining</u>	<u>Fabrication</u>	
Budgeted overhead	\$360,000	\$95,000	\$200,000	\$300,000	\$955,000
Support work furnished					
From Maintenance		10%	50%	40%	100%
From Systems	5%		45%	50%	100%

If Adam uses the direct method to allocate support department costs to production departments, the total overhead (rounded to the nearest dollar) for the Machining Department to allocate to its products would be

- \$418,000.
- \$422,750.
- \$442,053.
- \$445,000.

228. CSO: 1C4a LOS: 1C4b

Presario Inc. recently installed just-in-time production and purchasing systems. If Presario's experience is similar to that of other companies, Presario will likely

- reduce the number of suppliers with which it does business.
- increase the size of individual orders of raw materials.
- increase the dollar investment in finished goods inventory.
- be less reliant on sales orders as a "trigger" mechanism for production runs.

229. CSO: 1C4c LOS: 1C4i

According to the theory of constraints, all of the following activities help to relieve the problem of a bottleneck in operations **except**

- eliminating idle time at the bottleneck operation.
- reducing setup time at the bottleneck operation.
- shifting products that do not have to be made on bottleneck machines to non-bottleneck machines.
- increasing the efficiency of operations at non-bottleneck machines.

230. *CSO: 1C4c LOS: 1C4j*  
When demand for a product or products exceeds production capacity, which one of the following is the first step that managers should take?

- a. Spend money to eliminate the bottleneck.
- b. Focus their efforts on constraint identification.
- c. Change the throughput of operations.
- d. Apply activity-based management to solve the problem.

231. *CSO: 1C5a LOS: 1C5c*  
A company desires to prepare two sets of financial statements. Conventional financial statements would be prepared along with a set that is totally consistent with value-chain analysis. How would customer service costs be treated in the two statements?

	<u>Conventional Financial Statements</u>	<u>Value-Chain Financial Statements</u>
a.	Inventoriable cost	Product cost.
b.	Inventoriable cost	Non-product cost.
c.	Noninventoriable cost	Product cost.
d.	Noninventoriable cost	Non-product cost.

232. *CSO: 1C5a LOS: 1C5b*  
Which one of the following lists of functions is in proper value chain order?

- a. Research and development, marketing, and customer services.
- b. Production, marketing, and production design.
- c. Production design, distribution, and marketing.
- d. Research and development, customer service, and distribution.

233. *CSO: 1C5b LOS: 1C5d*  
Consider the following manufacturing-related activities.

- I. Conducting the final assembly of wooden furniture.
- II. Moving completed production to the finished goods warehouse.
- III. Painting newly-manufactured automobiles.
- IV. Setting up a machine related to a new production run.
- V. Reworking defective goods to bring them up to quality standards.

The activities that would be classified as value-added activities are

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

234. CSO: 1C5c LOS: 1C5e

From the perspective of the management accountant, which one of the following represents a **major** disadvantage of business process reengineering?

- a. The focus is, to a large extent, on short-term results.
- b. It often results in a decreased use of centralized data bases.
- c. Internal control mechanisms are often disassembled.
- d. It results in heavier maintenance for legacy systems.

235. CSO: 1C5d LOS: 1C5g

Retail Partners Inc., which operates eight discount store chains, is seeking to reduce the costs of its purchasing activities through reengineering and a heavier use of electronic data interchange (EDI). Which of the following benchmarking techniques would be appropriate in this situation?

- I. A comparison of the purchasing costs and practices of each of Retail Partners' store chains to identify their internal "best in class."
  - II. A comparison of the practices of Retail Partners to those of Discount City, another retailer, whose practices are often considered "best in class."
  - III. A comparison of the practices of Retail Partners to those of Capital Airways, an international airline, whose practices are often considered "best in class."
  - IV. An in-depth review of a retail trade association publication on successful electronic data interchange applications.
- a. II and IV only.
  - b. I and II only.
  - c. I and IV only.
  - d. I, II, III, and IV.

236. CSO: 1C5d LOS: 1C5g

All of the following are examples of benchmarking standards **except**

- a. the performance of the unit during the previous year.
- b. the best performance of the unit in comparable past periods.
- c. a comparison with a similar unit within the same company.
- d. the best performance of a competitor with a similar operation.

237. *CSO: 1C5h LOS: 1C5m*

Leese Inc. has the following quality financial data for its most recent fiscal year.

Rework costs	\$110,000
Warranty repair costs	280,000
Product line inspection	95,000
Design engineering	300,000
Supplier evaluation	240,000
Labor training	150,000
Product testing	65,000
Breakdown maintenance	70,000
Product scrap	195,000
Cost of returned goods	180,000
Customer support	35,000
Product liability claims	80,000

The total amount of prevention costs that should be reported in a Cost of Quality report for the year is

- a. \$390,000.
- b. \$450,000.
- c. \$690,000.
- d. \$755,000.

238. *CSO: 1C5h LOS: 1C5l*

When measuring the cost of quality, the cost of inspecting incoming raw materials is a(n)

- a. prevention cost.
- b. appraisal cost.
- c. internal failure cost.
- d. external failure cost.

239. *CSO: 1C5h LOS: 1C5l*

In measuring the cost of quality, which one of the following is considered an appraisal cost?

- a. Rework cost.
- b. Product testing cost.
- c. Warranty claims cost.
- d. Equipment maintenance cost.



240. *CSO: 1C5h LOS: 1C5l*  
External failure costs include all of the following costs **except** those related to
- lost sales and lost customers.
  - warranty obligations.
  - product liability suits.
  - product field testing.
241. *CSO: 1C5h LOS: 1C5l*  
When evaluating the cost of quality in an organization, which one of the following would be considered an internal failure cost?
- The cost to rework defective units.
  - The cost to inspect units produced.
  - The warranty repair costs.
  - Product testing.

#### **Section D: Internal Controls**

242. *CSO: 1D1a LOS: 1D1b*  
When assessing a company's internal control structure policies and procedures, the primary consideration is whether they
- prevent management override.
  - relate to the control environment.
  - reflect management's philosophy and operating style.
  - affect the financial statement assertions.
243. *CSO: 1D1b LOS: 1D1e*  
The basic concepts implicit in internal accounting controls include the following.
- The cost of the system should not exceed benefits expected to be attained.
  - The overall impact of the control procedure should not hinder operating efficiency.
- Which one of the following recognizes these two factors?
- Limitations.
  - Management responsibility.
  - Methods of data processing.
  - Reasonable assurance.

244. *CSO: 1D1b LOS: 1D1h*

Which one of the following functions performed in an organization is a violation of internal control?

- a. A mail clerk opening the mail compares the check received with the source document accompanying the payment, noting the amount paid, then forwards the checks daily (along with a listing of the cash receipts) to the Cashier for deposit.
- b. A mail clerk opening the mail compares the check received with the source document accompanying the payment, noting the amount paid, then forwards the source documents that accompany the payments (along with a listing of the cash receipts) to Accounts Receivable, on a daily basis, for posting to the subsidiary ledger.
- c. At the end of the week the Cashier prepares a deposit slip for all of the cash receipts received during the week.
- d. The General Ledger clerk compares the summary journal entry, received from the Cashier for cash receipts applicable to outstanding accounts, with the batch total for posting to the Subsidiary Ledger by the Accounts Receivable clerk.

245. *CSO: 1D1b LOS: 1D1g*

In order to properly segregate duties, which function within the computer department should be responsible for reprocessing the errors detected during the processing of data?

- a. Department manager.
- b. Systems analyst.
- c. Computer programmer.
- d. Data control group.

246. *CSO: 1D1b LOS: 1D1g*

Which one of the following methods, for the distribution of employees' paychecks, would provide the **best** internal control for the organization?

- a. Delivery of the paychecks to each department supervisor, who in turn would distribute paychecks directly to the employees in his/her department.
- b. Direct deposit in each employee's personal bank account.
- c. Distribution of paychecks directly to each employee by a representative of the Human Resource department.
- d. Distribution of paychecks directly to each employee by the payroll manager.

247. *CSO: 1D1b LOS: 1D1e*  
Which one of the following would be **most** effective in deterring the commission of fraud?
- Policies of strong internal control, segregation of duties, and requiring employees to take vacations.
  - Policies of strong internal control and punishments for unethical behavior.
  - Employee training, segregation of duties, and punishment for unethical behavior.
  - Hiring ethical employees, employee training, and segregation of duties.
248. *CSO: 1D1e LOS: 1D1q*  
A public corporation that must meet the provisions of the Foreign Corrupt Practices Act of 1977 should have a compliance program that includes all of the following steps **except**
- an authorized and properly signed agreement that it will abide by the Act.
  - documentation of the corporation's existing internal accounting control systems.
  - a cost/benefit analysis of the controls and the risks that are being minimized.
  - a system of quality checks to evaluate the internal accounting control system.
249. *CSO: 1D1e LOS: 1D1q*  
The principal impetus for the enactment of the Foreign Corrupt Act by the U.S. Congress was to
- discourage unethical behavior by foreigners employed by U.S. firms.
  - promote the mandates issued by the United Nations with regard to global trade between its member nations.
  - prevent the bribery of foreign officials by U.S. firms seeking to do business overseas.
  - require mandatory documentation of the evaluation of internal controls by the independent auditors.
250. *CSO: 1D2a LOS: 1D2a*  
Which one of the following statements, regarding internal auditing responsibility and authority, is **incorrect**?
- Internal auditors are expected to comply with standards of professional conduct.
  - The understandability of audit reports is the responsibility of internal auditors.
  - Follow-up on actions noted in audit findings is not required of internal auditors.
  - Internal auditors are responsible to service the organization.

251. *CSO: 1D2a LOS: 1D2b*  
Which one of the following accounting and management techniques is **least** likely to assist internal auditors in appraising the efficiency with which resources are being used by respective profit centers?
- a. Cost Variance Analysis.
  - b. Flexible Budgets.
  - c. Activity-based management.
  - d. Joint cost allocations.
252. *CSO: 1D2b LOS: 1D2e*  
If a corporation may be violating federal and state laws governing environmental concerns, which one of the following types of audit will **best** assist in ascertaining whether such situations may exist?
- a. Operational audit.
  - b. Compliance Audit.
  - c. Financial audit.
  - d. Management Audit.
253. *CSO: 1D2b LOS: 1D2e*  
Which one of the following types of audits would be **most** likely to focus on objectives related to the efficient use of resources?
- a. Compliance audit.
  - b. Information systems audit.
  - c. Independent audit.
  - d. Operational audit.
254. *CSO: 1D2b LOS: 1D2e*  
When an internal auditor expresses an opinion as to the efficiency and effectiveness of an entity's activities and makes recommendations for improvements, the auditor is conducting a(n)
- a. financial statement audit of a public company.
  - b. financial statement audit of a municipality.
  - c. compliance audit.
  - d. operational audit.

255. *CSO: 1D3a LOS: 1D3b*

A computer virus is different from a “Trojan Horse” because the virus can

- a. corrupt data.
- b. alter programming instructions.
- c. replicate itself.
- d. erase executable files.

256. *CSO: 1D3a LOS: 1D3c*

In situations where it is crucial that data be entered correctly into an accounting information system, the **best** method of data control would be to use

- a. key verification.
- b. compatibility tests.
- c. limit checks.
- d. reasonableness tests.

257. *CSO: 1D3b LOS: 1D3f*

Consider the following types of controls.

- I. Preventive
- II. Corrective
- III. Feedback
- IV. Feedforward
- V. Detective

Which one of the following groups of controls are generally considered the **most** cost-effective controls?

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

258. *CSO: 1D3b LOS: 1D3c*

The **most** appropriate control to verify that a user is authorized to execute a particular on-line transaction is a

- a. password.
- b. challenge/response system.
- c. compatibility check.
- d. closed-loop verification.

259. *CSO: 1D3c LOS: 1D3d*  
In securing the client/server environment of an information system, a principal disadvantage of using a single level sign-on password is the danger of creating a(n)
- trap door entry point.
  - single point of failure.
  - administrative bottleneck.
  - lock-out of valid users.
260. *CSO: 1D3c LOS: 1D3e*  
Which one of the following represents a weakness in the internal control system of an electronic data processing system?
- The data control group reviews and tests procedures and handles the reprocessing of errors detected by the computer.
  - The accounts receivable clerk prepares and enters data into the computer system and reviews the output for errors.
  - The systems analyst designs new systems and supervises testing of the system.
  - The computer operator executes programs according to operating instructions and maintains custody of programs and data files.
261. *CSO: 1D3c LOS: 1D3i*  
Confidential data can be securely transmitted over the internet by using
- single-use passwords.
  - firewalls.
  - encryption.
  - digital signatures.
262. *CSO: 1D3c LOS: 1D3i*  
All of the following are examples of encryption techniques used for computer security **except**
- public key.
  - private key.
  - primary key.
  - authentication key.
263. *CSO: 1D3d LOS: 1D3k*  
The data entry staff of National Manufacturing Inc. has responsibility for converting all of the plant's shipping information to computerized records. The information flow begins when the shipping department sends a copy of a shipping order to the data entry

staff. A data entry operator scans the shipping order information onto a hand-held data storage device. Verification clerks then check the computerized record with the original shipping orders. When a given batch of files has been reviewed and corrected, as necessary, the information is uploaded to the company's mainframe system at the home office.

The **most** effective way to visualize and understand this set of activities would be through the use of a

- a. program flowchart.
- b. decision table.
- c. document flowchart.
- d. Gantt chart.

264. *CSO: 1D3f LOS: 1D3m*

When attempting to restore computing facilities at an alternate site following a disaster, which one of the following should be restored first?

- a. Online system.
- b. Batch system.
- c. Operating system.
- d. Decision support system.

### Section E: Professional Ethics

265. *CSO: 1E1a LOS: 1E1c*

Recently Fan Club Inc. submitted a budget for the coming year to management. Included in the budget were the plans for a new product, a rechargeable fan. The new fan will not only last longer than the competitor's product but is also more quiet. While not yet approved, the budget called for aggressive advertising to support its sales targets, as the business community was not yet aware that Fan Club was close to production of a new fan. A member of the management accounting staff "shared" the budget with a distributor. In accordance with IMA's "Statement of Ethical Professional Practice," which one of the following would **best** represent an ethical conflict in this situation?

- a. The budget has not been approved and therefore is not for publication.
- b. The price has not been established, so expectations must be managed.
- c. The staff member exposed the company to a potential lawsuit.
- d. The employee should refrain from disclosing confidential information.

## **CMA Part 1 – Financial Planning, Performance and Control**

### **Answers to Examination Practice Questions**

#### **Section A: Planning, Budgeting and Forecasting**

1. Correct answer b. Cerawell has no control over the actions of its competitors; it can only respond to these actions, e.g., increase the company's research and development efforts. Cerawell has some control over the other alternatives presented.
2. Correct answer d. Budget preparation forces management planning, can provide performance criteria, and promotes communication and coordination within an organization. However, a budget cannot control unauthorized expenditures – these are usually caused by weak internal controls.
3. Correct answer d. Participation in budget preparation at all levels promotes acceptance of budgets and allows those who have to implement plans to participate in the planning process.
4. Correct answer d. Those closest to operations should participate in budget development as they are most knowledgeable and can supply reliable information on which to base the budget.
5. Correct answer c. A budget that is not supported by top management has very little chance of success as subordinates will attach little importance to the budget and will focus on what management does consider important.
6. Correct answer d. One of the few advantages of top-down budgeting is that it is less time-consuming than participatory budgeting as there is little need for discussion and compromise.
7. Correct answer d. Standard costing traces direct costs to a cost object. As a result, standard costs are most often stated as unit costs. Budgeted costs are generally presented as total costs as one of the objectives of budgeting is to forecast the overall financial condition.
8. Correct answer d. The involvement of all those affected in the development of standard costs is the team development approach. The alternative answers presented generally include those who are not operationally involved.
9. Correct answer d. Ideal standards are those achieved under ideal working conditions and are, therefore, difficult to achieve under realistic working conditions. Practical standards are developed under actual working conditions and are, therefore, a better motivating target for manufacturing personnel.



10. Correct answer d. The price agreed upon by the purchasing manager and the appropriate level of company management is the most reasonable selection as it takes into consideration actual experience and future plans for requiring the component.
11. Correct answer d. Standards that reflect current experience are realistic and will provide the best information for decision making.
12. Correct answer b. The fact that Michigan’s budgeting process was based on a bottom-up philosophy would indicate that standards were being set by those with operational knowledge. This is inconsistent with the consultant’s findings that labor standards are too tight.
13. Correct answer c. Simple regression analysis estimates the relationship between the dependent variable and one independent variable while multiple regression analysis estimates the relationship between the dependent variable and two or more independent variables.
14. Correct answer c. Using linear regression, there are three criteria for selecting the independent variable: economic plausibility, goodness of fit, and the scope of the regression line.
15. Correct answer d. With a significant change in labor productivity, the labor rate is no longer “purchasing” the same amount of product. Therefore, there is a significant impact on the reliability of the model.
16. Correct answer d.
- |           |   |                             |               |
|-----------|---|-----------------------------|---------------|
| Sales (S) | = | \$10,000 + \$2.50A          | (A = \$1,000) |
|           | = | \$10,000 + \$2.50 (\$1,000) |               |
|           | = | \$10,000 + \$2,500          |               |
|           | = | <u>\$12,500</u>             |               |
17. Correct answer c.
- |   |   |                  |
|---|---|------------------|
| Y | = | 1.54X + 5.23     |
|   | = | 1.54 (10) + 5.23 |
|   | = | 15.4 + 5.23      |
|   | = | <u>20.63</u>     |
18. Correct answer b. Learning curve analysis is a function that shows how labor hours per unit decline as units of production increase due to workers learning and becoming better at their jobs.
19. Correct answer a. In the cumulative average-time learning model, the cumulative average time per unit declines by a constant percentage each time the cumulative quantity of units produced doubles.

Unit 1	10,000 hrs.	
Unit 2	8,000 hrs.	(10,000 x .80)
Unit 4	6,400 hrs.	(8,000 x .80)
Unit 8	<u>5,120 hrs.</u>	(6,400 x .80)

20. Correct answer d. In the cumulative average-time learning model, the cumulative average time per unit declines by a constant percentage each time the cumulative quantity of units produced doubles.

21. Correct answer d. Average hrs. for 20 units =  $\frac{5,000 + 3,000}{20 \text{ units}}$   
 Average hrs. for 10 units =  $5,000 \div 10 \text{ units}$   
 $= 400 \text{ hours} \div 500 \text{ hours}$   
 $= \underline{80\% \text{ Learning rate}}$

22. Correct answer b. Cumulative direct labor hours = 8 units x 5,120 hours\*  
 $= \underline{40,960 \text{ hours}}$

\* Unit 1 10,000 hrs.  
 Unit 2 8,000 hrs. (10,000 x .80)  
 Unit 4 6,400 hrs. (8,000 x .80)  
 Unit 8 5,120 hrs. (6,400 x .80)

23. Correct answer b. Unit 4 \$9,800 cost (\$14,000 x .70)  
 Unit 8 \$6,860 cost (\$9,800 x .70)

Total Cost = 8 units x \$6,860 cost per unit  
 $= \underline{\$54,880}$

24. Correct answer c. Learning curve = 16 hours ÷ 20 hours  
 $= \underline{80\%}$

Hours per batch:	Batch 4	12.80 hours	(16 hours x .80)
	Batch 8	10.24 hours	(12.80 hours x .80)

Average hrs. Units 201-400 = (400 units x 10.24) – (200 units x 12.80)  
 $= 4,096 - 2,560$   
 $= 1,536 \text{ hours} \div 200 \text{ units}$   
 $= \underline{7.68 \text{ hours}}$

25. Correct answer b.

Units	Average cost/unit	
4	\$9,800	(\$14,000 x .70)
8	<u>\$6,860</u>	(\$9,800 x .70)

26. Correct answer a. Total hours for next 7 units = 8 unit total hours – first unit hours  
 $= (8 \times 5,120^*) - 10,000$   
 $= 40,960 - 10,000$   
 $= \underline{30,960 \text{ hours}}$

\* Unit 1 10,000 hrs.  
 Unit 2 8,000 hrs. (10,000 x .80)  
 Unit 4 6,400 hrs. (8,000 x .80)  
 Unit 8 5,120 hrs. (6,400 x .80)

27. Correct answer a.

Batch 1	=	$800 \div 4$ units	=	200 per unit
Batch 2	=	$(800 \times .9) \div 4$ units	=	180 per unit
Batch 4	=	$(1,440 \times .9) \div 8$ units	=	162 per unit

Hours for next 12 units

$$= (16 \times 162) - 800 \text{ for first 4 units}$$

$$= 2,592 - 800$$

$$= \underline{1,792 \text{ hours}}$$

28. Correct answer a.

Unit 4	\$9,800	$(\$14,000 \times .70)$
Unit 8	\$6,860	$(\$9,800 \times .70)$

Cost of next 7 units

$$= (8 \times \$6,860) - \$20,000 \text{ for first unit}$$

$$= \$54,880 - \$20,000$$

$$= \underline{\$34,880}$$

29. Correct answer b.  $(158 \times 0.3) + (.7 \times 148) = 151$  televisions

30. Correct answer a.

Expected value

$$= (.2 \times \$60,000) + (.3 \times \$30,000) + (.3 \times \$10,000) - (.2 \times \$4,000)$$

$$= \$12,000 + \$9,000 + \$3,000 - \$800$$

$$= \underline{\$23,200}$$

31. Correct answer b.

Plan 1 expected value	=	$(\$300,000 \times .4) + (\$240,000 \times .6)$	=	\$264,000
Plan 2 expected value	=	$(\$370,000 \times .4) + (\$180,000 \times .6)$	=	<u>\$256,000</u>
		Plan 1 is greater by		<u>\$ 8,000</u>

32. Correct answer d. Recommend Vendor S which has the least cost (initial purchase plus the cost of failure) as shown below.

Vendor P	=	$(100,000 \times \$35) + [(100,000 \times .10) \times (\$35 + \$25)]$	=	\$4.1 million
Vendor Q	=	$(100,000 \times \$37) + [(100,000 \times .06) \times (\$37 + \$25)]$	=	\$4.072 million
Vendor R	=	$(100,000 \times \$39) + [(100,000 \times .03) \times (\$39 + \$25)]$	=	\$4.092 million
Vendor S	=	$(100,000 \times \$40) + [(100,000 \times .01) \times (\$40 + \$25)]$	=	\$4.065 million

33. Correct answer c. For both actions, the \$650,000 is sunk cost and should not be considered.

$$\begin{aligned}\text{Expected value of investing} &= .6 (\$15.0 \text{ mil} - \$9.5 \text{ mil}) + .4 (\$2.0 \text{ mil} - \$9.5 \text{ mil}) \\ &= \$3.3 \text{ mil} - \$3.0 \text{ mil} \\ &= \underline{\$300,000}\end{aligned}$$

$$\text{Value of not investing} = \underline{\$100,000} \text{ additional costs to be paid}$$

34. Correct answer d. Ranking is B: \$34,000, C: \$30,000, A: \$26,000 calculated as follows.

$$\begin{aligned}\text{Investment A} &= .3 (-\$20,000) + .1 (-\$10,000) + .3 (\$30,000) + .2 (\$70,000) + .1 (\$100,000) \\ &= -\$6,000 + -\$1,000 + \$9,000 + \$14,000 + \$10,000 \\ &= \underline{\$26,000}\end{aligned}$$

$$\begin{aligned}\text{Investment B} &= .2 (-\$20,000) + .2 (-\$10,000) + .2 (\$30,000) + .2 (\$70,000) + .2 (\$100,000) \\ &= -\$4,000 + -\$2,000 + \$6,000 + \$14,000 + \$20,000 \\ &= \underline{\$34,000}\end{aligned}$$

$$\begin{aligned}\text{Investment C} &= .3 (-\$20,000) + .1 (-\$10,000) + .2 (\$30,000) + .3 (\$70,000) + .1 (\$100,000) \\ &= -\$6,000 + -\$1,000 + \$6,000 + \$21,000 + \$10,000 \\ &= \underline{\$30,000}\end{aligned}$$

35. Correct answer c.

$$\begin{aligned}\text{Increased units sold} &= .1 (15,000) + .35 (30,000) + .1 (45,000) + .25 (60,000) + .2 (75,000) \\ &= 1,500 + 10,500 + 4,500 + 15,000 + 15,000 \\ &= 46,500 \text{ units}\end{aligned}$$

$$\begin{aligned}\text{Increased profit} &= [46,500 \times (\$5.20 - \$3.20)] - \$40,000 \\ &= \$93,000 - \$40,000 \\ &= \underline{\$53,000}\end{aligned}$$

36. Correct answer b.

$$\begin{aligned}\text{Expected return} &= .1 (-.20) + .2 (.05) + .4 (.15) + .2 (.20) + .1 (.30) \\ &= -.02 + .01 + .06 + .04 + .03 \\ &= \underline{.12 \text{ or } 12\%}\end{aligned}$$

37. Correct answer a. Alternative #1 has the highest expected value as shown below.

$$\begin{aligned}\text{Alternative \#1} &= .1(\$50,000) + .2(\$75,000) + .4(\$100,000) + .3(\$150,000) \\ &= \underline{\$105,000}\end{aligned}$$

$$\begin{aligned}\text{Alternative \#2} &= .1(\$50,000) + .2(\$75,000) + .45(\$100,000) + .25(\$150,000) \\ &= \$102,500\end{aligned}$$

$$\begin{aligned}\text{Alternative \#3} &= .1(\$50,000) + .2(\$75,000) + .4(\$100,000) + .3(\$125,000) \\ &= \$97,500\end{aligned}$$

$$\begin{aligned}\text{Alternative \#4} &= .1(\$150,000) + .2(\$100,000) + .4(\$75,000) + .3(\$50,000) \\ &= \$80,000\end{aligned}$$

38. Correct answer c. Recommend purchasing 12,000 based on expected demand of 11,400.

$$\begin{aligned}\text{Expected demand} &= .1(8,000) + .4(10,000) + .3(12,000) + .2(15,000) \\ &= 11,400\end{aligned}$$

39. Correct answer b. Incorporating non-financial as well as financial measures is beneficial to an organization. The other alternatives given are disadvantages or misuses of traditional budgets.

40. Correct answer c. A financial budget consists of the capital expenditure budget, the cash budget detailing inflows, outflows, and borrowing needs, and the balance sheet. These statements combined with the budgeted income statement produce the Statement of Cash Flows.

41. Correct answer d. The production budget and the purchases budget must be completed before the cost of goods sold budget can be completed. An administrative budget may also be dependent on the planned sales and manufacturing activity and is generally completed after all production revenues and costs have been budgeted.

42. Correct answer c. The revenue or sales budget provides the foundation for a master budget and is therefore prepared first. The production budget is dependent on the amount of projected sales and the direct material budget is based on the forecasted production quantity.

43. Correct answer c. The zero-based budgeting approach looks at operations as if they were just beginning and requires justification for all revenues and expenditures.

44. Correct answer a. Flexible budgets are based on actual output rather than comparing output to a static budget. Flexible budgets make it easier to identify realistic positive and negative variances.

45. Correct answer d. Flexible budgets are based on the output actually achieved and therefore provide a realistic comparison of budgeted and actual revenue and costs.

46. Correct answer d. Flexible budgets are based on the output actually achieved or expected rather than a static amount. Therefore, the required labor for the expected increase in business can be calculated.

47. Correct answer a. Netco's sales will decrease by \$1,050,000 as shown below.

Item 1 =	(200,000 x .8) x (\$50 x 1.1)	=	
=	160,000 x \$55	=	\$ 8,800,000
Item 2 =	(160,000 x .75) x \$10	=	1,200,000
Item 3 =	(300,000 x 1.05) x \$30	=	<u>9,450,000</u>
	Total sales revenue		\$19,450,000
	Original budget		<u>-20,500,000</u>
	Revenue decrease		<u>\$-1,050,000</u>

48. Correct answer b. Hannon's budget for purchased inventory should be \$540,000.

August	\$728,000 ÷ 1.3	=	\$560,000 x .75	=	\$420,000
September	\$624,000 ÷ 1.3	=	\$480,000 x .25	=	<u>120,000</u>
					<u>\$540,000</u>

49. Correct answer c. Streeter should produce 78,000 units as shown below.

Production for 2 <sup>nd</sup> quarter	72,000 x .5	=	36,000
Production for 3 <sup>rd</sup> quarter	84,000 x .5	=	<u>42,000</u>
Production			<u>78,000</u>

50. Correct answer c. Ming should plan to produce 7,133 units next fiscal year.

$$\begin{aligned} & \text{Sales} - \text{Beg. Inventory} + \text{Ending Inventory} \\ & 6,300 - 470 + 590 = 6,420 \text{ units} \\ & \text{To cover 10\% scrap} = 6,420 \div .9 = \underline{7,133 \text{ units}} \end{aligned}$$

51. Correct answer b. Savior's production budget for the first quarter is 71,700 units.

Daily sales	=	67,500 ÷ (360 ÷ 4)	=	750 units sold per day
10 days' sales	=	750 x 10 days	=	7,500 units for ending inventory
Production	=	67,500 + 7,500 - (3,500 - 200)	=	<u>71,700 units</u>

52. Correct answer d. Streeter should produce 86,000 units as shown below.

$$\begin{aligned} \text{Ending inventory} &= (72,000 \times .5) - 8,000 = 28,000 \text{ units} \\ \text{Production} &= 72,000 - 28,000 + (84,000 \times .5) = \underline{86,000 \text{ units}} \end{aligned}$$

53. Correct answer a. Rombus should produce 3,700 units as shown below.

$$\begin{aligned}
 \text{Production} &= \text{Sales} - \text{Beg. Inventory} + \text{Ending inventory} \\
 &= 4,000 - 900 + 600 \\
 &= \underline{3,700 \text{ units}}
 \end{aligned}$$

54. Correct answer c. The cost of one laminated putter head is \$52 calculated as follows.

Production	= 8,200 - 300 + 100	= 8,000 forged units
Direct labor	= 8,000 x .25 hrs.	= 2,000 hours for forged units
	= 2,000 x 1.0 hrs.	= 2,000 hours for laminated units
Variable O/H/hr.	= \$25,000 ÷ 4,000 hrs.	= \$6.25/hr.
Fixed O/H/hr.	= \$15,000 ÷ 4,000 hrs.	= \$3.75/hr.
Laminated putter head cost:		
	Steel	\$ 5.00
	Copper	15.00
	Direct labor	22.00
	Variable overhead	6.25
	Fixed overhead	<u>3.75</u>
	Total cost	<u>\$52.00</u>

55. Correct answer c. The units to be purchased in February total 6,100 units as shown below.

$$\begin{aligned}
 \text{February unit sales} &= (\$66,000 + \$44,000) \div \$20 = 5,500 \text{ units} \\
 \text{March unit sales} &= \$150,000 \div \$20 = 7,500 \text{ units} \\
 \text{February purchase} &= (5,500 \times .7) + (7,500 \times .3) = \underline{6,100 \text{ units}}
 \end{aligned}$$

56. Correct answer b. Stevens should purchase \$675,000 of Geo and \$300,000 of Clio.

Production components	= 20,000 first period + (20,000 x .25) second period	= 25,000
Pounds of Geo	= (25,000 x 2 lbs.) - 5,000 inventory	= 45,000 lbs.
Cost of Geo	= 45,000 x \$15	= <u>\$675,000</u>
Pounds of Clio	= (25,000 x 1.5 lbs.) - 7,500 inventory	= 30,000 lbs.
Cost of Clio	= 30,000 x \$10	= <u>\$300,000</u>

57. Correct answer d. The amount that should be budgeted for direct labor is \$105,000.

Cost of production	= \$400,000 - \$10,000 + \$25,000	= \$415,000
Cost of Direct labor + O/H	= \$415,000 - \$100,000 material	= \$315,000
Cost of Direct labor	= \$315,000 ÷ 3*	= <u>\$105,000</u>

\*Overhead = 2 x direct labor

58. Correct answer d. McFadden's expected shipping costs total \$20,800 as shown below.

$$\begin{aligned} \text{Shipping costs} &= (9,600 \text{ lbs.} \times \$0.50/\text{lb.}) + \$16,000 \text{ fixed cost} \\ &= \underline{\$20,800} \end{aligned}$$

59. Correct answer a. Swan needs to purchase 85,000 yards of fabric as shown below.

$$\begin{aligned} \text{Sales} - \text{Ending Inventory} + \text{Beginning Inventory} &= \\ 90,000 - 25,000 + 20,000 &= \underline{85,000 \text{ yards}} \end{aligned}$$

60. Correct answer a. Manoli should purchase goods totaling \$40,820 as shown below.

November:	\$58,000 x .65	=	
	\$37,700 x .70	=	\$26,390
December:	\$74,000 x .65	=	
	\$48,100 x .30	=	<u>\$14,430</u>
	Total purchases		<u>\$40,820</u>

61. Correct answer c. The company should purchase 8,700 pounds of material as shown below.

Units to be completed	=	2,000 - 250 + 325	=	2,075
Pounds required	=	2,075 units x 4 lbs.	=	8,300
Pounds purchased	=	8,300 - 400 + 800	=	<u>8,700</u>

62. Correct answer d. The number of shoes to be purchased is 404,000 as shown below.

Dolls to be completed	=	200,000 - 12,000 + 15,000	=	203,000
Shoes needed	=	203,000 x 2	=	406,000
Shoes purchased	=	406,000 - 20,000 + 18,000	=	<u>404,000</u>

63. Correct answer c. The budget for Maker's July purchases is \$364,500 as shown below.

July:	\$600,000 x .60	=	
	\$360,000 x .85	=	\$306,000
August:	\$650,000 x .60	=	
	\$390,000 x .15	=	<u>58,500</u>
	Total purchases		<u>\$364,500</u>

64. Correct answer d. The statement would include company-paid benefits and payroll taxes. Employee wages and salaries are generally associated with the goods or services produced or with administrative costs. Employee-paid taxes are not related to employee benefits, only those taxes paid by the company.

65. Correct answer b. Beginning finished goods inventory would have been produced in a prior period and, therefore, should not be included on a projected schedule of cost of goods manufactured.



66. Correct answer d. Freight charges paid for the delivery of raw materials re generally associated with the cost of making a product and not included as part of overhead.

67. Correct answer a. Valley's predetermined overhead application rate is \$2.09.

$$\begin{aligned} & (\text{Indirect material} + \text{Indirect labor} + \text{Utilities}) \div \text{Production} \\ & (\$1,000 + \$10,000 + \$12,000) \div 11,000 = \underline{\underline{\$2.09}} \end{aligned}$$

68. Correct answer b. Scurry's cost of goods sold is \$600,000 as shown below.

$$\begin{aligned} & \text{Beg. finished goods} + \text{Cost of goods manufactured} - \text{Ending finished goods} \\ & \$100,000 + \$700,000 - \$200,000 = \underline{\underline{\$600,000}} \end{aligned}$$

69. Correct answer a. Tut's selling and administrative costs total \$652,760 as shown below.

Variable costs	(\$18.60 x .90) x \$24,000	=	\$401,760
Step costs	(\$85,000 ÷ 17) x 15	=	75,000
Fixed costs		=	<u>176,000</u>
	Total costs		<u>\$652,760</u>

70. Correct answer c. Granite's accounts receivable balance will be \$146,000 as shown below.

$$\begin{aligned} \text{May A/R balance} &= 15\% \text{ of March} + 40\% \text{ of April} \\ &= .15 (\$280,000) + .4 (\$260,000) \\ &= \underline{\underline{\$146,000}} \end{aligned}$$

71. Correct answer a. The employee taxes withheld and due to be remitted in July is the only item listed that actually affects cash flows in the month of July.

72. Correct answer c. The expected cash collections for Brown total \$108,000.

$$\begin{aligned} \text{Cash collections} &= \$8,000 + [(\$72,000 \div .6) \times .5] + (\$100,000 \times .4) \\ &= \$8,000 + \$60,000 + \$40,000 \\ &= \underline{\underline{\$108,000}} \end{aligned}$$

73. Correct answer c. Cooper's cash balance will increase \$112,500 as shown below.

Opening balance	\$100,000	February A/R	+800,000
A/R balance	+300,000	February A/P	- 425,000
A/P balance	- 500,000	February Other	- 175,000
January A/R	+700,000	March A/R*	+200,000
January A/P	- 350,000	March A/P**	- 112,500
January Other	- 150,000	March Other	<u>- 175,000</u>
		Cash balance	\$212,500
		Less opening	<u>100,000</u>
		Cash increase	<u>\$112,500</u>

\* \$500,000 x .4  
 \*\* \$225,000 x .5

74. Correct answer b. Planned net accounts receivable balance as of December 31 is \$294,000:

November (\$480,000 x .8 x .25) = \$96,000  
 December (\$450,000 x .8 x .55) = \$198,000  
 Total AR as of December \$294,000

75. Correct answer a. Wallstead's April cash collections total \$343,000 as shown below.

March discounted collections	=	(\$370,000 x .5) x .98	=	\$181,300
March undiscounted collections	=	\$370,000 x .3	=	111,000
February collections	=	\$340,000 x .15	=	<u>51,000</u>
		Total collections		<u>\$343,000</u>

76. Correct answer a. Tip-Top's first quarter collections total \$811,000 as shown below.

Collectible sales first quarter	=	\$855,000 x .95	=	\$812,250
Daily collectible sales	=	\$812,250 ÷ 90 days	=	\$9,025
40 days of sales	=	\$9,025 x 40 days	=	\$361,000
Total collections	=	\$361,000 + \$450,000*	=	<u>\$811,000</u>

\*Net A/R from last quarter

77. Correct answer b. Monroe will need to borrow \$70,000 as shown below.

	<u>January</u>	<u>February</u>
Opening balance	\$ 30,000	\$ 0
Plus collections	200,000	200,000
Less purchases*	210,000	240,000
Less other expenses	<u>20,000</u>	<u>20,000</u>
Closing balance	\$ 0	\$-60,000

Required borrowing = \$60,000 + \$10,000 = \$70,000

\*January = Feb. sales \$350,000 x .6  
 February = March sales \$400,000 x .6

78. Correct answer c. Prudent's May cash receipts budget is \$735,000 as shown below.

Collections from April sales	=	(\$700,000 x .8) x .25	=	\$140,000
May cash sales	=	\$750,000 x .2	=	150,000
May A/R collections	=	(\$750,000 x .8) x .70	=	420,000
Sale of equipment				<u>25,000</u>
		Total cash collections		<u>\$735,000</u>

79. Correct answer b. ANNCO's January cash collections total \$174,500 as shown below.

November sales collections	=		=	\$ 49,500
December sales collections	=	$(\$162,000 \div .9) \times .6$	=	108,000
January sales collections	=	$\$170,000 \times .1$	=	<u>17,000</u>
		Total cash collections		<u>\$174,500</u>

80. Correct answer c. Brooke's February cash balance is \$232,500 as shown below.

	January		February
Opening balance	\$200,000		\$ 55,000
Accounts receivable	300,000 (Dec.)		420,000 (700,000 x .6)
Accounts receivable	280,000 (700,000 x .4)		320,000 (800,000 x .4)
Accounts payable	400,000 (Dec.)		175,000 (350,000 x .5)
Accounts payable	175,000 (350,000 x .5)		212,500 (425,000 x .5)
Other expense	<u>150,000</u>		<u>175,000</u>
Cash balance	\$ 55,000		<u>\$232,500</u>

81. Correct answer c. Health Foods' March cash receipts total \$242,000 as shown below.

March cash sales	=	$\$250,000 \times .6$	=	\$150,000
March sales collections	=	$(\$250,000 \times .4 \times .5)$	=	50,000
February sales collections	=	$(\$240,000 \times .4 \times .3)$	=	28,800
January sales collections	=	$(\$220,000 \times .4 \times .15)$	=	<u>13,200</u>
		Total cash collections		<u>\$242,000</u>

82. Correct answer c. The company will need to borrow \$11,000 in January as shown below.

Opening balance	\$ 24,900	
January collections	86,000	(\$32,000 + \$54,000)
January expenses	<u>106,500</u>	
Closing balance	\$ 4,400	
Less minimum balance	<u>15,000</u>	
Borrowing need	\$ 10,600	rounded to <u>\$11,000</u>

83. Correct answer b. Johnsen's budgeted cash receipts total \$684,500 as shown below.

September cash sales	=	$(\$800,000 \times .3)$	=	\$240,000
September sales collections	=	$(\$800,000 \times .7 \times .2)$	=	112,000
August sales collections	=	$(\$650,000 \times .7 \times .5)$	=	227,500
July sales collections	=	$(\$600,000 \times .7 \times .25)$	=	<u>105,000</u>
		Total cash collections		<u>\$684,500</u>

84. Correct answer c. Mountain Mule will need to borrow \$10,000 as shown below.

	January	February	March
Opening balance	\$85,000	\$60,000	\$ 0
Collections	---	---	60,000
Purchases	---	35,000	40,000
Operating expenses	<u>25,000</u>	<u>25,000</u>	<u>25,000</u>
Closing balance	\$60,000	\$ 0	\$ -5,000

With required balance of \$5,000 and negative cash of \$5,000, need to borrow \$10,000.

### Section B: Performance Management

85. Correct answer b. A static budget is based on the level of output planned at the start of the budget period and does not change no matter what the level of actual output. Comparison of actual activities to static budget levels is difficult and often misleading.

86. Correct answer b. If a company experiences an increase in sales volume, the actual revenue will be greater than the master budget revenue (favorable variance) and the actual costs will be greater than the master budget costs (unfavorable variances).

87. Correct answer b. The use of a standard cost system has several benefits but they are generally based on quantitative factors and not qualitative characteristics.

88. Correct answer a. For flexible budgets, variable costs are given per unit so that comparisons can be readily made at various levels of output. Fixed costs are expected to remain the same over the relevant range and, therefore, are given in total.

89. Correct answer d. Flexible budgets are preferable for both planning purposes and performance reporting as the flexible budget can be based on the actual amount of output and then compared to the actual revenue and costs.

90. Correct answer c. The sales-volume variance is \$16,000 favorable as shown below.

	<u>Flexible Budget</u>	<u>Static Budget</u>
Units	100,000	80,000
Sales dollars	\$200,000	\$160,000
Variable costs	120,000	96,000
Fixed costs	<u>40,000</u>	<u>40,000</u>
Operating income	<u>\$ 40,000</u>	<u>\$ 24,000</u>

Sales volume variance = \$40,000 - \$24,000 = \$16,000 F

91. Correct answer c. Efficiency variances are sometimes referred to as usage variances and measure quantity used. Material usage and labor efficiency (usage) are likely to be related, e.g., poor quality material will likely cause excess usage and require additional labor.
92. Correct answer d. A static budget is based on projected output while a flexible budget is based on actual output. As a result, the actual cost of the actual output can be compared to the budgeted cost for the actual output.
93. Correct answer c. The use of management by exception reporting requires the same amount of advanced planning as any other type of variance reporting. The time savings of management by exception arises in potentially investigating fewer variances.
94. Correct answer b. The standard variable overhead rate per direct labor hour is \$4.00 calculated as follows.

$$\begin{array}{rcl}
 \text{Standard hours/unit} & = & 10,000 \text{ hours} \div 5,000 \text{ units} \\
 & = & 2 \text{ hours/unit} \\
 \text{Standard hours for output} & = & 4,500 \text{ units} \times 2 \text{ hours} \\
 & = & 9,000 \text{ hours} \\
 \text{VOH efficiency variance: } (9,000 - 9,600) \times R & = & -\$2,400 \\
 & -600R & = & -\$2,400 \\
 & R & = & \underline{\$4.00}
 \end{array}$$

95. Correct answer d. The actual wage rate per hour is \$7.50 and the actual hours worked equals 38 as shown below.

$$\begin{array}{rcl}
 \text{Actual hours:} & (X - 40) \times \$7 & = & -14 \\
 & X - 40 & = & -2 \\
 & X & = & \underline{38 \text{ hours}} \\
 \text{Wage rate:} & (X - \$7) \times 38 & = & 19 \\
 & X - \$7 & = & .50 \\
 & X & = & \underline{\$7.50}
 \end{array}$$

96. Correct answer a. If variable overhead is applied on the basis of direct labor hours and overhead spending is \$25,000 less than expected, it means that labor was very efficient, e.g., highly skilled labor.
97. Correct answer c. With a single supplier, the purchasing manager should not be held responsible for the price variance. The standard material price should be increased.
98. Correct answer c. The conclusion regarding the operating income is correct but the variance information could be more specific, e.g., lower sales, higher variable cost, and higher fixed costs all contributed to the operating income variance.

99. Correct answer b. The use of lower-skilled labor is not likely to lead to a favorable direct labor efficiency variance but is more likely to cause this variance to be unfavorable. Lower-skilled labor could also affect the material quantity variance negatively.
100. Correct answer b. The material variance should be investigated since it is \$11,000 which is greater than 10% of the budget (\$100,000 x .1). The direct labor variance is \$4,000 which is less than 10% of budget (\$50,000 x .1) so it would not be investigated under the company policy.
101. Correct answer c. A favorable direct labor price variance could indicate that lower-skilled labor is being used that what was planned. This could lead to unfavorable labor use and material usage variances that more than offset the favorable price variance.
102. Correct answer d. Frisco's purchase price variance is \$10,800 F calculated as follows.

$$\begin{array}{rcl}
 \text{Price per unit purchased:} & \$583,200 \div 108,000 & = & \$5.40 \\
 \text{Standard price per unit:} & \$16.50 \div 3 & = & \$5.50 \\
 \text{Purchase price variance} & (\$5.50 - \$5.40) \times 108,000 & = & \underline{\$10,800 F}
 \end{array}$$

103. Correct answer b. SBL's material price variance is \$300 F as shown below.

$$\begin{array}{rcl}
 \text{Price variance} & = & (\text{Actual price} - \text{Standard price}) \times \text{Actual quantity} \\
 & = & (\$7.90 - \$8.00) \times 3,000 \\
 & = & \underline{\$300 F}
 \end{array}$$

104. Correct answer c. The raw material price variance (purchase price variance) is \$10,000 U as shown below.

$$\begin{array}{rcl}
 \text{Price variance} & = & (\text{Actual price} - \text{Standard price}) \times \text{Actual quantity} \\
 & = & (\$2.02 - \$2.00) \times 500,000 \\
 & = & \underline{\$10,000 U}
 \end{array}$$

105. Correct answer d. The actual direct labor hours used by Lee Manufacturing is 12,100 calculated as follows.

$$\begin{array}{rcl}
 \text{Efficiency variance: (Actual quantity} - \text{Standard quantity)} \times \text{Standard price} & & \\
 \text{Standard quantity} & = & 6,000 \text{ units} \times 2 \text{ hours per unit} \\
 & = & 12,000 \text{ hours} \\
 \text{Actual hours:} & (X - 12,000) \times \$15 = & \$1,500 \\
 & X - 12,000 = & 100 \\
 & X = & \underline{\underline{12,100}}
 \end{array}$$

106. Correct answer b. Douglas' direct material variance is \$2,000 U as shown below.

$$\begin{aligned} \text{Material standard price/unit} &= \$15,000 \div 10,000 \\ &= \$1.50 \\ \text{Material variance} &= (\$1.50 \times 12,000) - \$20,000 \\ &= \$18,000 - \$20,000 \\ &= \underline{\underline{\$2,000 \text{ U}}} \end{aligned}$$

107. Correct answer a. The rate variance will show how the price paid for direct labor varies from the standard price. The efficiency variance shows how the number of direct labor hours used varies from the standard number of direct labor hours.

108. Correct answer b. Employees in the Shipping Department have nothing to do with the amount of material used in the production process. All of the other answers could affect the quantity of material used.

109. Correct answer c. The company had a favorable labor price of \$33,000 as shown below.

$$\begin{aligned} X - \$18,000 &= \$15,000 \\ X &= \underline{\underline{\$33,000 \text{ F}}} \end{aligned}$$

110. Correct answer d. Cordell's production volume variance is \$30,000 U as shown below.

$$\begin{aligned} \text{Standard fixed cost per unit} &= \$600,000 \div 200,000 \\ &= \$3 \text{ per unit} \\ \text{Product volume variance} &= (190,000 - 200,000) \times \$3 \\ &= \underline{\underline{\$30,000 \text{ U}}} \end{aligned}$$

111. Correct answer b. If variable overhead is applied on the basis of direct labor hours and the number of direct labor hours used is favorable, then the variable overhead efficiency (usage) variance must also be favorable.

112. Correct answer b. Harper's total overhead spending variance is \$115,000 favorable calculated as follows.

$$\begin{aligned} \text{Variable overhead} &= \text{Actual total overhead} - \text{Fixed overhead} \\ &= \$1,600,000 - \$1,500,000 \\ &= \$100,000 \\ \text{Spending variance} &= (\text{Input} \times \text{Standard rate}) - \text{Actual variable overhead} \\ &= (430,000 \times \$0.50) - \$100,000 \\ &= \underline{\underline{\$115,000 \text{ F}}} \end{aligned}$$

113. Correct answer d. JoyT's variable overhead spending variance is \$22,000 favorable calculated as follows.

$$\begin{aligned}\text{Spending variance} &= (\text{Input} \times \text{Standard rate}) - \text{Actual variable overhead} \\ &= (10,300 \times \$60) - \$596,000 \\ &= \underline{\underline{\$22,000 F}} \\ & *\$600,000 \div 10,000\end{aligned}$$

114. Correct answer d. A fixed overhead volume variance is dependent on quantity, above or below the planned quantity. An unfavorable volume variance means that production was less than planned.
115. Correct answer d. The spending variance is the difference between actual and budgeted rates times the actual base input.
116. Correct answer d. All the departments bear some responsibility for the usage variance: Marketing because the rush order was accepted, Purchasing because of the delay in ordering the materials, and Production for bypassing the normal inspection process.
117. Correct answer d. The materials quantity variance does reflect the fact that 1,000 units were produced rather than the planned 900 units. By indicating the standard usage is 3,000 (3 per unit), the standard usage for the actual output is compared with the actual material usage.
118. Correct answer b. Unfavorable material usage variances are generally caused by inferior materials or lower-skilled workers. Unfavorable usage variances shown that more material than the standard quantity was used; this is not likely to be caused by lower-than-planned production.
119. Correct answer b. A sales team is generally only accountable for sales dollars; this type of responsibility center is, therefore, a revenue center.
120. Correct answer d. If the Sales Department operates as a profit center and accepts a rush order, it should incur the extra cost of the rush order. The overtime required should not be charged to the Production Department as the manager would then be inclined to reject the order as not beneficial to the department goals.
121. Correct answer b. If corporate and support costs are being allocated to divisions and departments, there is very little incentive for central managers to control costs no matter how much pressure they receive from profit-center managers.
122. Correct answer b. The use of budgeted rates and standard hours ensures that all departments know what rates will be charged and how many hours will be charged. This allows usage to be properly planned and encourages service providers to be efficient.



123. Correct answer c. A transfer price is the price one business unit charges for a product or service supplied to another business unit of the same organization. This pricing structure does not apply to external customers.
124. Correct answer c. The management of the two divisions should negotiate the transfer price. Negotiation is most likely to ensure that both managers are satisfied with the resultant price.
125. Correct answer d. A market-based transfer price will motivate the manager of the selling division to be efficient in order to earn the greatest profit or contribution margin.
126. Correct answer c. Selling the product internally allows the division to avoid paying sales commissions and incurring the cost of collections thus justifying a transfer price that is lower than the market price. Other costs such as promotion and advertising might also be avoided.
127. Correct answer c. Dual pricing promotes goal congruence, e.g., the selling division receives full cost plus markup price which allows the division to earn a profit while the buying division pays the market price and is no worse off than if purchasing from an outside vendor. The organization as a whole is unaffected by the internal transfers.
128. Correct answer a. Since the Fabrication Division has excess capacity, the minimum price to be charged would be \$21 to cover the variable manufacturing costs. The selling and distribution costs will be avoided, and the fixed costs will be incurred whether or not the 4,500 units are sold to the Electronic Assembly Division.
129. Correct answer d. As long as Green Division has excess capacity and does not have to turn down any sales at a 60% markup, Green will transfer product to Red Division at cost plus 10%.
130. Correct answer d. The company should use all the categories of performance measurement to ensure that it remains competitive and profitable.
131. Correct answer c. Earnings per share depend not only on net income but also on the number of shares outstanding. Managers generally have no control over the number of shares issued and should not be measured on earnings per share.
132. Correct answer d. Measuring performance on the total dollars processed would lead to paying attention to those claims with the greatest dollar value and ignoring smaller claims, not a good process for customer satisfaction.
133. Correct answer b. Cooper is expected to fill and deliver orders accurately at the least cost to the company. Measuring his performance on the percentage of on-time and accurate orders plus the cost to fill and deliver orders would result in Cooper pursuing the proper goals.

134. Correct answer b. Morgan is responsible for assisting customers accurately and quickly. The number of calls received regarding a new product should be the concern of the product developers; this might affect Morgan's staff's ability to shorten customer "hold" time but is not her responsibility.
135. Correct answer d. The Repair and Maintenance Department is expected to keep the production equipment in good working order to facilitate keyboard production. If the production departments are satisfied, it is a good indication that Repair and Maintenance is doing a good job.
136. Correct answer c. A budgeted rate should be established so that all departments know in advance how much they will be charged for actual usage. Using this rate also encourages cost control in the Computer Department.
137. Correct answer d. In order to increase residual income, the expected return on the new project must be higher than the cost of capital (required rate of return) but lower than the current return on investment.
138. Correct answer b. All projects with a projected ROI that is greater than the required rate of return (cost of capital) would add value to KHD Industries. Without capital restrictions, Projects B, C, and D should be selected.
139. Correct answer b. Division B has the highest actual return on investment and 8% return on sales, the second highest return. The division with the highest return on sales actually failed to meet its target return on investment.
140. Correct answer b. Since the system was constructed on the basis of the anticipated number of hours of usage, it is reasonable to base the allocation on the same measure.
141. Correct answer d. As long as the project return is above the cost of capital, the manager of the Construction Equipment Division will accept the project. The manager of the Household Appliances Division, measured on the basis of ROI, will not accept a projected rate of return of 14% when the current ROI of the division is 16%.
142. Correct answer d. Using residual income as a performance measure means that a business unit should continue to expand as long as projects earn a return in excess of the required rate of return.
143. Correct answer d. To focus on both long-term and short-term objectives, a variety of performance measures should be used. Using a single measure such as ROI can cause negative actions such as rejecting projects that meet the hurdle but might adversely affect the division's rate of return.
144. Correct answer a. The four perspectives of the balanced scorecard include options b, c, and d plus the customer perspective. Competitor business strategies are not included.

145. Correct answer d. The balanced scorecard is not based on scientific management theory but is a flexible means of translating a company's strategy into a comprehensive set of performance measures.

### **Section C: Cost Management**

146. Correct answer b. The variable costs per flight would include fuel, food service, and landing fees. Other costs mentioned such as salaries, depreciation, marketing, and communications would not vary with individual flights.
147. Correct answer b. Sales commissions on cars would be part of the cost of the car dealership, not the manufacturer. Options a and d are direct material costs while option c would be charged to manufacturing overhead.
148. Correct answer a. Cost A appears to be semi-variable or mixed as it varies between quantities but does not vary consistently so a portion must be fixed and a portion variable. Cost B is fixed in the relevant range (14,000 units) and Cost C varies consistently for all quantities and therefore must be variable.
149. Correct answer b. The variable cost per unit would remain the same as the volume decreases. All other costs listed would change with a change in volume.
150. Correct answer d. Cost A is variable as it is consistently \$1.42 per unit for each quantity. Cost B is semi-variable as it varies between quantities but not consistently so a portion must be fixed. Cost C is fixed as it is the same for all quantities. Cost D, like Cost A, is variable at \$1.63 per unit.
151. Correct answer b. The cost of electricity could be semi-variable with a fixed monthly charge plus a per unit charge for usage. All other costs listed are either fixed (a and d) or variable (c).
152. Correct answer b. The variable marketing cost would include the 8% sales commission plus the ½% manager's incentive,  $8.5\% \times \$100,000 = \$8,500$ .
153. Correct answer a. The allocation of indirect costs to cost objects would increase total costs identified with products rather than reduce total costs identified.
154. Correct answer a. The relevant range is the band of activity or volume over which certain cost relationships such as fixed costs remain valid.
155. Correct answer b. If a cost is strictly variable within the relevant range, the unit cost will be consistently the same and will not increase or decrease with a change in volume.

156. Correct answer c. One of the basic assumptions of cost behavior is that a cost can be approximated by a linear cost function within the relevant range. A linear cost function is one in which the graph of total costs versus the level of activity is a straight line.
157. Correct answer b. The variable per unit component of Lar's electricity cost will remain constant over the relevant range and not change with an increase or decrease in volume.
158. Correct answer c. Kimber's total manufacturing cost will be \$615,000 as shown below.

Variable cost:	9,000 units x (\$20 + \$25 + \$10)	=	\$495,000
Fixed cost:	8,000 units x \$15	=	<u>120,000</u>
	Total manufacturing cost		<u>\$615,000</u>

159. Correct answer c. Plunkett's product costs were \$656,100 and the period costs were \$493,000, as shown below.

	<u>Product Costs</u>		<u>Period Costs</u>
Direct material	\$ 56,000	Variable selling	\$108,400
Direct labor	179,100	Fixed selling	121,000
Variable overhead	154,000	Administrative	235,900
Fixed overhead	<u>267,000</u>	Fire loss	<u>27,700</u>
Total product costs	<u>\$656,100</u>	Total period costs	<u>\$493,000</u>

160. Correct answer c. The only difference between actual costing and normal costing is that actual costing uses actual indirect-cost rates while normal costing uses budgeted indirect cost rates. Therefore, normal costing does not improve the accuracy of job or product costing.

161. Correct answer d. The budgeted indirect cost rate would be \$48 as shown below.

$$(\$5,000,000 + \$7,000,000) \div 250,000 = \underline{\$48 \text{ per hour}}$$

162. Correct answer b. Merlene's operating income is \$22,500 calculated as follows.

Sales (750 x \$200)	\$150,000
COGS (750 x \$90)	<u>67,500</u>
Contribution	82,500
Fixed period costs	15,000
Selling & administrative	<u>45,000</u>
Operating income	<u>\$ 22,500</u>

163. Correct answer d. The cost applied to each T-shirt is \$.8689 calculated as follows.

Total seconds used	=	$(50,000 + 30,000) (40) + (20,000 \times 20)$
	=	3,600,000
Cost per second	=	$\$78,200 \div 3,600,000$
	=	\$.0217222
Cost per T-shirt	=	$40 \times \$.0217222$
	=	<u>\$.868888</u>

164. Correct answer a. Dremmon's operating income was \$21,500 calculated as follows.

Sales (750 x \$200)	\$150,000
COGS [750 x (\$90 + \$20)]	82,500
Underapplied fixed cost (50 x \$20)	1,000
Selling & administrative	<u>45,000</u>
Operating income	<u>\$ 21,500</u>

165. Correct answer b. Chassen's finished goods inventory would total \$70,000 as absorption costing includes both variable (\$5.00) and fixed (\$2.00) manufacturing costs (\$7.00 x 10,000 units).

166. Correct answer c. Weisman's operating income using absorption costing was \$15,300 calculated as follows.

Sales (900 x \$100)	\$90,000
COGS [900 x (\$30 + \$20 + \$10 + \$5)]	58,500
Variable selling (900 x \$12)	10,800
Fixed selling	3,600
Fixed administrative	<u>1,800</u>
Operating income	<u>\$15,300</u>

167. Correct answer b. The difference between variable and absorption costing is the treatment of fixed manufacturing overhead. All fixed manufacturing overhead is expensed during the period using variable resulting in lower operating income. The difference is the fixed manufacturing overhead that is included in inventory when using absorption costing.

168. Correct answer a. Mill's absorption costing income would be \$2,400 lower than variable income because 800 units that had been previously inventoried were sold. These 800 units times \$3.00 of fixed manufacturing overhead unit cost accounts for the \$2,400.

169. Correct answer a. Absorption costing would include factory insurance and direct labor as product costs, expensing only shipping costs as period costs. Variable costing would include only direct labor as product cost and expense the other two costs.

170. Correct answer c. Fixed manufacturing overhead is applied to each product at the rate of \$20 ( $\$100,000 \div 5,000$ ). If Troughton manufactures an additional 1,500 units, fixed manufacturing overhead would be over-applied by \$30,000 ( $1,500 \times \$20$ ). As stated in the problem, the company would reduce the cost of goods sold by the amount of over-applied overhead, thus increasing operating income by \$30,000 to the desired \$50,000.
171. Correct answer a. Variable costing, also call direct costing, includes all variable manufacturing costs in inventory, e.g., direct materials, direct labor, and variable overhead.
172. Correct answer d. Xylon's internal income figures would vary closely with sales because fixed overhead costs are treated as period costs when using variable costing. Under absorption costing, all overhead costs are attached to the units produced; there, some fixed costs are inventoried for those units produced but not sold.
173. Correct answer a. The value of Bethany's inventory is \$5,000,000, equal to the variable manufacturing cost.
174. Correct answer c. Donaldson's operating income based on variable costing is \$14,800 calculated as follows.

Sales (900 x \$100)	\$90,000
COGS [900 x (\$30 + \$20 + \$10)]	54,000
Fixed manufacturing (1,000 x \$5)	5,000
Variable selling (900 x \$12)	10,800
Fixed selling	3,600
Fixed administrative	<u>1,800</u>
Operating income	<u>\$14,800</u>

175. Correct answer d. Robinson produced 1,250 units based on the difference between the variable costing income and absorption costing income.

Income difference	\$9,500 - \$9,125	=	\$375
Units of fixed O/H	\$375 ÷ \$1.50	=	250 inventory units
Units produced	1,000 sales + 250 inventory	=	<u>1,250 units</u>

176. Correct answer a. Using variable costing, fixed overhead is treated as a period cost rather than a product costs that becomes part of inventory. It can be argued that this is more appropriate as the fixed costs of equipment, space, etc. should not be inventoried but expensed annually.
177. Correct answer d. Because fixed manufacturing overhead is included in inventory, finished goods inventory will be higher under absorption costing than when using variable costing where fixed manufacturing is expensed.
178. Correct answer d. The allocation of common costs to joint products is for financial reporting purposes, basically inventory costing and computing the cost of goods sold.

179. Correct answer c. By-products have a lower sales value than do joint or main products.  
 180. Correct answer a. Joint products generally have a higher sales value than by-products.  
 181. Correct answer c. Separable production cost method is not a method for allocating joint costs.  
 182. Correct answer a. The total costs for producing Giant are \$5,600 calculated as follows.

Joint cost allocation:	<u>Giant</u>	<u>Mini</u>	<u>Total</u>
Sales value	\$10,200	\$800	\$11,000
Less further processing	<u>1,000</u>	<u>--</u>	<u>1,000</u>
Net realizable value	\$ 9,200	\$800	\$10,000
% allocation	92%	8%	
Giant joint cost:	\$5,000 x 92%	\$4,600	
Cost to process further		<u>1,000</u>	
Total cost		<u>\$5,600</u>	

183. Correct answer a. The per gallon cost of Big is \$5.63 calculated as follows.

Joint cost allocation:	<u>Big</u>	<u>Mini</u>	<u>Total</u>
Sales value	\$7,200	\$800	\$8,000
% allocation	90%	10%	
Cost per unit of Big	90% x \$5,000 =	\$4,500	
	\$4,500 ÷ 800 =	<u>\$5.625 /unit</u>	

184. Correct answer d. The joint cost per unit of Product C is \$3.78 calculated as follows.

Net realizable value:			
Product A	20,000 x (\$5.00 - \$.70)	=	\$ 86,000
Product B	30,000 x (\$6.00 - \$3.00)	=	90,000
Product C	50,000 x (\$7.00 - \$1.72)	=	<u>264,000</u>
Total			\$440,000
Product C allocation	\$264,000 ÷ \$440,000	=	60%
	\$315,000 x 60%	=	\$189,000
Unit joint cost	\$189,000 ÷ 50,000	=	<u>\$3.78</u>

185. Correct answer a. If Zinten is produced, income would increase by \$2,000 calculated as follows.

Change in income:	=	Xylo – Zinten sales differential – Additional cost
	=	[ 2,000 x (\$15 - \$12)] - \$4,000
	=	\$6,000 - \$4,000
	=	<u>\$2,000</u>

186. Correct answer c. Abnormal spoilage is spoilage that should not arise under efficient production conditions and is written off as a loss in the period in which it is detected. Therefore, there would be no effect on the unit manufacturing cost of Job 532 but operating income would decrease.

187. Correct answer b. Baldwin's annual budgeted overhead is \$600,000 calculated as follows.

Overhead cost per unit	$\$4.30 - (\$1,000 \div 1,000) - (\$1,500 \div 1,000)$	=	\$1.80
Overhead hours per unit	$450 \div 1,000$	=	.45 hr.
Overhead budget per unit	$\$1.80 \div .45$	=	\$4.00
Total overhead budget	$150,000 \times \$4.00$	=	<u>\$600,000</u>

188. Correct answer b. Total overhead applied to Job #231 is \$303 as shown below.

Tooling overhead/hr.	$\$8,625 \div 460$ hours	=	\$18.75
Fabricating overhead/hr.	$\$16,120 \div 620$ hours	=	\$26.00
Job #231 overhead	$(\$18.75 \times 12) + (\$20.00 \times 3)$	=	<u>\$303.00</u>

189. Correct answer d. The weighted average inventory cost per unit completed in October is \$4.00 calculated as follows.

Equivalent units:	Units transferred out	27,000
	Ending inventory (3,000 x .5)	<u>1,500</u>
	Total	28,500
Cost incurred:	$\$4,300 + \$39,700 + \$70,000$	= \$114,000
Unit cost:	$\$114,000 \div 28,500$	= <u>\$4.00/unit</u>

190. Correct answer c. The total raw material cost in ending inventory is \$60 calculated as follows. Since material is added at the beginning of the manufacturing process, all units are 100% complete with regard to material.

Material cost	=	$\$120 + \$540$
	=	\$660
Unit cost	=	$\$660 \div 110$ units
	=	\$6.00
EI raw material	=	$\$6.00 \times 10$ units
	=	<u>\$60</u>

191. Correct answer d. Normal spoilage is allocated to the units produced during the period while abnormal spoilage is treated as a period cost.

192. Correct answer b. Normal spoilage should be part of the normal cost of manufacturing goods and should be charged to good units produced. Abnormal spoilage, not a part of normal operations, should be expensed as a period cost when detected.



193. Correct answer b. Southwood would transfer 16,000 units to finished goods inventory at a cost of \$154,850 as shown below.

$$\begin{aligned}
 \text{Inventory cost} &= \text{Cost of good units} + \text{Cost of normal spoilage} \\
 &= [16,000 \times (\$3.50 + \$6.00)] + \{300 \times (\$3.50 + \$6.00)\} \\
 &= \$152,000 + \$2,850 \\
 &= \underline{\$154,850}
 \end{aligned}$$

194. Correct answer a. The 65,000 units that were started and completed during the month represent the equivalent units for Material B. Material B was previously added to the beginning work-in-process and the ending work-in-process had not yet reached 80% where Material B would have been added.

195. Correct answer c. Oster's October manufacturing cost should be assigned \$1,155,000 to production completed and \$235,000 to work-in-process inventory calculated as follows.

$$\begin{aligned}
 \text{Material at 100\%} &= (\$700,000 + \$40,000) \div (60,000 + 20,000) \\
 &= \$740,000 \div 80,000 \\
 &= \$9.25/\text{unit} \\
 \text{Equivalent conversion units} &= 60,000 + (20,000 \times .25) \\
 &= 65,000 \text{ units} \\
 \text{Conversion cost} &= (\$32,500 + \$617,500) \div 65,000 \\
 &= \$10/\text{unit} \\
 \text{Cost of production} &= 60,000 \times (\$9.25 + \$10) \\
 &= \underline{\$1,155,000} \\
 \text{Cost of work-in-process} &= (20,000 \times \$9.25) + (5,000 \times \$10) \\
 &= \underline{\$235,000}
 \end{aligned}$$

196. Correct answer d. The equivalent units used to assign material costs is 100,000 consisting of the 30,000 in beginning inventory and the 70,000 units started during the month. The equivalent units used to assign conversion costs is 82,000 consisting of 12,000 units (30,000 x 40%) in beginning inventory and the 70,000 units started during the month.

197. Correct answer b. The total conversion cost transferred to the next department is \$1,600 calculated as follows.

$$\begin{aligned}
 \text{Equivalent conversion units} &= 100 + (10 \times 40\%) \\
 &= 104 \text{ units} \\
 \text{Conversion costs} &= \$180 + \$1,484 \\
 &= \$1,664 \\
 \text{Unit conversion cost} &= \$1,664 \div 104 \\
 &= \$16 \\
 \text{Cost transferred} &= \$1,664 - (4 \times \$16)* \\
 &= \underline{\$1,600}
 \end{aligned}$$

\*Ending work-in-process equivalent units

198. Correct answer d. Krause's equivalent units for conversion costs total 92 calculated as follows.

Beginning WIP Inventory:	20 units x (100% - 60%)	=	8 units
December units – Ending WIP:	90 units – [10 x (100% - 40%)	=	84 units
Total			<u>92 units</u>

199. Correct answer a. Jones' equivalent units for conversion costs total 87,300 calculated as follows.

Units started in August (X):	=	10,000 + X – 8,000 = 90,000
	=	88,000 units
Plus Beginning WIP Inv.	=	10,000 x (100% - 75%)
	=	2,500 units
Less Ending WIP Inv.	=	8,000 x (100% - 60%)
	=	3,200 units
Total Equivalent Units	=	88,000 + 2,500 - 3,200
	=	<u>87,300 units</u>

200. Correct answer b. Waller's equivalent units for material in ending work-in-process inventory total 8,800 as shown below.

$$22,000 \text{ units} \times 40\% \text{ material} = \underline{8,800 \text{ units}}$$

201. Correct answer d. Robotics painting would be machine-based and would logically be allocated to products on the basis of machine hours. The other three options would more appropriately be allocated on the basis of direct labor or charged to overhead.

202. Correct answer c. Activity-based costing is an approach to costing that focuses on cost drivers. It uses these drivers to assign costs to products and services. As a result, a company would normally gain insight into the causes of cost.

203. Correct answer d. Using activity-based costing, the cost of materials is one of the costs that needs to be allocated based on the cost driver, e.g., the number of units used per product.

204. Correct answer b. Using activity-based costing, the cost to manufacture one ultrasound machine is \$264 calculated as follows.

Cost per engineering change:	$\$6,000 \div (2 + 1)$	=	\$2,000
Material handling per part:	$\$5,000 \div (400 + 600)$	=	\$5
Cost per product setup:	$\$3,000 \div (8 + 7)$	=	\$200
Ultrasound direct material ( $\$8,000 \div 100$ )			\$ 80
Ultrasound direct labor ( $\$12,000 \div 100$ )			120
Material handling [ $(600 \div 100) \times \$5$ ]			30
Engineering change ( $\$2,000 \div 100$ )			20
Setups [ $(\$200 \div 100) \times 7$ ]			<u>14</u>
Manufacturing cost			<u>\$264</u>

205. Correct answer c. The muffins are \$1,925 more profitable as shown below.

Cost of muffin delivery:	$[(150 \times 10) \div 60] \times \$20$	=	\$500
Cost of cheesecake delivery:	$[(85 \times 15) \div 60] \times \$20$	=	\$425
Muffin profit:	$\$53,000 - \$26,000 - \$500$	=	\$26,500
Cheesecake profit:	$\$46,000 - \$21,000 - \$425$	=	<u>24,575</u>
Profit difference			<u>\$ 1,925</u>

206. Correct answer a. The per unit overhead cost allocation of receiving costs for product A is \$3.75 as shown below.

Receiving costs per order:	$\$450,000 \div (50 + 150)$	=	\$2,250
Per unit of Product A:	$(50 \times \$2,250) \div 30,000$	=	<u>\$3.75</u>

207. Correct answer d. Activity-based costing generally uses a greater number of allocation bases or cost drivers and therefore results in more accurate costing.

208. Correct answer b. Since it is difficult to assign quantities and costs of items such as screws and glue to specific products, they are generally charged to factory overhead.

209. Correct answer d. Only in the situation where all overhead costs were expensed, e.g., zero inventory balances, would the reported net income be the same.

210. Correct answer c. Homogenous cost pools are those in which all of the costs have the same or similar cause-and-effect or benefits received relationship with the cost allocation base.

211. Correct answer b. The Tool Department overhead applied to Job #231 is \$197.50 calculated as follows.

Tooling overhead per hour:	$\$8,690 \div 440 \text{ hrs.}$	=	\$19.75
Job #231 overhead:	$\$19.75 \times 10 \text{ hrs.}$	=	<u>\$197.50</u>

212. Correct answer c. The overhead applied to a job incurring 20 hours of direct labor is \$140 as shown below.

Total budgeted direct labor hours:	$\$50,000 \div \$5$	=	10,000 hrs.
Overhead cost/direct labor hour:	$\$70,000 \div 10,000$	=	\$7 per hr.
Overhead cost for 20 hours:	$20 \times \$7$	=	<u>\$140</u>

213. Correct answer b. Statements I and IV would apply. The factory overhead rate is likely increased as expenses such as depreciation have increased. The increase in automation makes it more difficult to respond to economic changes as the company cannot simply layoff or hire workers. Statements II and III are incorrect as machine hours would be more appropriate and Haney will still be able to calculate labor variances.

214. Correct answer d. Allocation on the basis of the number of employees would have the least negative impact on the Financial Consulting Division as the division has only 28% of the total employees while it has 30% of revenues and 30% of variable expenses.
215. Correct answer c. The engineering cost per unit of Product B is \$15 calculated as follows.
- |                                 |                            |   |                |
|---------------------------------|----------------------------|---|----------------|
| Engineering cost per order:     | $\$300,000 \div (12 + 18)$ | = | \$10,000       |
| Engineering cost per Product B: | $\$10,000 \times 18$       | = | \$180,000      |
| Cost per unit of Product B:     | $\$180,000 \div 12,000$    | = | <u>\$15.00</u> |
216. Correct answer d. The dual-rate cost-allocation method classifies costs in each cost pool into two subcost pools, a variable-cost subpool and a fixed cost subpool, with each of these subpools having a different cost allocation base.
217. Correct answer d. If the cost of legal services is allocated on the basis of usage, departments will be very careful about usage. To encourage usage, the cost should be absorbed as a corporate expense.
218. Correct answer a. Allocating service department costs to production departments is most likely to cause production managers to be more careful about the use of services and not request excessive service.
219. Correct answer a. Depending on the step-down sequence used, different allocation of support departments to operating departments will result. Therefore, the correct response is direct and reciprocal methods only.
220. Correct answer d. The reciprocal method of departmental allocation explicitly includes the mutual services provided among all support departments. Therefore, the Information Systems Department would be allocated all users including the Personnel Department.
221. Correct answer b. The general step-down sequence begins with the support department that renders the greatest amount of service. There, the Personnel Department would be first and the Information Systems Department would not be allocated to the Personnel Department.
222. Correct answer d. The reciprocal allocation method allocates costs by explicitly including the mutual services provided among support departments and allows for the full incorporation of interdepartmental relationships.
223. Correct answer b. Using the direct method of allocation, only the hours of the production departments would be included in the allocation base ( $3600 + 1800 + 2700 = 8100$ ).

224. Correct answer c. Total overhead in the Machining Department is \$442,053 as presented below.

Machining overhead	\$200,000
Maintenance (\$360,000 x .5)	180,000
Systems [(\$95,000 + \$36,000*) x .473687**]	<u>62,053</u>
Total overhead	<u>\$442,053</u>

\*Maintenance allocated to Systems (\$360,000 x 10%)

\*\*1.05 x 45%

225. Correct answer c. Using the direct method of cost allocation, all support departments are allocated directly to production departments. Relationships between support departments are not included in the allocation.

226. Correct answer d. Using the step-down method, Logo should allocate \$20,000 of Systems to Facilities and \$24,000 of Facilities to Machining as shown below.

% allocation Systems to Facilities:	$900 \div (9,300 - 300)$	=	10%
Allocation	$\$200,000 \times 10\%$	=	<u>\$20,000</u>
% allocation Facilities to Mach.	$2,000 \div (11,600 - 600 - 1,000)$	=	20%
Allocation	$(\$100,000 + \$20,000*) \times 20\%$	=	<u>\$24,000</u>

\*Systems to Facilities allocation

227. Correct answer d. The total overhead allocated by the Machining Department to Adam's product is \$445,000 calculated as follows.

% allocation Maint. to Mach.:	$50\% \div (40\% + 50\%)$	=	.555
Allocation	$.555 \times \$360,000$	=	\$199,800
% allocation Systems to Mach.:	$45\% \div (45\% + 50\%)$	=	.4736842
Allocation	$.4736842 \times \$95,000$	=	\$45,200
Total allocation	$\$199,800 + \$45,200 + \$200,000$	=	<u>\$445,000</u>

228. Correct answer a. The use of just-in-time production generally involves developing relationships with a minimum number of suppliers that reliably deliver high quality products.

229. Correct answer d. According to the theory of constraints, increasing the efficiency of operations at non-bottleneck machines will make the slowdowns at bottlenecks worse as it will increase the traffic at bottlenecks.

230. Correct answer b. A company must first locate the source of the production constraint before it can effectively work to increase production capacity.

231. Correct answer c. In conventional financial statements, customer service costs are generally part of sales and administrative costs and not associated with a product. In value-chain statements, customer service is treated as part of the value chain and therefore associated with product cost.
232. Correct answer a. In option A, the functions are in the proper order while in the other options the functions are out of order, e.g., in option B, production design must precede production.
233. Correct answer d. Activities I and III are the only activities that actually increase the value of the product and would, therefore, be classified as value-added activities.
234. Correct answer c. A major disadvantage of business process reengineering is that as processes are changed to be more efficient, the internal controls that were established previously can be ignored or overlooked and may not be replaced with new controls.
235. Correct answer d. Retail Partners would benefit from all of these benchmarking techniques as all would identify best practices.
236. Correct answer a. Option A does not compare the business unit to any other standard, e.g., best practice, and is not an example of benchmarking standards.
237. Correct answer c. Prevention costs include Design Engineering (\$300,000), Supplier Evaluation (\$240,000), and Labor Training (\$150,000) for a total of \$690,000. All of these activities would likely take place prior to production to improve quality and prevent costly errors.
238. Correct answer b. Appraisal costs are incurred to detect individual units that do not conform to specifications, e.g., inspecting raw materials.
239. Correct answer b. Appraisal costs are incurred to detect individual units that do not conform to specifications, e.g., product testing costs.
240. Correct answer d. External failure costs are incurred by non-conforming products after shipment to customers. Product field testing would occur during the design phase and therefore prior to shipment.
241. Correct answer a. Internal failure costs are incurred by non-conforming products prior to shipment, e.g., the cost to rework defective units.
242. Correct answer d. One of the main objectives of internal controls is to provide reasonable assurance of reliability of financial reporting (financial statement assertions).
243. Correct answer d. The benefits of internal controls must always exceed the costs of implementing them. Implementing a system of absolute assurance is overly costly; thus only reasonable assurance can be obtained.

244. Correct answer c. Cashier prepares deposit slip for all cash receipts received. This action involves two functions that are not segregated: custody of assets and recording of transactions. In addition, the summary is not done in a timely manner.
245. Correct answer d. In order to properly segregate duties within the computer department, the responsibility to reprocess the errors detected during processing of the data should be given to the data control group and not to department manager, who should have access to review transactions, but not process transactions; nor to systems analyst, who should have access to view and analyze transactions, but not process transactions, and not to the computer programmer, who should have access to programs, not transactions.
246. Correct answer b. Direct deposit of pay in lieu of distribution of physical paychecks is an example of an effective safeguarding control that limits access to the organization's assets to authorized personnel.
247. Correct answer a. Policies of strong internal control, segregation of duties, and requiring employees to take vacations is an effective way of deterring fraud. In addition, periodic rotation of employees would also strengthen the control. These practices help prevent collusion and decrease the opportunity for employees to hide fraudulent behavior.
248. Correct answer a. Foreign Corrupt Practices Act of 1977 does not require a public company to sign an agreement that it will abide by the Act, however if the company does not abide by the Act, the company may be assessed fines up to \$2,000,000 and imprisonment for up to 5 years.
249. Correct answer c. The principal purpose of Foreign Corrupt Practices Act of 1977 was to prevent the bribery of foreign officials, foreign political parties or candidates for political office in the foreign country by U.S. firms seeking to do business overseas.
250. Correct answer c. The responsibility of Internal Audit Function is not only to identify the control weaknesses during the audit, but to follow-up on the audit findings to make sure the issues have been resolved.
251. Correct answer d. Internal auditors are often looking for significant or unexpected variances in account balances and investigate these. All of the methods listed - Cost Variance Analysis, Flexible Budgets and Activity-based Management – can assist internal auditors in such variance analyses, except for joint cost allocation, which is a method of allocating costs to products, and does not help with variance analysis.
252. Correct answer b. The objective of compliance testing is ensuring conformity with laws, regulations and contracts. This includes Federal and State laws.
253. Correct answer d. One of the objectives of the operational audit is to ensure efficient and economic operations and the effectiveness with which these operations achieve their objectives. This is not an objective of the compliance audit that ensures compliance with laws or the information system audit that check the systems' controls.

254. Correct answer d. One of the objectives of the operational audit is to ensure efficient and economic operations and the effectiveness with which these operations achieve their objectives. This is not an objective of the compliance audit that ensures compliance with laws or the financial statements audit that checks to ensure that financial statements are not misstated.
255. Correct answer c. Viruses are computer programs that propagate themselves from one computer to another without the user's knowledge. Trojan horses are restricted to a specific computer, these are voluntarily installed as regular programs, but, behind the scenes, they contain codes that a hacker can activate later to take over the computer .
256. Correct answer a. Key verification is one of the data controls. A record's key is the group of values that uniquely identify the record. No application process should be able to alter the data in these key fields.
257. Correct answer c. Preventive, Corrective and Feedforward controls are more cost-effective than Detective and Feedback controls, because they try to identify and correct costly mistakes before they happen; rather than investigate these mistakes after they take place.
258. Correct answer c. Compatibility check is most appropriate control to verify that the user is authorized to execute a particular on-line transaction. It verifies the user access information, such as user ID, password and security profile is correct.
259. Correct answer b. Single sign-on, although a great convenience to users, because they don't need to remember multiple passwords and user-ids and can access all IT resources using single sign-on data. This however, becomes a single-point of failure, if the sign-on does not work and the user is not able to access any of the IT resources.
260. Correct answer d. Computer Operator executes programs and maintains custody of programs and files. This action involves two functions that are not segregated: recording of transactions and custody of assets.
261. Correct answer c. Encryption technology converts data into a code. Unauthorized users may still be able to access the data, but without the encryption key, they will be unable to decode the information; thus encrypting confidential data is a secure way of transmitting it over the Internet.
262. Correct answer c. Encryption technology converts data into a code. Unauthorized users may still be able to access the data, but without the encryption key, they will be unable to decode the information. Two major types of encryption software exist: public key and private key. An example of authentication is assigning each user a unique identifier and password. Not even information security personnel should be able to view unencrypted passwords.



263. Correct answer c. Flowcharting is the representation of a process using pictorial symbols. A document flowchart would be an effective way to visualize how the document (a copy of a shipping order) flows through various departments.
264. Correct answer c. Operating system should be the first one to be restored at an alternate site so the operations can continue with minimum of amount of interruption; while other systems, such as decision support, online system, can be restored later.
265. Correct answer d. In accordance with IMA's "Statement of Ethical Professional Practice", a member's failure to comply with the standards of competence, confidentiality, integrity and credibility may result in disciplinary action. Disclosing company's internal budget to an outside party is a breach of the ethical standard of confidentiality.