Chapter 14: Decision Making: Relevant Costs and Benefits

MULTIPLE CHOICE QUESTIONS

1. Managerial accountants:
   A. rarely become involved in an organization's decision-making activities.
   B. make decisions that focus solely on an organization's accounting matters.
   C. collect data and provide information so that decisions can be made.
   D. often serve as a cross-functional team member, making a wide range of decisions.
   E. become involved in activities "C" and "D."

   Answer: E LO: 1 Type: RC

2. Factors in a decision problem that <u>cannot</u> be expressed in numerical terms are:
   A. qualitative in nature.
   B. quantitative in nature.
   C. predictive in nature.
   D. sensitive in nature.
   E. uncertain in nature.

   Answer: A LO: 2 Type: RC

3. At which step or steps in the decision-making process do qualitative considerations generally have the greatest impact?
   A. Specifying the criterion and identifying the alternatives.
   B. Developing a decision model.
   C. Collecting the data.
   D. Making a decision.
   E. Identifying the alternatives.

   Answer: D LO: 2 Type: RC

4. An accounting information system should be designed to provide information that is useful. To be useful the information must be:
   A. qualitative rather than quantitative.
   B. unique and unavailable through other sources.
   C. historical in nature and not purport to predict the future.
   D. marginal between two alternatives.
   E. relevant, accurate, and timely.

   Answer: E LO: 2 Type: RC

5. To be useful in decision making, information should possess which of the following characteristics?

	Relevance	Accuracy	Timeliness
A.	Yes	No	Yes
B.	Yes	Yes	No
C.	Yes	Yes	Yes
D.	No	Yes	Yes
E.	No	No	Yes

Answer: C LO: 2 Type: RC

6. A trade-off in a decision situation sometimes occurs between information:
   A. accuracy and relevance.
   B. relevance and uniqueness.
   C. accuracy and timeliness.
   D. sensitivity and accuracy.
   E. sensitivity and relevance.

   Answer: C LO: 2 Type: RC

7. Which of the following best defines the concept of a relevant cost?
   A. A past cost that is the same among alternatives.
   B. A past cost that differs among alternatives.
   C. A future cost that is the same among alternatives.
   D. A future cost that differs among alternatives.
   E. A cost that is based on past experience.

   Answer: D LO: 3 Type: RC

8. Consider the following costs and decision-making situations:

   I. The cost of existing inventory, in a keep vs. disposal decision.
   II. The cost of special electrical wiring, in an equipment acquisition decision.
   III. The salary of a supervisor who will be transferred elsewhere in the organization, in a department-closure decision.

   Which of the above costs is (are) relevant to the decision situation noted?
   A. I only.
   B. II only.
   C. III only.
   D. I and II.
   E. II and III.

   Answer: B LO: 3 Type: N

9. The following costs are relevant to the decision situation cited <u>except</u>:
   A. the cost of hiring a full-time staff attorney, in a decision to establish an in-house legal department or retain the services of a prominent law firm.
   B. the remodeling cost of existing office space, in a firm's decision to stay at its current location or move to a new building.
   C. the long-term salary costs demanded by Joe Torrez (a superstar) and Rip Moran (an average player) in baseball contract negotiations, in a decision that determines the amounts by which ticket prices must be raised.
   D. the cost to enhance an airline's Web site, in a decision to expand existing service to either Salt Lake City or Phoenix.
   E. the commissions that could be earned by a salesperson, in a decision that involves salesperson compensation methods (i.e., commissions or flat monthly salaries).

   Answer: D   LO: 3   Type: N

10. Which of the following costs can be ignored when making a decision?
    A. Opportunity costs.
    B. Differential costs.
    C. Sunk costs.
    D. Relevant costs.
    E. All future costs.

    Answer: C   LO: 4   Type: RC

11. The book value of equipment currently owned by a firm is an example of a(n):
    A. future cost.
    B. differential cost.
    C. comparative cost.
    D. opportunity cost.
    E. sunk cost.

    Answer: E   LO: 4   Type: RC

12. The cost of inventory currently owned by a firm is an example of a(n):
    A. opportunity cost.
    B. sunk cost.
    C. relevant cost.
    D. differential cost.
    E. future cost.

    Answer: B   LO: 4   Type: RC

13. The City of Miami is about to replace an old fire truck with a new vehicle in an effort to save maintenance and other operating costs. Which of the following items, all related to the transaction, would not be considered in the decision?
    A. Purchase price of the new vehicle.
    B. Purchase price of the old vehicle.
    C. Savings in operating costs as a result of the new vehicle.
    D. Proceeds from disposal of the old vehicle.
    E. Future depreciation on the new vehicle.

    Answer: B LO: 4 Type: N

14. Elegant, Inc., has $125,000 of inventory that suffered minor smoke damage from a fire in the warehouse. The company can sell the goods "as is" for $45,000; alternatively, the goods can be cleaned and shipped to the firm's outlet center at a cost of $23,000. There the goods could be sold for $80,000. What alternative is more desirable and what is the relevant cost for that alternative?
    A. Sell "as is," $125,000.
    B. Clean and ship to outlet center, $23,000.
    C. Clean and ship to outlet center, $103,000.
    D. Clean and ship to outlet center, $148,000.
    E. Neither alternative is desirable, as both produce a loss for the firm.

    Answer: B LO: 4 Type: A, N

15. In early July, Mike Gottfried purchased a $70 ticket to the December 15 game of the Chicago Titans. (The Titans belong to the Midwest Football League and play their games outdoors on the shore of Lake Michigan.) Parking for the game was expected to cost approximately $22, and Gottfried would probably spend another $15 for a souvenir program and food. It is now December 14. The Titans were having a miserable season and the temperature was expected to peak at 5 degrees on game day. Mike therefore decided to skip the game and took his wife to the movies, with tickets and dinner costing $50. The sunk cost associated with this decision situation is:
    A. $20.
    B. $50.
    C. $70.
    D. $107.
    E. some other amount.

    Answer: C LO: 4 Type: A

16. In early July, Jim Lopez purchased a $70 ticket to the December 15 game of the Chicago Titans. (The Titans belong to the Midwest Football League and play their games outdoors on the shore of Lake Michigan.) Parking for the game was expected to cost approximately $22, and Lopez would probably spend another $15 for a souvenir program and food. It is now December 14. The Titans were having a miserable season and the temperature was expected to peak at 5 degrees on game day. Jim therefore decided to skip the game and took his wife to the movies, with tickets and dinner costing $50. The amount of sunk cost that should influence Jim's decision to take his wife to the movies and dinner is:
    A. $0.
    B. $20.
    C. $50.
    D. $70.
    E. some other amount.

    Answer: A LO: 4 Type: A, N

17. An opportunity cost may be described as:
    A. a forgone benefit.
    B. an historical cost.
    C. a specialized type of variable cost.
    D. a specialized type of fixed cost.
    E. a specialized type of semivariable cost.

    Answer: A LO: 4 Type: RC

18. The term "opportunity cost" is best defined as:
    A. the amount of money paid for an item.
    B. the amount of money paid for an item, taking inflation into account.
    C. the amount of money paid for an item, taking possible discounts into account.
    D. the benefit associated with a rejected alternative when making a choice.
    E. an irrelevant decision factor.

    Answer: D LO: 4 Type: RC

19. A factory that makes a part has significant idle capacity. The factory's opportunity cost of making this part is equal to:
    A. the variable manufacturing cost per unit.
    B. the fixed manufacturing cost per unit.
    C. the semivariable cost per unit.
    D. the total manufacturing cost per unit.
    E. zero.

    Answer: E LO: 4 Type: N

20. Susan is contemplating a job offer with an advertising agency where she will make $54,000 in her first year of employment. Alternatively, Susan can begin to work in her father's business where she will earn an annual salary of $38,000. If Susan decides to work with her father, the opportunity cost would be:
    A. $0.
    B. $38,000.
    C. $54,000.
    D. $92,000.
    E. irrelevant in deciding which job offer to accept.

    Answer: C LO: 4 Type: A

21. Which of the following costs should be used when choosing between two decision alternatives?

	Relevant Cost	Sunk Cost	Opportunity Cost
A.	No	Yes	No
B.	No	Yes	Yes
C.	Yes	No	No
D.	Yes	No	Yes
E.	Yes	Yes	Yes

    Answer: D LO: 4 Type: RC

22. Triumph, Inc., is studying whether to expand operations by adding a new product line. Which of the following choices correctly denotes the costs that should be considered in this decision?

	Opportunity Cost	Sunk Cost
A.	Yes	Yes
B.	Yes	Sometimes
C.	Yes	No
D.	No	Yes
E.	No	No

    Answer: C LO: 4 Type: RC

23. A special order generally should be accepted if:
    A. its revenue exceeds allocated fixed costs, regardless of the variable costs associated with the order.
    B. excess capacity exists and the revenue exceeds all variable costs associated with the order.
    C. excess capacity exists and the revenue exceeds allocated fixed costs.
    D. the revenue exceeds total costs, regardless of available capacity.
    E. the revenue exceeds variable costs, regardless of available capacity.

    Answer: B LO: 5 Type: RC

24. Two months ago, Victory purchased 4,500 pounds of Hydrol, paying $15,300. The market for this product has been very strong since the acquisition, with the market price jumping to $4.05 per pound. (Victory can buy or sell Hydrol at this price.) The company recently received a special-order inquiry, one that would require the use of 4,200 pounds of Hydrol. Which of the following is (are) relevant in deciding whether to accept the special order?
    A. The 300-pound remaining inventory of Hydrol.
    B. The $4.05 market price.
    C. The $3.40 purchase price.
    D. 4,500 pounds of Hydrol.
    E. More than one of the above factors are relevant.

    Answer: B LO: 5 Type: A, N

25. Flower Company, which is operating at capacity, desires to add a new service to its rapidly expanding business. The service should be added as long as service revenues exceed:
    A. variable costs.
    B. fixed costs.
    C. the sum of variable costs and fixed costs.
    D. the sum of variable costs and any related opportunity costs.
    E. the sum of variable costs, fixed costs, and any related opportunity costs.

    Answer: D LO: 5 Type: N

26. Baxter has been approached about providing a new service to its clients. The company will bill clients $120 per hour; the related hourly variable and fixed operating costs will be $65 and $15, respectively. If all employees are currently working at full capacity on other client matters, the per-hour opportunity cost of being unable to provide this new service is:
    A. $0.
    B. $40.
    C. $55.
    D. $80.
    E. $120.

    Answer: C LO: 4, 5 Type: A

27. Snider, Inc., which has excess capacity, received a special order for 4,000 units at a price of $15 per unit. Currently, production and sales are budgeted for 10,000 units without considering the special order. Budget information for the current year follows.

Sales	$190,000
Less: Cost of goods sold	145,000
Gross margin	$ 45,000

Cost of goods sold includes $30,000 of fixed manufacturing cost. If the special order is accepted, the company's income will:

A. increase by $2,000.
B. decrease by $2,000.
C. increase by $14,000.
D. decrease by $14,000.
E. change by some other amount.

Answer: C LO: 5 Type: A

28. Sound, Inc., reported the following results from the sale of 24,000 units of IT-54:

Sales	$528,000
Variable manufacturing costs	288,000
Fixed manufacturing costs	120,000
Variable selling costs	52,800
Fixed administrative costs	35,200

Rhythm Company has offered to purchase 3,000 IT-54s at $16 each. Sound has available capacity, and the president is in favor of accepting the order. She feels it would be profitable because no variable selling costs will be incurred. The plant manager is opposed because the "full cost" of production is $17. Which of the following correctly notes the change in income if the special order is accepted?

A. $3,000 decrease.
B. $3,000 increase.
C. $12,000 decrease.
D. $12,000 increase.
E. None of the above.

Answer: D LO: 5 Type: A

29. CompTronics, a manufacturer of computer peripherals, has excess capacity. The company's Utah plant has the following per-unit cost structure for item no. 89:

Variable manufacturing	$40
Fixed manufacturing	15
Variable selling	8
Fixed selling	11
Traceable fixed administrative	4
Allocated administrative	2

The traceable fixed administrative cost was incurred at the Utah plant; in contrast, the allocated administrative cost represents a "fair share" of CompTronics' corporate overhead. Utah has been presented with a special order of 5,000 units of item no. 89 on which no selling cost will be incurred. The proper relevant cost in deciding whether to accept this special order would be:

A. $40.
B. $59.
C. $61.
D. $80.
E. some other amount.

Answer: A LO: 5 Type: A

30. The term "outsourcing" is most closely associated with:

A. special-order decisions.
B. make-or-buy decisions.
C. equipment replacement decisions.
D. decisions to process joint products beyond the split-off point.
E. decisions that involve limited resources.

Answer: B LO: 5 Type: RC

31. Torrey Pines is studying whether to outsource its Human Resources (H/R) activities. Salaried professionals who earn $390,000 would be terminated; in contrast, administrative assistants who earn $120,000 would be transferred elsewhere in the organization. Miscellaneous departmental overhead (e.g., supplies, copy charges, overnight delivery) is expected to decrease by $30,000, and $25,000 of corporate overhead, previously allocated to Human Resources, would be picked up by other departments. If Torrey Pines can secure needed H/R services locally for $410,000, how much would the company benefit by outsourcing?

A. $10,000.
B. $35,000.
C. $130,000.
D. $155,000.
E. Nothing, as it would be cheaper to keep the department open.

Answer: A LO: 5 Type: A

32. Donnelly, a division of Dakota Enterprises, currently makes 100,000 units of a product that has created a number of manufacturing problems. Donnelly's costs follow.

Manufacturing costs:	
Variable	$420,000
Fixed	150,000
Allocated corporate administrative cost	70,000

If Donnelly were to discontinue production, fixed manufacturing costs would be reduced by 80%. The relevant cost of deciding whether the division should purchase the product from an outside supplier is:

A. $420,000.
B. $490,000.
C. $540,000.
D. $570,000.
E. $640,000.

Answer: C LO: 5 Type: A

33. Maddox, a division of Stanley Enterprises, currently performs computer services for various departments of the firm. One of the services has created a number of operating problems, and management is exploring whether to outsource the service to a consultant. Traceable variable and fixed operating costs total $80,000 and $25,000, respectively, in addition to $18,000 of corporate administrative overhead allocated from Stanley. If Maddox were to use the outside consultant, fixed operating costs would be reduced by 70%. The irrelevant costs in Maddox's outsourcing decision total:

A. $17,500.
B. $18,000.
C. $25,000.
D. $25,500.
E. some other amount.

Answer: D LO: 5 Type: A

34. Which of the following statements regarding costs and decision making is correct?

A. Fixed costs must be considered only on a per-unit basis.
B. Per-unit fixed cost amounts are valid only for make-or-buy decisions.
C. Per-unit fixed costs can be misleading because such amounts appear to behave as variable costs when, in actuality, the amounts are related to fixed expenditures.
D. Sunk costs can be misleading in make-or-buy decisions because these amounts appear to be relevant differential costs.
E. Opportunity costs should be ignored when evaluating decision alternatives.

Answer: C LO: 5 Type: RC

35. An architecture firm currently offers services that appeal to both individuals and commercial clients. If the firm decides to discontinue services to individuals because of ongoing losses, which of the following costs could the company likely avoid?
    A. Allocated corporate overhead.
    B. Building depreciation.
    C. Insurance.
    D. Variable operating costs.
    E. Monthly installment payments on general-purpose, computer drafting equipment.

    Answer: D   LO: 5   Type: N

36. Occidental is contemplating dropping a product because of ongoing losses. Costs that would be relevant in this situation would include variable manufacturing costs as well as:
    A. factory depreciation.
    B. avoidable fixed costs.
    C. unavoidable fixed costs.
    D. allocated corporate administrative costs.
    E. general corporate advertising.

    Answer: B   LO: 5   Type: RC

37. Coastal Airlines has a significant presence at the San Jose International Airport and therefore operates the Emerald Club, which is across from gate 36 in terminal 1. The Emerald Club provides food and business services (e.g., data ports) for the company's frequent flyers. Consider the following selected costs of Club operation:

    1. Receptionist and supervisory salaries
    2. Catering
    3. Terminal depreciation (based on square footage)
    4. Airport fees (computed as a percentage of club revenue)
    5. Allocated Coastal administrative overhead

    Management is exploring whether to close the club and expand the seating area for gate 36. Which of the preceding expenses would the airline classify as unavoidable?
    A. 3.
    B. 4.
    C. 5.
    D. 3, 5.
    E. The correct answer is not listed.

    Answer: D   LO: 5   Type: N

38. The Shoe Department at the Baton Rouge Department Store is being considered for closure. The following information relates to shoe activity:

Sales revenue	$350,000
Variable costs:	
Cost of goods sold	280,000
Sales commissions	30,000
Fixed operating costs	90,000

If 70% of the fixed operating costs are avoidable, should the Shoe Department be closed?
A. Yes, Baton Rouge would be better off by $23,000.
B. Yes, Baton Rouge would be better off by $50,000.
C. No, Baton Rouge would be worse off by $13,000.
D. No, Baton Rouge would be worse off by $40,000.
E. None of the above.

Answer: A LO: 5 Type: A

39. Somerset Corporation is composed of five divisions, and each division is allocated a share of Somerset overhead to make divisional managers aware of the cost of running the corporate headquarters. The following information relates to the Metro Division:

Sales	$7,500,000
Variable operating costs	5,100,000
Traceable fixed operating costs	1,900,000
Allocated corporate overhead	300,000

If the Metro Division is closed, 100% of the traceable fixed operating costs can be eliminated. What will be the impact on Somerset's overall profitability if the Metro Division is closed?
A. Decrease by $200,000.
B. Decrease by $500,000.
C. Decrease by $2,100,000.
D. Decrease by $2,400,000.
E. None of the above.

Answer: B LO: 5 Type: A

40. Ortega Interiors provides design services to residential and commercial clients. The residential services produce a contribution margin of $450,000 and have traceable fixed operating costs of $480,000. Management is studying whether to drop the residential operation. If closed, the fixed operating costs will fall by $370,000 and Ortega's net income will:
A. increase by $30,000.
B. increase by $80,000.
C. increase by $340,000.
D. decrease by $80,000.
E. decrease by $340,000.

Answer: D LO: 5 Type: A

Use the following to answer questions 41-42:

HiTech manufactures two products: Regular and Super. The results of operations for 20x1 follow.

	Regular	Super	Total
Units	10,000	3,700	13,700
Sales	$240,000	$740,000	$980,000
Less: Cost of goods sold	180,000	481,000	661,000
Gross margin	$ 60,000	$259,000	$319,000
Less: Selling expenses	60,000	134,000	194,000
Operating income	$ 0	$125,000	$125,000

Fixed manufacturing costs included in cost of goods sold amount to $3 per unit for Regular and $20 per unit for Super. Variable selling expenses are $4 per unit for Regular and $20 per unit for Super; remaining selling amounts are fixed.

41. HiTech wants to drop the Regular product line. If the line is dropped, company-wide fixed manufacturing costs would fall by 10% because there is no alternative use of the facilities. What would be the impact on operating income if Regular is discontinued?
    A. $0.
    B. $10,400 increase.
    C. $20,000 increase.
    D. $39,600 decrease.
    E. None of the above.

    Answer: D LO: 5 Type: A

42. Disregard the information in the previous question. If HiTech eliminates Regular and uses the available capacity to produce and sell an additional 1,500 units of Super, what would be the impact on operating income?
    A. $28,000 increase
    B. $45,000 increase
    C. $55,000 increase
    D. $85,000 increase
    E. None of the above.

    Answer: C LO: 5 Type: A

43. When deciding whether to sell a product at the split-off point or process it further, joint costs are <u>not</u> usually relevant because:
    A. such amounts do not help to increase sales revenue.
    B. such amounts only slightly increase a company's sales margin.
    C. such amounts are sunk and do not change with the decision.
    D. the sales revenue does not decrease to the extent that it should, if compared with separable processing.
    E. such amounts reflect opportunity costs.

    Answer: C LO: 6 Type: RC

44. Product costs incurred after the split-off point in a joint processing environment are termed:
    A. separable processing costs.
    B. joint product costs.
    C. non-relevant costs.
    D. scrap costs.
    E. spoilage costs.

    Answer: A   LO: 6   Type: RC

45. Foster Company is considering whether to sell Retox at the split-off point or subject it to further processing and produce a more refined product known as Retox-F. Consider the following items:

    I. The selling price of Retox-F
    II. The joint processing cost of Retox.
    III. The separable cost of producing Retox-F.

    Which of the above items is (are) relevant to Foster's decision to process Retox into Retox-F?
    A. I only.
    B. II only.
    C. III only.
    D. I and II.
    E. I and III.

    Answer: E   LO: 6   Type: RC

46. Lido manufactures A and B from a joint process (cost = $80,000). Five thousand pounds of A can be sold at split-off for $20 per pound or processed further at an additional cost of $20,000 and then sold for $25. Ten thousand pounds of B can be sold at split-off for $15 per pound or processed further at an additional cost of $20,000 and later sold for $16. If Lido decides to process B beyond the split-off point, operating income will:
    A. increase by $10,000.
    B. increase by $20,000.
    C. decrease by $10,000.
    D. decrease by $20,000.
    E. decrease by $58,000.

    Answer: C   LO: 6   Type: A

47. India Corporation has $200,000 of joint processing costs and is studying whether to process J and K beyond the split-off point. Information about J and K follows.

	Product J	Product K
Tons produced	25,000	15,000
Separable variable processing costs beyond split-off	$64,000	$100,000
Selling price per ton at split-off	15	52
Selling price per ton after additional processing	21	58

If India desires to maximize total company income, what should the firm do with regard to Products J and K?

	Product J	Product K
A.	Sell at split-off	Sell at split-off
B.	Sell at split-off	Process beyond split-off
C.	Process beyond split-off	Sell at split-off
D.	Process beyond split-off	Process beyond split-off
E.	There is not enough information to judge.	

Answer: C LO: 6 Type: A

48. A company that is operating at full capacity should emphasize those products and services that have the:
A. lowest total per-unit costs.
B. highest contribution margin per unit.
C. highest contribution margin per unit of scarce resource.
D. highest operating income.
E. highest sales volume.

Answer: C LO: 6 Type: RC

49. A firm that decides to emphasize those goods with the highest contribution margin per unit may have made an incorrect decision when the company:
A. is highly automated.
B. has excess capacity.
C. has capacity constraints in the form of limited resources.
D. has a high fixed-cost structure.
E. has a high level of sunk costs.

Answer: C LO: 6 Type: N

50. Wright Enterprises, which produces various goods, has limited processing hours at its manufacturing plant. The following data apply to product no. 607:

Sales price per unit: $9.60
Variable cost per unit: $6.20
Process time per unit: 4 hours

Management is now studying whether to devote the firm's limited hours to product no. 607 or to other products. What key dollar amount should management focus on when determining no. 607's "value" to the firm and deciding the best course of action to follow?
A. $0.85.
B. $2.40.
C. $3.40.
D. $6.20.
E. $9.60.

Answer: A LO: 6 Type: A, N

51. Smith Manufacturing has 27,000 labor hours available for producing X and Y. Consider the following information:

	Product X	Product Y
Required labor time per unit (hours)	2	3
Maximum demand (units)	6,000	8,000
Contribution margin per unit	$5.00	$6.00
Contribution margin per labor hour	$2.50	$2.00

If Smith follows proper managerial accounting practices, which of the following production schedules should the company set?

	Product X	Product Y
A.	0 units	8,000 units
B.	1,500 units	8,000 units
C.	6,000 units	0 units
D.	6,000 units	5,000 units
E.	6,000 units	8,000 units

Answer: D LO: 6 Type: A

52. Bush Manufacturing has 31,000 labor hours available for producing M and N. Consider the following information:

	Product M	Product N
Required labor time per unit (hours)	2	3
Maximum demand (units)	6,500	8,000
Contribution margin per unit	$5.00	$5.70
Contribution margin per labor hour	$2.50	$1.90

If Bush follows proper managerial accounting practices in terms of setting a production schedule, how much contribution margin would the company expect to generate?

A. $31,450.
B. $63,100.
C. $66,700.
D. $78,100.
E. None of the above.

Answer: C LO: 6 Type: A

Use the following to answer questions 53-54:

Johnson Company makes two products: Carpet Kleen and Floor Deodorizer. Operating information from the previous year follows.

	Carpet Kleen	Floor Deodorizer
Units produced and sold	5,000	4,000
Machine hours used	5,000	2,000
Sales price per unit	$7	$10
Variable cost per unit	$4	$8

Fixed costs of $20,000 per year are presently allocated equally between both products. If the product mix were to change, total fixed costs would remain the same.

53. The contribution margin per machine hour for Floor Deodorizer is:

A. $0.25.
B. $2.00.
C. $4.00.
D. $5.00.
E. $20.00.

Answer: C LO: 6 Type: A

54. Assuming there is unlimited demand for both products and Johnson has 10,000 machine hours available, how many units of each product should be produced and sold?

	Carpet Kleen	Floor Deodorizer
A.	0 units	0 units
B.	0 units	20,000 units
C.	5,000 units	10,000 units
D.	8,000 units	4,000 units
E.	10,000 units	0 units

Answer: B LO: 6 Type: A, N

55. A technique that is useful in exploring what would happen if a key decision prediction or assumption proved wrong is termed:
A. sensitivity analysis.
B. uncertainty analysis.
C. project analysis.
D. linear programming.
E. the theory of constraints.

Answer: A LO: 6 Type: RC

56. Which of the following characteristics would best explain the use of probabilities and expected values in a decision analysis?
A. Limited resources.
B. Uncertainty.
C. Inflation.
D. Multiple products and services.
E. Production bottlenecks.

Answer: B LO: 6 Type: RC

57. Consider the following statements about relevant costing and activity-based costing:

I. The concept of relevant costs and benefits <u>cannot</u> be used in conjunction with an activity-based costing system.
II. The concept of relevant costs and benefits must be modified for use with an activity-based costing system.
III. Generally speaking, the decision maker can better associate relevant costs with the activities that drive them under an activity-based costing system than under a conventional product-costing system.

Which of the above statements is (are) true?
A. I only.
B. II only.
C. III only.
D. I and II.
E. II and III.

Answer: C LO: 7 Type: RC

58. Linear programming would be used by decision makers when there are:
    A. limited resources for labor.
    B. scarce resources for machine hours.
    C. scarce resources for both labor and machine hours.
    D. multiple scarce resources.
    E. limited resources for material.

    Answer: D LO: 8 Type: RC

59. A constraint function in a linear-programming problem might focus on:
    A. sales dollars.
    B. labor hours.
    C. variable costs.
    D. fixed costs.
    E. qualitative factors.

    Answer: B LO: 8 Type: N

60. When using a graphical solution to a linear programming problem, the optimal solution will lie in an area commonly known as the:
    A. region of maximization.
    B. feasible region.
    C. objective region.
    D. constraint region.
    E. curvilinear region.

    Answer: B LO: 8 Type: RC

Use the following to answer questions 61-62:

Prudential Corporation manufactures two products: X and Y. The company has 4,000 hours of machine time available and can sell no more than 800 units of product X. Other pertinent data follow.

	Product X	Product Y
Selling price	$8.00	$19.00
Variable cost	3.00	5.00
Fixed cost	3.50	6.25
Machine time per unit	2 hours	3 hours

61. Which of the following is Prudential's objective function?
    A. Maximize Z = 2X + 3Y.
    B. Maximize Z = 8X + 19Y.
    C. Maximize Z = 5X + 14Y.
    D. Maximize Z = 1.50X + 7.75Y.
    E. Minimize Z = 6.50X + 11.25Y.

    Answer: C LO: 8 Type: A

62. Which of the following is a constraint function of Prudential?
   A. Maximize Z = 5X + 14Y.
   B. Minimize Z = 6.50X + 11.25Y.
   C. $X \geq 800$.
   D. $2X \leq 4{,}000$; $3Y \leq 4{,}000$.
   E. $2X + 3Y \leq 4{,}000$.

   Answer: E   LO: 8   Type: A

EXERCISES

Relevant Decision Factors

63. The following costs relate to a variety of decision settings:

Cost	Decision
1. Allocated corporate overhead	Closing a money-losing department
2. Cost of an old car	Vehicle replacement
3. Direct materials	Make or buy a product
4. Salary of marketing manager	Project discontinuance; manager to be transferred elsewhere in the firm
5. Home theater installation	Purchase of a new home
6. Unavoidable fixed overhead	Plant closure
7. Research expenditures incurred last year, related to new product	Product introduction to marketplace
8. $4 million advertising program	Whether to promote product A or B with the $4 million program
9. Manufactured cost of existing inventory	Whether to discard the goods or sell them to a third-world country

Required:
Consider each of the nine costs listed and determine whether it is relevant or irrelevant to the decision cited. If the cost is irrelevant, briefly explain why.

LO: 3, 4, 5   Type: N

Answer:
1. Irrelevant—The cost will be incurred whether the department continues to operate or is closed.
2. Irrelevant—The cost is sunk.
3. Relevant
4. Irrelevant—The cost will be incurred whether or not the project is discontinued.
5. Relevant, although this is a highly optional item.
6. Irrelevant—The cost will be incurred whether or not the plant is closed.
7. Irrelevant—The cost is sunk.
8. Irrelevant—The cost is the same regardless of which product is selected.
9. Irrelevant—The cost is sunk.

Relevant Decision Factors

64. Clancy Van Lines is considering the acquisition of two new trucks. Because of improved mileage, these vehicles are expected to have a lower operating cost per mile than the trucks the company plans to replace. Management is studying whether the firm would be better-off keeping the older vehicles or going ahead with the replacement, and has identified the following decision factors to evaluate:

    1. Cost and book value of the old trucks
    2. Moving revenues, which are <u>not</u> expected to change with the acquisition
    3. Operating costs of the new and old vehicles
    4. New truck purchase price and related depreciation charges
    5. Proceeds from sale of the old vehicles
    6. The 8% return on alternative investments that Clancy will forego by tying up cash in the new trucks
    7. Drivers' wages and fringe benefits

    Required:
    Classify the seven decision factors listed into the following categories (note: factors may be used more than once):
    A. Relevant costs.
    B. Opportunity costs.
    C. Sunk costs.
    D. Factors to be considered in the decision.

    LO: 3, 4, 5   Type: N

    Answer:
    A. 3, 4, 6
    B. 6
    C. 1
    D. 3, 4, 5, 6

Relevant Costs

65. Attleboro Company recently discontinued the manufacture of product J15. The standard costs for this product were:

Direct material	$ 50
Direct labor	20
Variable overhead	14
Fixed overhead	35
Total	$119

There are 800 units of this product in finished-goods inventory. The units are technologically obsolete, and the following alternatives are being considered:

1. Dispose of as scrap. The proceeds from the sale will equal the cost of transportation to the disposal site.
2. Sell to an exporter for sale in a developing country. The sales price to the exporter would be $12 per unit.
3. Remanufacture the products to convert them into model J16, a model that normally sells for $200. The additional cost to convert the J15 units would be $45; the standard cost to manufacture J16 is $125. Presently, there is sufficient capacity to manufacture product J16 directly or to do the necessary conversion work on J15.

Required:

A. Determine the current carrying value of the J15 inventory.

B. Evaluate each alternative and determine the financial benefit to Attleboro if the alternative is pursued.

LO: 4, 5 Type: A

Answer:

A. Ending inventory: 800 units x $119 = $95,200

B. 1. Scrap: no financial benefit.

2. Sell to exporter: 800 units x $12 = $9,600

3.

	Modify J15	Manufacture J16
Incremental revenue	$200	$200
Less: Incremental cost	45	125
Net benefit	$155	$ 75

The conversion of J15 into J16 will yield a $155 benefit, more than producing J16s directly. Note that the $119 cost of existing J15s is sunk.

Relevant Costs

66. Mystic, Inc., produces a variety of products that carry the logos of teams in Southern Football League (SFL). The company recently paid the league $85,000 for the rights to market a popular player jersey and immediately began production. The following information is available:

    Number of jerseys manufactured: 25,000
    Cost of jerseys manufactured: $625,000
    Amount of manufacturing costs paid to-date: $410,000
    Number of jerseys sold to-date: 0
    Estimated future marketing costs: $330,000
    Anticipated selling price per jersey: $42

    The SFL is about to file a lawsuit to stop jersey sales and is demanding another $50,000 from Mystic for the manufacturing rights. Conversations with Mystic's attorneys indicate that the league has a strong case and is likely to win the suit. If this situation arises, Mystic will be unable to recover any amounts paid to the SFL.

    Required:
    Mystic's sales department anticipates very strong demand and a sellout of all jerseys manufactured.

    A. Determine the overall profitability of the jersey product line if Mystic settles the disagreement with the SFL and the anticipated sellout occurs.
    B. Should the company pay the additional $50,000 demanded by the league or should the jersey program be dropped? Show computations to support your answer.

    LO: 4, 5 Type: A

    Answer:

    A. The jerseys produce a $40,000 loss for the company: Sales revenues (25,000 x $42 = $1,050,000) - manufacturing costs ($625,000) - rights ($85,000 + $50,000) - promotion costs ($330,000).

    B. Mystic should pay the $50,000 demanded by the league given that sunk costs in this situation total $710,000 ($85,000 + $625,000). (Although only $410,000 of this latter amount has been paid to-date, the company is liable for 100% of the manufacturing cost incurred.) Thus, for a $50,000 payment, Mystic will generate $1,050,000 in revenue and incur current/future costs of $380,000 ($330,000 + $50,000), for a net benefit of $670,000. This net benefit will contribute toward covering the previously incurred sunk costs of $710,000.

Special (Custom) Order

67. Howard Robinson builds custom homes in Cincinnati. Robinson was approached not too long ago by a client about a potential project, and he submitted a bid of $483,800, derived as follows:

Land	$ 80,000
Construction materials	100,000
Subcontractor labor costs	120,000
	$300,000
Construction overhead: 25% of direct costs	75,000
Allocated corporate overhead	35,000
Total cost	$410,000

Robinson adds an 18% profit margin to all jobs, computed on the basis of total cost. In this client's case the profit margin amounted to $73,800 ($410,000 x 18%), producing a bid price of $483,800. Assume that 70% of construction overhead is fixed.

Required:

A. Suppose that business is presently very slow, and the client countered with an offer on this home of $390,000. Should Robinson accept the client's offer? Why?

B. If Robinson has more business than he can handle, how much should he be willing to accept for the home? Why?

LO: 4, 5 Type: A, N

Answer:

A. A relevant cost analysis shows that the home is still profitable at $390,000, and the offer should be accepted. Keep in mind that business is very slow.

Land	$ 80,000
Construction materials	100,000
Subcontractor labor costs	120,000
Variable construction overhead: $75,000 x 30%	22,500
Total relevant costs	$322,500

B. Since demand is very strong, Robinson should hold firm to the $483,800 price. This way he can cover all of his costs and make his normal 18% profit margin.

Special Order, Outsourcing

68. Cornell Corporation manufactures faucets. Several weeks ago, the firm received a special-order inquiry from Yale, Inc. Yale desires to market a faucet similar to Cornell's model no. 55 and has offered to purchase 3,000 units. The following data are available:
    - Cost data for Cornell's model no. 55 faucet: direct materials, $45; direct labor, $30 (2 hours at $15 per hour); and manufacturing overhead, $70 (2 hours at $35 per hour).
    - The normal selling price of model no. 55 is $180; however, Yale has offered Cornell only $115 because of the large quantity it is willing to purchase.
    - Yale requires a design modification that will allow a $4 reduction in direct-material cost.
    - Cornell's production supervisor notes that the company will incur $8,700 in additional set-up costs and will have to purchase a $3,300 special device to manufacture these units. The device will be discarded once the special order is completed.
    - Total manufacturing overhead costs are applied to production at the rate of $35 per labor hour. This figure is based, in part, on budgeted yearly fixed overhead of $624,000 and planned production activity of 24,000 labor hours.
    - Cornell will allocate $5,000 of existing fixed administrative costs to the order as "…part of the cost of doing business."

    Required:

    A. One of Cornell's staff accountants wants to reject the special order because "financially, it's a loser." Do you agree with this conclusion if Cornell currently has excess capacity? Show calculations to support your answer.
    B. If Cornell currently has no excess capacity, should the order be rejected from a financial perspective? Briefly explain.
    C. Assume that Cornell currently has no excess capacity. Would outsourcing be an option that Cornell could consider if management truly wanted to do business with Yale? Briefly discuss, citing several key considerations for Cornell in your answer.

    LO: 4, 5 Type: A, N

Answer:

A. No, the conclusion is incorrect because the order generates a net contribution of $66,000 for the firm. Note: The fixed administrative cost is irrelevant to the decision.

Selling price			$115
Less: Direct materials ($45 - $4)		$41	
Direct labor		30	
Variable manufacturing overhead (2 hours x $9*)		18	89
Unit contribution margin			$ 26
Total contribution margin (3,000 units x $26)		$78,000	
Less: Additional set-up costs	$8,700		
Special device	3,300	12,000	
Net contribution to profit		$66,000	

*Fixed manufacturing overhead: $624,000 ÷ 24,000 labor hours = $26 per hour
Variable manufacturing overhead: $35 - $26 = $9

B. Yes, the order should be rejected. An environment of no excess capacity implies a very strong marketplace. Cornell would be giving up sales at $180 per faucet, to be replaced with sales of $115 per unit and the need to incur additional set-up costs and the cost of a special device. Company profitability would suffer.

C. Yes, outsourcing is an option. Cornell could have another manufacturer produce the faucets for Yale or perhaps even for another customer. Price, product quality, and supplier reliability would be important considerations in this decision.

Outsourcing

69. St. Joseph Hospital has been hit with a number of complaints about its food service from patients, employees, and cafeteria customers. These complaints, coupled with a very tight local labor market, have prompted the organization to contact Nationwide Institutional Food Service (NIFS) about the possibility of an outsourcing arrangement.

The hospital's business office has provided the following information for food service for the year just ended: food costs, $890,000; labor, $85,000; variable overhead, $35,000; allocated fixed overhead, $60,000; and cafeteria food sales, $80,000.

Conversations with NIFS personnel revealed the following information:

- NIFS will charge St. Joseph Hospital $14 per day for each patient served. Note: This figure has been "marked up" by NIFS to reflect the firm's cost of operating the hospital cafeteria.
- St. Joseph's 250-bed facility operates throughout the year and typically has an average occupancy rate of 70%.
- Labor is the primary driver for variable overhead. If an outsourcing agreement is reached, hospital labor costs will drop by 90%. NIFS plans to use St. Joseph facilities for meal preparation.
- Cafeteria food sales are expected to increase by 15% because NIFS will offer an improved menu selection.

Required:

A. What is meant by the term "outsourcing"?
B. Should St. Joseph outsource its food-service operation to NIFS?
C. What factors, other than dollars, should St. Joseph consider before making the final decision?

LO: 4, 5 Type: A, N

Answer:

A. Outsourcing is essentially a make-or-buy decision, that is, producing a product or service in-house or purchasing it from an external supplier.

B. The hospital would be better off to outsource its food-service operation, benefiting by $115,750 ($930,000 - $814,250). Note: The allocated overhead is not a relevant decision factor.

	St. Joseph	NIFS
Food cost	$890,000	$ ---
Labor ($85,000; $85,000 x 10%)	85,000	8,500
Variable overhead ($35,000; $35,000 x 10%)	35,000	3,500
Cafeteria food sales ($80,000; $80,000 x 115%)	(80,000)	(92,000)
NIFS charges (250 beds x 70% x 365 days x $14)	---	894,250
Net cost	$930,000	$814,250

C. Factors to consider would include improvement in food quality, reliability of NIFS, elimination of labor problems, and data validity in future years.

Store Closure

70. Papa Fred's Pizza store no. 16 has fallen on hard times and is about to be closed. The following figures are available for the period just ended:

Sales	$205,000
Cost of sales	67,900
Building occupancy costs:	
Rent	36,500
Utilities	15,000
Supplies used	5,600
Wages	77,700
Miscellaneous	2,400
Allocated corporate overhead	16,800

All employees except the store manager would be discharged. The manager, who earns $27,000 annually, would be transferred to store no. 19 in a neighboring suburb. Also, no. 16's furnishings and equipment are fully depreciated and would be removed and transported to Papa Fred's warehouse at a cost of $2,800.

Required:
A. What is store no. 16's reported loss for the period just ended?
B. Should the store be closed? Why?
C. Would Papa Fred's likely lose all $205,000 of sales revenue if store no. 16 were closed? Explain.

LO: 4, 5 Type: A, N

Answer:

A.

Sales		$205,000
Less:		
Cost of sales	$67,900	
Rent	36,500	
Utilities	15,000	
Supplies used	5,600	
Wages	77,700	
Miscellaneous	2,400	
Allocated corporate overhead	16,800	221,900
Operating income (loss)		$ (16,900)

B. No, the store should continue in operation. Two of the costs included in the preceding total are not relevant for the decision. Papa Fred's will continue to incur the costs of the store manager ($27,000) and allocated corporate overhead ($16,800) regardless of the decision, resulting in "relevant operating income" of $26,900 [$205,000 – ($221,900 - $27,000 - $16,800)] if store no. 16 remains open. Additionally, Papa Fred's would avoid the $2,800 cost associated with equipment removal.

C. Probably not. If the store is closed, loyal customers may go to another location. The firm will lose some sales, but the likelihood of losing the entire $205,000 revenue pool is low.

Evaluation of a Service Line

71. "It's close to a $40,000 loser and we ought to devote our efforts elsewhere," noted Kara Whitmore, after reviewing financial reports of her company's attempt to offer a reduced-price daycare service to employees. The daycare's financial figures for the year just ended follow.

Revenues	$120,000
Variable costs	45,000
Traceable fixed costs	89,000
Allocated corporate overhead	24,000

If the daycare service/center is closed, 70% of the traceable fixed cost will be avoided. In addition, the company will incur one-time closure costs of $6,800.

Required:

A. Show calculations that support Kara Whitmore's belief that the daycare center lost almost $40,000.
B. Should the center be closed? Show calculations to support your answer.
C. What problem might the company experience if the center is closed?

LO: 4, 5 Type: A, N

Answer:

A.

Revenues		$120,000
Less: Variable costs	$45,000	
Traceable fixed costs	89,000	
Allocated corporate overhead	24,000	158,000
Operating income (loss)		$(38,000)

B. The company would be better-off to continue the daycare service, as the cost of closure exceeds the benefit of on-going operation:

Contribution margin lost ($120,000 - $45,000)	$(75,000)
Savings in traceable fixed costs ($89,000 x 70%)	62,300
One-time closure cost	(6,800)
Benefit (cost) of closure	$(19,500)

C. The center is a fringe benefit for employees. Without the service, the company may lose some key people and have trouble attracting new hires. Even if the center produces a small loss, Whitmore should not be alarmed, as fringe benefits rarely have a zero price tag.

Make or Buy, Capacity Constraint

72. Fowler Industries produces two bearings: C15 and C19. Data regarding these two bearings follow.

	C15	C19
Machine hours required per unit	2.00	2.50
Standard cost per unit:		
Direct material	$ 2.50	$ 4.00
Direct labor	5.00	4.00
Manufacturing overhead:		
Variable*	3.00	2.50
Fixed**	4.00	5.00
Total	$14.50	$15.50

*Applied on the basis of direct labor hours
**Applied on the basis of machine hours

The company requires 8,000 units of C15 and 11,000 units of C19. Recently, management decided to devote additional machine time to other product lines, resulting in only 31,000 machine hours per year that can be dedicated to production of the bearings. An outside company has offered to sell Fowler the bearings at prices of $13.50 for C15 and $13.50 for C19.

Required:

A. Assume that Fowler decided to produce all C15s and purchase C19s only as needed. Determine the number of C19s to be purchased.
B. Compute the net benefit to the firm of manufacturing (rather than purchasing) a unit of C15. Repeat the calculation for a unit of C19.
C. Fowler lacks sufficient machine time to produce all of the C15s and C19s needed. Which component (C15 or C19) should Fowler manufacture first with the limited machine hours available? Why? Be sure to show all supporting computations.

LO: 5, 6 Type: A

Answer:

A.

Machine hours available	31,000
Less: Machine hours for C15 (8,000 x 2)	16,000
Machine hours available for C19	15,000
Machine hours per unit of C19	÷ 2.5
Units to be manufactured	6,000
Annual requirement	11,000
Less: Units to be manufactured	6,000
C19s to purchase	5,000

B.

	C15	C19
Direct material	$ 2.50	$ 4.00
Direct labor	5.00	4.00
Variable overhead	3.00	2.50
Total variable cost	$10.50	$10.50
Purchase price quoted	$13.50	$13.50
Less: Total variable cost	10.50	10.50
Net benefit per unit of manufacturing	$ 3.00	$ 3.00

C. C15 consumes 2 hours of machine time, thus providing a net benefit of $1.50 per hour ($3 ÷ 2). In contrast, C19 consumes 2.5 hours of time and produces a benefit of $1.20 per hour ($3 ÷ 2.5). On the basis of this information, the company should focus on C15.

Use of Excess Production Capacity

73. Lee Company has met all production requirements for the current month and has an opportunity to manufacture additional units with its excess capacity. Unit selling prices and unit costs for three product lines follow.

	Plain	Regular	Super
Selling price	$40	$55	$65
Direct material	12	16	22
Direct labor (at $20 per hour)	10	15	20
Variable overhead	8	12	16
Fixed overhead	6	7	8

Variable overhead is applied on the basis of direct labor dollars, whereas fixed overhead is applied on the basis of machine hours. There is sufficient demand for the additional manufacture of all products.

Required:

A. If Lee Company has excess machine capacity and can add more labor as needed (i.e., neither machine capacity nor labor is a constraint), which product is the most attractive to produce?

B. If Lee Company has excess machine capacity but a limited amount of labor time available, which product or products should be manufactured in the excess capacity?

LO: 5, 6 Type: A

Answer:

A.

	Plain	Regular	Super
Selling price	$40	$55	$65
Direct material	$12	$16	$22
Direct labor	10	15	20
Variable overhead	8	12	16
Total variable cost	$30	$43	$58
Unit contribution margin	$10	$12	$ 7

When there is no limit on production capacity, Regular should be manufactured because it has the highest contribution margin per unit.

B.

	Plain	Regular	Super
Unit contribution margin	$10	$12	$7
Direct labor hours required (DL$ ÷ $20)	÷ 0.50	÷ 0.75	÷ 1.00
Contribution margin per direct labor hour	$20	$16	$7

When labor is in short supply, Plain should be manufactured because it has the highest contribution margin per direct labor hour.

Joint Costs: Allocation and Decision Making

74. Riverside Company manufactures G and H in a joint process. The joint costs amount to $80,000 per batch of finished goods. Each batch yields 20,000 liters, of which 40% are G and 60% are H. The selling price of G is $8.75 per liter, and the selling price of H is $15.00 per liter.

    Required:

    A. If the joint costs are allocated on the basis of the products' sales value at the split-off point, what amount of joint cost will be charged to each product?
    B. Riverside has discovered a new process by which G can be refined into Product GG, which has a sales price of $12 per liter. This additional processing would increase costs by $2.10 per liter. Assuming there are no other changes in costs, should the company use the new process? Show calculations.

    LO: 6 Type: A

    Answer:

    A. Each batch of 20,000 liters yields 8,000 liters of G (40%) and 12,000 liters of H (60%). Thus, the sales values at split-off are: G, $70,000 (8,000 x $8.75) and H, $180,000 (12,000 x $15.00), for a total of $250,000. The joint cost allocation is:

        G: ($70,000 ÷ $250,000) x $80,000 = $22,400
        H: ($180,000 ÷ $250,000) x $80,000 = $57,600

    B.

Incremental revenue per liter ($12.00 - $8.75)	$ 3.25
Less: Incremental costs per liter	2.10
Incremental profit per liter	$ 1.15
Volume in liters	x 8,000
Incremental profit	$ 9,200

Riverside should go ahead with the new process as it is profitable for the firm.

Joint Costs: Allocation, Focus on Decision Making

75. Stowers Corporation manufactures products J, K, and L in a joint process. The company incurred $480,000 of joint processing costs during the period just ended and had the following data that related to production:

		Sales Values and Additional Cost if Processed Beyond Split-off	
Product	Sales Value at Split-off	Sales Value	Additional Cost
J	$400,000	$550,000	$130,000
K	350,000	540,000	240,000
L	850,000	975,000	118,000

An analysis revealed that all costs incurred after the split-off point are variable and directly traceable to the individual product line.

Required:

A. If Stowers allocates joint costs on the basis of the products' sales values at the split-off point, what amount of joint cost would be allocated to product J?

B. If production of J totaled 50,000 gallons for the period, determine the relevant cost per gallon that should be used in decisions that explore whether to sell at the split-off point or process further? Briefly explain your answer.

C. At the beginning of the current year, Stowers decided to process all three products beyond the split-off point. If the company desired to maximize income, did it err in regards to its decision with product J? Product K? Product L? By how much?

LO: 6 Type: A, N

Answer:

A. The total sales value at split-off amounts to $1,600,000 ($400,000 + $350,000 + $850,000. Since J has 25% of the sales value ($400,000 ÷ $1,600,000), Stowers would allocate $120,000 of joint cost ($480,000 x 25%).

B. Joint costs are not relevant in making this decision because the amounts have already been incurred and are the same regardless of what the company decides to do. The only relevant cost is cost incurred beyond the split-off, which for J amounts to $2.60 per gallon ($130,000 ÷ 50,000 gallons).

C. As noted in part "B," joint cost is not relevant for sell at split vs. process further decisions. Rather, one must explore differential revenue vs. differential cost, as follows:

J: ($550,000 - $400,000) vs. $130,000 = $20,000
K: ($540,000 - $350,000) vs. $240,000 = $(50,000)
L: ($975,000 - $850,000) vs. $118,000 = $7,000

The company erred in processing K beyond the split point and lost $50,000 in the process.

DISCUSSION QUESTIONS

Characteristics of Information for Decision Making

76. Information is said to be useful in decision making if it possesses three characteristics.

    Required:
    A. List the three characteristics of useful information.
    B. Frequently, there is a conflict between two of the characteristics requested in part "A." Briefly explain what this conflict is.
    C. What distinguishes relevant from irrelevant information?

    LO: 3   Type: RC

    Answer:
    A. The three characteristics are relevance, accuracy, and timeliness.

    B. Accuracy frequently can be enhanced if more time is used to develop, obtain, or analyze information. Thus, in order to meet deadlines for decisions, information may have to be developed that is less accurate than desired.

    C. Relevant information is pertinent to the decision, that is, it has the potential to influence the decision. Specifically, future costs and revenues that differ among alternatives must be considered. In contrast, irrelevant information includes past conditions as well as future conditions that will not be affected by the choice among alternatives.

Distinctions Between Sunk Costs and Opportunity Costs

77. Sunk costs and opportunity costs are inherent in decision making.

    Required:
    A. Define the terms "sunk cost" and "opportunity cost."
    B. How are sunk costs treated when making decisions?
    C. "Information about sunk costs can be found in the financial statements and accounting records; however, information about opportunity costs is omitted." Do you agree with this statement? Explain.

    LO: 4 Type: RC, N

    Answer:
    A. A sunk cost is a past cost that will remain the same no matter which of the alternatives under consideration is chosen. An opportunity cost is the potential benefit given up when the choice of one alternative requires the sacrifice of another. Opportunity cost is measured by using the net benefit of the best alternative not taken.

    B. Sunk costs should be ignored when making decisions, as one cannot change what has happened in the past.

    C. Yes. The accounting system is historical; its main focus is on events that have occurred. Consequently, information about sunk costs will be found in the financial statements and accounting records. On the other hand, opportunity costs refer to the benefits from alternatives that are not selected. Because these alternatives were not chosen, an historical system will not include any measures of these costs.

Capacity Restrictions

78. Capacity restrictions often change the way that managers make decisions. For example, consider a retailer that has limited square footage in its store. What guideline should be used in deciding which new products to carry? How would this differ, say, from a concert promoter that desires to bring a rock group to an arena-type facility?

    LO: 6 Type: RC, N

    Answer:
    When a single scarce resource is present, decisions should be made on the basis of the contribution margin per unit of scarce resource. In this case, the retailer should focus on the contribution margin per square foot. This same principle can be used by the concert promoter, who will study the contribution margin per seat.