Chapter 8

Remember – you wont have a lot of time on the exam, so don’t expect the questions to be this detailed. These questions are here to strengthen your understanding of the subject.

1. List and define four types of product quality costs.

**Solution:**

Four types of product quality costs are as follows:

(a) Prevention costs: the costs of preventing defects.

(b) Appraisal costs: the costs of determining whether defects exist.

(c) Internal failure costs: the costs of repairing defects found prior to product sale.

(d) External failure costs: the costs incurred when defective products have been sold.

2. What is the difference between observable and hidden quality costs? Explain and give at least one example of each.

**Solution:**

While student examples may vary, here is an example answer.

Observable quality costs can be measured and reported, often on the basis of information in the accounting records. For example, the cost of inspectors' salaries is an observable quality cost.

Hidden quality costs cannot easily be measured, reported, or even estimated. For example, the opportunity cost associated with lost sales after a defective product is sold is a hidden quality cost to the company.

3. What is the difference between a product’s quality of design and its quality of conformance?

**Solution:**

A product's quality of design is how well it is conceived or designed for its intended use. The product's quality of conformance refers to the extent to which a product meets the specifications of its design.

4. What are three strategies of environmental cost management? Define each strategy.

**Solution:**

The three strategies are:

1. End-of-pipe strategies: Under this approach, a company produces a pollutant and cleans it up before discharging it into the environment.

2. Process improvement strategies: Under this approach, companies modify products or production processes to produce little or no pollution, or recycle wastes internally.

3. Prevention strategies: Under this approach, companies do not generate any pollutants in the first place.

5. What is a product’s grade*,* as a characteristic of quality? Give a service industry example.

**Solution:**

While student examples may vary, here is an example answer.

A product's grade is the extent of its capability in performing its intended purpose, viewed in relation to other products with the same functional use.

An example in the service industry is airline travel. Airplane seats may be coach class or first class; the difference lies in seat size, comfort, and service. Either class will take you from Los Angeles to Chicago, but not with the same degree of comfort.

6. The following costs were incurred by Home Master, a company that makes washing machines.

**a.** The company requires each machine to complete 5 spin cycles before it is boxed and shipped.

**b.** The company replaced switches on 10% of machines sold last year.

**c.** Cost of rewiring the machines that failed the 5-spin cycle test.

**d.** The company sent its machine inspectors to a two-week training program on the new model that is to be released this year. It is hoped that this will lower the defect rate on the new model.

**Required:** Classify each of these costs as a prevention, appraisal, internal failure, or external failure cost.

**Solution:**

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

7. Xenon Enterprises (XE) produces two extruding machines that are popular with food processors: No. 616 and No. 717. Machine No. 616 has an average selling price of $160,000, whereas No. 717 typically sells for approximately $155,000. The company is extremely focused on quality and has provided the following information:

|  |  |
| --- | --- |
| **No. 616** | **No. 717** |
| Number of machines produced and sold | 180 | 200 |
| Warranty costs: | | |
| Average repair cost per unit | $2,200 | $1,400 |
| Percentage of units needing repair | 75% | 15% |
| Reliability engineering at $150 per hour | 2,600 hours | 3,000 hours |
| Rework at XE’s manufacturing plant: | | |
| Average rework cost per unit | $2,900 | $2,600 |
| Percentage of units needing rework | 40% | 30% |
| Manufacturing inspection at $50 per hour | 600 hours | 1,000 hours |
| Transportation costs to customer sites to fix problems | $49,500 | $35,000 |
| Quality training for employees | $50,000 | $75,000 |

**Required:**

**a.** Classify the preceding costs as prevention, appraisal, internal failure, or external failure.

**b.** Using the classifications in requirement (1), compute XE’s quality costs for machine No. 616 in dollars and as a percentage of sales revenues. Also calculate prevention, appraisal, internal failure, and external failure costs as a percentage of total quality costs.

**c.** Repeat requirement (b) for machine No. 717.

**d.** Comment on your findings, noting whether the company is “investing” its quality expenditures differently for the two machines.

**e.** Quality costs can be classified as observable or hidden. What are hidden quality costs, and how do these costs differ from observable costs?

**Solution:**

a. Warranty costs and Transportation costs to customer sites: External failure

Reliability engineering and Quality training for employees: prevention

Rework at XE’s manufacturing plant: internal failure

Manufacturing inspection: appraisal

b&c. Evaluation of quality costs:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | No. 616 | | No. 717 | |
|  |  | |  | |
|  | $ | % of Sales | $ | % of Sales |
| Sales revenue: |  |  |  |  |
| $160,000 x 180;  $155,000 x 200. | $28,800,000 |  | $31,000,000 |  |
| Prevention: |  |  |  |  |
| Reliability engineering |  |  |  |  |
| 2,600 hours x $150……… | $ 390,000 |  |  |  |
| 4,000 hours x $150……… |  |  | $ 600,000 |  |
| Quality training……………. | 50,000 |  | 75,000 |  |
| Total………………… | $ 440,000 | 1.53% | $ 675,000 | 2.18% |
| Appraisal (inspection): |  |  |  |  |
| 600 hours x $50……………. | $ 30,000 | .104% |  |  |
| 1,000 hours x $50…………. |  |  | $ 50,000 | .161% |
| Internal failure (rework at AT): |  |  |  |  |
| 180 units x 40% x $2,900….. | $ 208,800 | 0.975% |  |  |
| 200 units x 30% x $2,600…… |  |  | $ 156,000 | 0.503% |
| External failure: |  |  |  |  |
| Warranty costs: |  |  |  |  |
| 180 units x 75% x $2,200 | $ 297,000 |  |  |  |
| 200 units x 15% x $1,400 |  |  | $ 42,000 |  |
| Transportation to customers | 49,500 |  | 35,000 |  |
| Total………… | $ 346,500 | 1.20% | $ 77,000 | 0.248% |
| Total quality costs…………….. | $ 1,025,300 | 3.56% | $ 958,000 | 3.09% |

Individual quality costs as a % of total quality costs:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | No. 616 | | No. 717 | |
|  | $ | % of Total | $ | % of Total |
|  |  |  |  |  |
| Prevention…….. | $ 440,000 | 42.9% | $675,000 | 70.46% |
| Appraisal ……... | 30,000 | 2.92% | 50,000 | 5.22% |
| Internal failure …. | 208,800 | 20.36% | 156,000 | 16.28% |
| External failure…. | 346,500 | 33.79% | 77,000 | 8.04% |
| Total ………. | $1,025,300 |  | $958,000 |  |

d. Yes, the company is “investing” its quality expenditures differently for the two machines. XE is spending more up-front quality costs on no. 717 with respect to prevention and appraisal—over 75% of the total quality expenditures. (This figure is approximately 46% for No. 616.) The net result is lower internal and external failure costs and, perhaps more importantly, lower total quality costs as a percentage of sales (3.09% for No. 717 and 3.56% for No. 616).

Thus, total quality management (TQM) systems are very important systems when compared with conventional quality control procedures. Overall costs are lower with TQM when compared against systems that focus on “after-the-fact” detection and rework.

e. Prevention, appraisal, internal failure, and external failure costs are observable in the sense that such amounts can be measured and reported. When inferior products make it to the marketplace, customer dissatisfaction will often increase, resulting in lost sales of the defective product and perhaps other goods as well. The “cost” of these lost sales is an opportunity cost—a “hidden” cost that is very difficult to measure.

Chapter 11

1. A flexible budget:   
A. parallels a static budget with respect to format and advantages of use.  
B. is preferred over a static budget in the evaluation of performance.  
C. gives management flexibility in terms of meeting budget goals.  
D. can be used to compare actual and budgeted costs at various levels of activity.  
**E.** is both preferred over a static budget in the evaluation of performance and can be used to compare actual and budgeted costs at various levels of activity.

2. Barrington Industries anticipated selling 29,000 units of a major product and paying sales commissions of $6 per unit. Actual sales and sales commissions totaled 31,500 units and $182,700, respectively. If the company used **a static budget** for performance evaluations, Barrington would report a cost variance of:   
A. $6,300U.  
B. $6,300F.  
**C.** $8,700U.  
D. $8,700F.  
E. None of the answers is correct.

*AACSB: Reflective Thinking  
AICPA BB: Critical Thinking  
AICPA FN: Research  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 11-01   
Feedback A: This amount is incorrect.*

*Feedback B: This amount is incorrect.*

*Feedback C: Correct! Using a static budget: 29,000 x $6 = $174,000; $182,700 – 174,000 = $8,700.*

*Feedback D: This amount is incorrect.*

*Feedback E: This answer choice is wrong, since a correct answer is listed.*

3. Strongheart Enterprises anticipated selling 27,000 units of a major product and paying sales commissions of $6 per unit. Actual sales and sales commissions totaled 27,500 units and $171,400, respectively. If the company used **a flexible budget** for performance evaluations, Strongheart would report a cost variance of:   
**A.** $6,400U.  
B. $6,400F.  
C. $9,400U.  
D. $9,400F.  
E. None of the answers is correct.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 11-01   
Feedback A: Correct! 27,500 x $6 = $165,000; $171,400 – 165,000 = $6,400 U.*

*Feedback B: This amount is incorrect.*

*Feedback C: This amount is incorrect.*

*Feedback D: This amount is incorrect.*

*Feedback E: This answer choice is wrong, since a correct answer is listed.*

4. Zhou, Inc. is planning its cash needs for an upcoming period when 85,000 machine hours are expected to be worked. Activity may drop as low as 78,000 hours if some overdue equipment maintenance procedures are performed; on the other hand, activity could jump to 94,000 hours if one of Zhou's major competitors likely goes bankrupt. A flexible cash budget to determine cash needs would best be based on:   
A. 78,000 hours.  
B. 85,000 hours.  
C. 94,000 hours.  
D. 78,000 hours and 94,000 hours.  
**E.** 78,000 hours, 85,000 hours, and 94,000 hours.

*AACSB: Reflective Thinking  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Understand  
Difficulty: 2 Medium  
Learning Objective: 11-02   
Feedback A: These amounts are incorrect.*

*Feedback B: These amounts are incorrect.*

*Feedback C: These amounts are incorrect.*

*Feedback D: These amounts are incorrect.*

*Feedback E: Correct! It is best to have the most common activity levels within the relevant range.*

*Use the following information to answer Questions 5 and 6.*

Commerce Corporation has a high probability of operating at 40,000 activity hours during the upcoming period, and lower probabilities of operating at 30,000 hours and 50,000 hours. The company's flexible budget revealed the following:

|  |  |  |  |
| --- | --- | --- | --- |
|  | **30,000 Hours** | **40,000 Hours** | **50,000 Hours** |
| Variable costs | $135,000 | $180,000 | $225,000 |
| Fixed costs | 720,000 | 720,000 | 720,000 |

5. Commerce’s flexible-budget formula, where Y is defined as total cost and AH represents activity hours, is:   
A. Y = $4.50AH + $24AH.  
**B.** Y = $4.50AH + $720,000.  
C. Y = $22.50AH.  
D. Y = $180,000 + $18AH.  
E. Y = $945,000.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Apply  
Difficulty: 3 Hard*

*Learning Objective: 11-02   
Feedback A: This formula is incorrect.*

*Feedback B: By dividing any of the variable costs by their respective hours, variable cost per unit is $4.50 and since $720,000 is the fixed cost at all levels, the equation for the flexible-budget is $4.50 AH + $720,000 = Y.*

*Feedback C: This formula is incorrect.*

*Feedback D: This formula is incorrect.*

*Feedback E: This formula is incorrect.*

6. If Commerce operated at 35,000 hours, its total budgeted cost would be:   
**A.** $877,500.  
B. $945,000.  
C. $787,500.  
D. $997,500.  
E. $810,000.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 11-02   
Feedback A: Correct! (35,000 x $4.50) + $720,000 = $877,500.*

*Feedback C: This amount is incorrect.*

*Feedback D: This amount is incorrect.*

*Feedback E: This amount is incorrect.*

*Use the following information to answer Questions 7 and 8.*

Seven Falls Cuisines has the following flexible-budget formula:   
Y = $13PH + $450,000 where PH is defined as process hours.

7. Which of the following statements is (are) true?   
A. Seven Falls has $450,000 of fixed costs.  
B. Each additional hour of process time is expected to cost Seven Falls $13.  
C. Y would equal the amount shown as "total cost" in the company's flexible budget.  
D. Both Seven Falls has $450,000 of fixed costs and each additional hour of process time is expected to cost Seven Falls $13.  
**E.** All of the answers are correct.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Understand  
Difficulty: 2 Medium  
Learning Objective: 11-02   
Feedback A: This item is correct, but there is a better answer choice given.*

*Feedback B: This item is correct, but there is a better answer choice given.*

*Feedback C: This item is correct, but there is a better answer choice given.*

*Feedback D: This item is correct, but there is a better answer choice given.*

*Feedback E: Correct! All these statements about costs are correct.*

8. What is Seven Falls’ budgeted total cost if its process hours equal 25,000?   
A. $325,000.  
B. $450,000.  
**C.** $775,000.  
D. $1,225,000.  
E. Answer cannot be determined from the information provided.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Understand  
Difficulty: 2 Medium  
Learning Objective: 11-02   
Feedback A: This amount is incorrect.*

*Feedback B: This amount is incorrect.*

*Feedback C: Correct! Y = $13 (25,000) + $450,000 = $775,000*

*Feedback D: This amount is incorrect.*

*Feedback E: This answer choice is incorrect, because sufficient information is provided to calculate the budgeted total cost.*

9. A flexible budget for 15,000 hours revealed variable manufacturing overhead of $90,000 and fixed manufacturing overhead of $120,000. The budget for 25,000 hours would reveal total overhead costs of:   
A. $210,000.  
**B.** $270,000.  
C. $290,000.  
D. $350,000.  
E. None of the answers is correct.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 11-02   
Feedback A: This amount is incorrect.*

*Feedback B: Correct! Variable per unit = $90,000 / 15,000 = $6; $6(25,000) + $120,000 = $270,000.*

*Feedback C: This amount is incorrect.*

*Feedback D: This amount is incorrect.*

*Feedback E: This answer choice is wrong, since a correct answer is listed.*

10. A flexible budget for 15,000 hours revealed variable manufacturing overhead of $90,000 and fixed manufacturing overhead of $120,000. The budget for 20,000 hours would reveal total overhead costs of:   
**A.** $240,000.  
B. $270,000.  
C. $290,000.  
D. $350,000.  
E. $210,000.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 11-02   
Feedback A: Correct! Variable per unit = $90,000 / 15,000 = $6; $6(20,000) + $120,000 = $240,000.*

*Feedback B: This amount is incorrect.*

*Feedback C: This amount is incorrect.*

*Feedback D: This amount is incorrect.*

*Feedback E: This amount is incorrect.*

11. A flexible budget is appropriate for a (n):

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Direct Labor Budget** | **Marketing Budget** | **Administrative Expense Budget** |
| A. | No | No | No |
| B. | No | Yes | Yes |
| C. | Yes | No | Yes |
| **D.** | Yes | Yes | Yes |
| E. | No | No | Yes |

*AACSB: Reflective Thinking  
AICPA BB: Critical Thinking  
AICPA FN: Research  
Blooms: Understand  
Difficulty: 2 Medium  
Learning Objective: 11-02   
Feedback A: This combination of choices is incorrect regarding a flexible budget.*

*Feedback B: This combination of choices is incorrect regarding a flexible budget.*

*Feedback C: This combination of choices is incorrect regarding a flexible budget.*

*Feedback D: Correct! A flexible budget is appropriate for all of these budgets.*

*Feedback E: This combination of choices is incorrect regarding a flexible budget.*

Chapter 12

1. When managers of subunits throughout an organization strive to achieve the goals set by top management, the result is:   
**A.** goal congruence.  
B. planning and control.  
C. responsibility accounting.  
D. delegation of decision making.  
E. strategic control.

*AACSB: Reflective Thinking  
AICPA BB: Critical Thinking  
AICPA FN: Research  
Blooms: Remember  
Difficulty: 1 Easy  
Learning Objective: 12-01   
Feedback A: Correct! This is the correct definition for goal congruence.*

*Feedback B: This term is incorrect.*

*Feedback C: This term is incorrect.*

*Feedback D: This term is incorrect.*

*Feedback E: This term is incorrect.*

2. The concepts and tools used to measure the performance of people and departments are known as:   
A. goal congruence.  
B. planning and control.  
**C.** responsibility accounting.  
D. delegation of decision making.  
E. strategic control.

*AACSB: Reflective Thinking  
AICPA BB: Critical Thinking  
AICPA FN: Research  
Blooms: Remember  
Difficulty: 1 Easy  
Learning Objective: 12-01   
Feedback A: This term is incorrect.*

*Feedback B: This term is incorrect.*

*Feedback C: Correct! This is the definition for responsibility accounting.*

*Feedback D: This term is incorrect.*

*Feedback E: This term is incorrect.*

3. Which of the following is **not** an example of a responsibility center?   
A. Cost center.  
B. Revenue center.  
C. Profit center.  
D. Investment center.  
**E.** Contribution center.

*AACSB: Reflective Thinking  
AICPA BB: Critical Thinking  
AICPA FN: Research  
Blooms: Remember  
Difficulty: 1 Easy  
Learning Objective: 12-02*

*Feedback A: This is an example of a responsibility center.*

*Feedback B: This is an example of a responsibility center.*

*Feedback C: This is an example of a responsibility center.*

*Feedback D: This is an example of a responsibility center.*

*Feedback E: Correct! Contribution center is not an example of a responsibility center.*

4. A manufacturer's raw-material purchasing department would likely be classified as a:   
**A.** cost center.  
B. revenue center.  
C. profit center.  
D. investment center.  
E. contribution center.

*AACSB: Reflective Thinking  
AICPA BB: Critical Thinking  
AICPA FN: Research  
Blooms: Remember  
Difficulty: 1 Easy  
Learning Objective: 12-02  
Feedback A: Correct! This would be a cost center.*

*Feedback B: This is not a revenue center.*

*Feedback C: This is not a profit center.*

*Feedback D: This is not an investment center.*

*Feedback E: This is not a contribution center.*

5. Halpern Corporation is in the process of overhauling the performance evaluation system for its San Diego manufacturing division, which produces and sells parts that are popular in the aerospace industry. Which of the following is **least** likely to be chosen to evaluate the overall operations of the San Diego division?   
**A.** Cost center.  
B. Responsibility center.  
C. Profit center.  
D. Investment center.  
E. The profit center and investment center are equally unlikely to be chosen.

*AACSB: Reflective Thinking  
AICPA BB: Critical Thinking  
AICPA FN: Research  
Blooms: Understand*

*Difficulty: 2 Medium*

*Learning Objective: 12-02*

*Feedback A: Correct! A cost center would be least likely to be chosen in this case.*

*Feedback B: A responsibility center could be chosen.*

*Feedback C: A profit center could be chosen.*

*Feedback D: An investment center could be chosen.*

*Feedback E: Both are likely to be chosen.*

6. A cost center manager:   
**A.** does not have the ability to produce revenue.  
B. may be involved with the sale of new marketing programs to clients.  
C. would normally be held accountable for producing an adequate return on invested capital.  
D. often oversees divisional operations.  
E. may be the manager who oversees the operations of a retail store.

*AACSB: Reflective Thinking  
AICPA BB: Critical Thinking  
AICPA FN: Research  
Blooms: Understand  
Difficulty: 1 Easy  
Learning Objective: 12-02*

*Feedback A: Correct! A cost center manager does not have the ability to produce revenue.*

*Feedback B: This statement is incorrect.*

*Feedback C: This statement is incorrect.*

*Feedback D: This statement is incorrect.*

*Feedback E: This statement is incorrect.*

7. The Telemarketing Department of a residential remodeling company would most likely be evaluated as a:   
A. cost center.  
**B.** revenue center.  
C. profit center.  
D. investment center.  
E. contribution center.

8. Swift Software operates stores within five regions. Regional managers are held accountable for marketing, advertising, and sales decisions, and all costs incurred within their region. In addition, regional managers decide whether new stores will open, where the stores will be located, and whether the stores will lease or purchase the facilities. Store managers, in contrast, are accountable for marketing, advertising, sales decisions, and costs incurred within their stores. Ideally, on the basis of this information, what type of responsibility center should the software company use to evaluate its regions and stores?

Regions Stores

A. Profit center Profit center

B. Profit center Cost center

C. Profit center Revenue center

**D.** Investment center Profit center

E. Investment center Cost center

*AACSB: Reflective Thinking  
AICPA BB: Critical Thinking  
AICPA FN: Research  
Blooms: Understand  
Difficulty: 2 Medium  
Learning Objective: 12-02*

*Feedback A: This combination is incorrect.*

*Feedback B: This combination is incorrect.*

*Feedback C: This combination is incorrect.*

*Feedback D: Correct! Region would be an investment center and stores would be profit centers.*

*Feedback E: This combination is incorrect.*

9. Performance reports help managers:   
A. use management by exception and effectively control operations.  
B. decide whether a cost, profit, or investment center framework is appropriate.  
C. design their organizational hierarchy.  
D. pinpoint trouble spots.  
**E.** use management by exception and effectively control operations and pinpoint trouble spots.

*AACSB: Reflective Thinking  
AICPA BB: Critical Thinking  
AICPA FN: Research  
Blooms: Remember  
Difficulty: 1 Easy  
Learning Objective: 12-03  
Feedback A: While this is part of the definition of a performance report, there is a better answer.*

*Feedback B: This statement is incorrect.*

*Feedback C: This statement is incorrect.*

*Feedback D: While this is part of the definition of a performance report, there is a better answer.*

*Feedback E: Correct! This is the correct definition of a performance report.*

10. Consider the following statements about performance reports:   
I. Performance reports provide feedback to managers and allow them to better control operations.  
II. Many performance reports have budget, actual, and variance data.  
III. Performance reports are often structured around a firm's organizational hierarchy—that is, data relating to lower-level units (e.g., departments) are combined and flow into higher-level units (e.g., stores).

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

*AACSB: Reflective Thinking  
AICPA BB: Critical Thinking  
AICPA FN: Research  
Blooms: Remember  
Difficulty: 1 Easy  
Learning Objective: 12-03  
Feedback A: While this is correct regarding a performance report, there is a better answer.*

*Feedback B: While this is correct regarding a performance report, there is a better answer.*

*Feedback C: While this is correct regarding a performance report, there is a better answer.*

*Feedback D: While this is correct regarding a performance report, there is a better answer.*

*Feedback E: Correct! All of these statements are correct regarding performance reports.*

*Use the following information to answer Questions 42 and 43.*

Management of Wee Ones (WO), an operator of day-care facilities, wants the company's profit to be subdivided by center. The firm's accountant has provided the following data:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Center** | **Budgeted Revenue** | **Actual Revenue** | **Budgeted Direct Costs** | **Actual**  **Direct Costs** |
| Downtown | $320,000 | $340,200 | $300,000 | $300,000 |
| Irvine | 560,000 | 534,600 | 510,000 | 440,000 |
| H. Beach | 720,000 | 745,200 | 690,000 | 740,000 |
| Totals | $1,600,000 | $1,620,000 | $1,500,000 | $1,480,000 |

WO's advertising, which is handled by the home office, is **not** reflected in the preceding figures and amounted to $60,000.

11. If advertising expense were allocated to centers based on actual center profitability, the amount of advertising expense allocated to the Irvine center would be closest to:   
A. $19,800.  
B. $21,000.  
C. $30,000.  
**D.** $40,543.  
E. None of the answers is correct.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 12-04  
Feedback A: This amount is incorrect.*

*Feedback B: This amount is incorrect.*

*Feedback C: This amount is incorrect.*

*Feedback D: Correct! Irvine profit = $534,600 - $440,000 = $94,600; Downtown profit = $340,200 – 300,000 = $40,200; H. Beach profit = $745,200 – 740,000 = $5,200; Total profit = $140,000; ($60,000 / $140,000) x $94,600 = $40,543.*

*Feedback E: This answer is wrong, because there is a correct amount listed in the answer choices.*

12. Assume that management used the allocation base that is most influenced by advertising effort and consistent with sound managerial accounting practices. How much advertising would be allocated to the Irvine center?   
A. $17,838.  
B. $19,800.  
C. $20,000.  
D. $20,400.  
**E.** $21,000.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 12-04  
Feedback A: This amount is incorrect.*

*Feedback B: This amount is incorrect.*

*Feedback C: This amount is incorrect.*

*Feedback D: This amount is incorrect.*

*Feedback E: Correct! See spreadsheet below. Since the budgeted revenues are consistent with sound managerial accounting practice the advertising allocated to the Irvine center would be $60,000 x 35% = $21,000*

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Center** | **Budgeted Revenue** |  | **Actual Revenue** |  | **Budgeted Direct Costs** |  | **Actual**  **Direct Costs** |  |
| Downtown | $320,000 | 20% | $340,200 | 21% | $300,000 | 20% | $300,000 | 20.3 |
| Irvine | 560,000 | **35%** | 534,600 | 33% | 510,000 | 34% | 440,000 | 29.7 |
| H. Beach | 720,000 | 45% | 745,200 | 46% | 690,000 | 46% | 740,000 | 50% |
| Totals | $1,600,000 |  | $1,620,000 |  | $1,500,000 |  | $1,480,000 |  |

13. Distinguishing between controllable and noncontrollable costs on a performance report may result in:   
A. an increase in the effectiveness of a cost management system.  
B. a decrease in goal congruent behavior by managers.  
C. an increase in the quality of performance information.  
D. an increase in feelings of blame by managers.  
**E.** an increase in the effectiveness of a cost management system and an increase in the quality of performance information.

*AACSB: Reflective Thinking  
AICPA BB: Critical Thinking  
AICPA FN: Research  
Blooms: Understand*

*Difficulty: 2 Medium*

*Learning Objective: 12-04  
Feedback A: This statement is incorrect!*

*Feedback B: This statement is incorrect!*

*Feedback C: This statement is incorrect!*

*Feedback D: This statement is incorrect!*

*Feedback E: Correct! Distinguishing between controllable and noncontrollable costs on a performance report may result in an increase in the effectiveness of a cost management system and an increase in the quality of performance information.*

14. Sandy Shores Corporation operates two stores: J and K. The following information relates to J:

|  |  |
| --- | --- |
| Sales revenue | $1,300,000 |
| Variable operating expenses | 600,000 |
| Fixed expenses: |  |
| Traceable to J and controllable by J | 275,000 |
| Traceable to J and controllable by others | 80,000 |

J's segment contribution margin is:   
A. $345,000.  
B. $425,000.  
C. $620,000.  
**D.** $700,000.  
E. $745,000.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 12-05  
Feedback A: This amount is incorrect.*

*Feedback B: This amount is incorrect.*

*Feedback C: This amount is incorrect.*

*Feedback D: Correct! $1,300,000 - $600,000 = $700,000*

*Feedback E: This amount is incorrect.*

15. Miracle Green Corporation operates two garden supply stores: A and B. The following information relates to store A:

|  |  |
| --- | --- |
| Sales revenue | $900,000 |
| Variable operating expenses | 400,000 |
| Fixed expenses: |  |
| Traceable to A and controllable by A | 275,000 |
| Traceable to A and controllable by others | 120,000 |

A's segment profit margin is:   
**A.** $105,000.  
B. $225,000.  
C. $380,000.  
D. $500,000.  
E. $505,000.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 12-05  
Feedback A: Correct! $900,000 - $400,000 - $275,000 - $120,000 = $105,000.*

*Feedback B: This amount is incorrect.*

*Feedback C: This amount is incorrect.*

*Feedback D: This amount is incorrect.*

*Feedback E: This amount is incorrect.*

16. The following data relate to Department no. 3 of Winslett Corporation:

|  |  |
| --- | --- |
| Segment contribution margin | $540,000 |
| Profit margin controllable by the segment manager | 310,000 |
| Segment profit margin | 150,000 |

On the basis of this information, Department no. 3's variable operating expenses are:   
A. $80,000.  
B. $160,000.  
C. $230,000.  
D. $390,000.  
**E.** Not determinable.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 12-05  
Feedback A: This amount is incorrect.*

*Feedback B: This amount is incorrect.*

*Feedback C: This amount is incorrect.*

*Feedback D: This amount is incorrect.*

*Feedback E: Correct! There is not enough information available.*

17. The following data relate to Department no. 2 of Velma Corporation:

|  |  |
| --- | --- |
| Segment contribution margin | $540,000 |
| Profit margin controllable by the segment manager | 320,000 |
| Segment profit margin | 60,000 |

On the basis of this information, fixed costs traceable to Department no. 2 but controllable by others are:   
A. $160,000.  
B. $220,000.  
**C.** $260,000.  
D. $480,000.  
E. Not determinable.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 12-05  
Feedback A: This amount is incorrect.*

*Feedback B: This amount is incorrect.*

*Feedback C: Correct! $320,000 - $60,000 = $260,000.*

*Feedback D: This amount is incorrect.*

*Feedback E: This answer is wrong, because there is enough information to derive the correct amount.*

*Use the following information to answer Questions 18-22.*

The following information was taken from the segmented income statement of Restin, Inc., and the company's three divisions:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Restin Inc.** | **Los Angeles Division** | **Bay Area Division** | **Central Valley Division** |
| Revenues | $750,000 | $200,000 | $235,000 | $325,000 |
| Variable operating expenses | 410,000 | 110,000 | 120,000 | 180,000 |
| Controllable fixed expenses | 210,000 | 65,000 | 75,000 | 70,000 |
| Noncontrollable fixed expenses | 60,000 | 15,000 | 20,000 | 25,000 |

In addition, the company incurred common fixed costs of $18,000.

18. Bay Area's segment profit margin is:   
A. $14,000.  
B. $18,000.  
**C.** $20,000.  
D. $40,000.  
E. $115,000.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 12-05  
Feedback A: This amount is incorrect.*

*Feedback B: This amount is incorrect.*

*Feedback C: Correct! $235,000 - $120,000 - $75,000 - $20,000 = $20,000*

*Feedback D: This amount is incorrect.*

*Feedback E: This amount is incorrect.*

19. The profit margin controllable by the Central Valley segment manager is:   
A. $32,000.  
B. $44,000.  
C. $50,000.  
**D.** $75,000.  
E. $145,000.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 12-05  
Feedback A: This amount is incorrect.*

*Feedback B: This amount is incorrect.*

*Feedback C: This amount is incorrect.*

*Feedback D: Correct! $325,000 - $180,000 - $70,000 = $75,000*

*Feedback E: This amount is incorrect.*

20. Assuming use of a responsibility accounting system, which of the following amounts should be used to evaluate the performance of the Los Angeles division manager?   
A. $4,000.  
B. $8,000.  
C. $10,000.  
**D.** $25,000.  
E. $90,000.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 12-05  
Feedback A: This amount is incorrect.*

*Feedback B: This amount is incorrect.*

*Feedback C: This amount is incorrect.*

*Feedback D: Correct! $200,000 - $110,000 - $65,000 = $25,000*

*Feedback E: This amount is incorrect.*

21. Which of the following amounts should be used to evaluate whether Restin, Inc., should continue to invest company resources in the Los Angeles division?   
A. $4,000.  
B. $8,000.  
**C.** $10,000.  
D. $25,000.  
E. $90,000.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 12-05  
Feedback A: This amount is incorrect.*

*Feedback B: This amount is incorrect.*

*Feedback C: Correct! $200,000 - $110,000 - $65,000 - $15,000 = $10,000*

*Feedback D: This amount is incorrect.*

*Feedback E: This amount is incorrect.*

22. Assume that the Los Angeles division increases its promotion expense, a controllable fixed cost, by $10,000. As a result, revenues increased by $50,000. If variable expenses are tied directly to revenues, the new Los Angeles segment contribution margin is:   
A. $12,500.  
**B.** $22,500.  
C. $32,500.  
D. $50,000.  
E. $60,000

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 12-05  
Feedback A: This amount is incorrect.*

*Feedback B: Correct! ($50,000 / $200,000 ) = 25%; Variable = $110,000 x 1.25 = $137,500; New Contribution margin = $250,000 - $137,500 = $112,500 – ($65,000 + $10,000) - $15,000 = $22,500*

*Feedback C: This amount is incorrect.*

*Feedback D: This amount is incorrect.*

*Feedback E: This amount is incorrect.*

Chapter 13

1. What practice best describes when divisional managers throughout an organization work together to achieve the organization's goals?   
A. Participatory management.  
B. Goal attainment.  
**C.** Goal congruence.  
D. Centralization of objectives.  
E. Negotiation by subordinates.

*AACSB: Reflective Thinking  
AICPA BB: Critical Thinking  
AICPA FN: Decision Making  
Blooms: Remember  
Difficulty: 1 Easy  
Learning Objective: 13-01   
Feedback A: This is not the correct term.*

*Feedback B: This is not the correct term.*

*Feedback C: Correct! Goal congruence best describes when divisional managers throughout an organization work together to achieve the organization's goals.*

*Feedback D: This is not the correct term.*

*Feedback E: This is not the correct term.*

2. Which of the following performance measures is (are) used to evaluate the general financial success or failure of investment centers?   
A. Residual income.  
B. Return on investment.  
C. Number of suppliers.  
D. Economic value added.  
**E.** All of these measures are used except number of suppliers.

*AACSB: Reflective Thinking  
AICPA BB: Critical Thinking  
AICPA FN: Decision Making  
Blooms: Remember  
Difficulty: 1 Easy  
Learning Objective: 13-01   
Feedback A: This measure is used to evaluate financial success or failure, but there is a better answer choice.*

*Feedback B: This measure is used to evaluate financial success or failure, but there is a better answer choice.*

*Feedback C: This is not an evaluative measure for financial success or failure.*

*Feedback D: This measure is used to evaluate financial success or failure, but there is a better answer choice.*

*Feedback E: Correct! All of these measures, except answer choice C are used to evaluate the general financial success or failure of investment centers.*

3. ROI is most appropriately used to evaluate the performance of:   
A. cost center managers.  
B. revenue center managers.  
C. profit center managers.  
**D.** investment center managers.  
E. both profit center managers and investment center managers.

*AACSB: Reflective Thinking  
AICPA BB: Critical Thinking  
AICPA FN: Decision Making  
Blooms: Remember  
Difficulty: 1 Easy  
Learning Objective: 13-02   
Feedback A: These are not the correct managers.*

*Feedback B: These are not the correct managers.*

*Feedback C: These are not the correct managers.*

*Feedback D: Correct! ROI is most appropriately used to evaluate the performance of investment center managers.*

*Feedback E: These are not the correct managers.*

4. The ROI calculation will indicate:   
A. the percentage of each sales dollar that is invested in assets.  
B. the sales dollars generated from each dollar of income.  
**C.** how effectively a company used its invested capital.  
D. the invested capital generated from each dollar of income.  
E. the overall quality of a company's earnings.

*AACSB: Reflective Thinking  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Remember*

*Difficulty: 1 Easy*

*Learning Objective: 13-02   
Feedback A: This statement is incorrect.*

*Feedback B: This statement is incorrect.*

*Feedback C: Correct! The ROI calculation indicates how effectively a company uses its invested capital.*

*Feedback D: This statement is incorrect.*

*Feedback E: This statement is incorrect.*

5. Capital turnover shows:   
A. the income generated by each dollar of capital investment.  
**B.** the sales dollars generated by each dollar of capital investment.  
C. the contribution margin generated by each dollar of capital investment.  
D. the capital investment generated by each sales dollar.  
E. the capital investment generated by each dollar of income.

*AACSB: Reflective Thinking  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Remember*

*Difficulty: 1 Easy*

*Learning Objective: 13-02   
Feedback A: This is not the correct definition for Capital turnover.*

*Feedback B: Correct! This is the correct definition for Capital turnover.*

*Feedback C: This is not the correct definition for Capital turnover.*

*Feedback D: This is not the correct definition for Capital turnover.*

*Feedback E: This is not the correct definition for Capital turnover.*

6. Sales margin shows:   
A. the amount of income generated by each dollar of capital investment.  
B. the number of sales dollars generated by each dollar of capital investment.  
**C.** the percentage of each sales dollar that remains as profit after all expenses are covered.  
D. the amount of capital investment generated by each sales dollar.  
E. the amount of capital investment generated by each dollar of income.

*AACSB: Reflective Thinking  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Remember*

*Difficulty: 1 Easy*

*Learning Objective: 13-02   
Feedback A: This is not the correct definition for sales margin.*

*Feedback B: This is not the correct definition for sales margin.*

*Feedback C: Correct! This is the correct definition for sales margin.*

*Feedback D: This is not the correct definition for sales margin.*

*Feedback E: This is not the correct definition for sales margin.*

7. Tempest Enterprises had a sales margin of 5%, sales of $4,000,000, and invested capital of $5,000,000. The company's ROI was:   
**A.** 4.00%.  
B. 6.25%.  
C. 16.00%.  
D. 25.00%.  
E. None of the answers is correct.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 13-02   
Feedback A: Correct! ROI = (5% x $4,000,000) / $5,000,000 = 4%*

*Feedback B: This amount is incorrect.*

*Feedback C: This amount is incorrect.*

*Feedback D: This amount is incorrect.*

*Feedback E: This answer choice is wrong, because there is a correct answer listed.*

8. Vello, Inc. reported a return on investment of 12%, a capital turnover of 5, and income of $180,000. On the basis of this information, the company's invested capital was:   
A. $300,000.  
B. $900,000.  
**C.** $1,500,000.  
D. $7,500,000.  
E. None of the answers is correct.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 13-02   
Feedback A: This amount is incorrect.*

*Feedback B: This amount is incorrect.*

*Feedback C: Correct! $180,000 / 12% = $1,500,000.*

*Feedback D: This amount is incorrect.*

*Feedback E: This answer choice is wrong, because there is a correct answer listed.*

9. The information that follows relates to Khan Corporation:   
Sales margin: 7.5%  
Capital turnover: 2  
Invested capital: $20,000,000  
On the basis of this information, the company's sales revenue is:   
A. $1,500,000.  
B. $3,000,000.  
C. $10,000,000.  
**D.** $40,000,000.  
E. None of the answers is correct.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 13-02   
Feedback A: This amount is incorrect.*

*Feedback B: This amount is incorrect.*

*Feedback C: This amount is incorrect.*

*Feedback D: Correct! $20,000,000 x 2 = $40,000,000.*

*Feedback E: This answer choice is wrong, because there is a correct answer listed.*

10. A division's return on investment may be improved by increasing:   
A. cost of goods sold and expenses.  
B. sales margin and cost of capital.  
C. sales revenue and cost of capital.  
**D.** capital turnover or sales margin.  
E. capital turnover or cost of capital.

11. The basic idea behind residual income is to have a division maximize its:   
A. earnings per share.  
**B.** income in excess of a corporate imputed interest charge.  
C. cost of capital.  
D. cash flows.  
E. invested capital.

*AACSB: Reflective Thinking  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Understand*

*Difficulty: 2 Medium*

*Learning Objective: 13-02   
Learning Objective: 13-04*

*Feedback A: This would not be maximized.*

*Feedback B: Correct! The basic idea behind residual income is to have division maximize its income in excess of a corporate imputed interest charge.*

*Feedback C: This would not be maximized.*

*Feedback D: This would not be maximized.*

*Feedback E: This would not be maximized.*

12. Beach Corporation has a return on investment of 15%. A Beach division, which currently has a 13% ROI and $750,000 of residual income, is contemplating a massive new investment that will (1) reduce divisional ROI and (2) produce $120,000 of residual income. If Beach strives for goal congruence, the investment:   
A. should not be acquired because it reduces divisional ROI.  
B. should not be acquired because it produces $120,000 of residual income.  
C. should not be acquired because the division's ROI is less than the corporate ROI before the investment is considered.  
**D.** should be acquired because it produces $120,000 of residual income for the division.  
E. should be acquired because after the acquisition, the division's ROI and residual income are both positive numbers.

*AACSB: Analytic  
AICPA: BB Resource Management*

*AICPA: FN Risk Analysis*

*Blooms: Analyze*

*Difficulty: 3 Hard*

*Learning Objective: 13-04*

*Feedback A: This decision would be incorrect.*

*Feedback B: This decision would be incorrect.*

*Feedback C: This decision would be incorrect.*

*Feedback D: Correct! The investment should be acquired because it produces $120,000 of residual income for the division.*

*Feedback E: This decision would be incorrect.*

13. The Holder Division of Extraordinary Enterprises has a negative residual income of $540,000. Holder’s management is contemplating an investment opportunity that will reduce this negative amount to $400,000. The investment:   
**A.** should be pursued because it is attractive from both the divisional and corporate perspectives.  
B. should be pursued because it is attractive from the divisional perspective although not from the corporate perspective.  
C. should be pursued because it is attractive from the corporate perspective although not from the divisional perspective.  
D. should not be pursued because it is unattractive from both the divisional and corporate perspectives.  
E. should not be pursued because it is unattractive from the divisional perspective although it is attractive from the corporate perspective.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Analyze*

*Difficulty: 3 Hard*

*Learning Objective: 13-04*

*Feedback A: Correct! The investment should be pursued because it is attractive from both the divisional and corporate perspectives.*

*Feedback B: This decision would be incorrect.*

*Feedback C: This decision would be incorrect.*

*Feedback D: This decision would be incorrect.*

*Feedback E: This decision would be incorrect.*

14. The Nashville Division of Country Classics currently reports a profit of $3.6 million. Divisional invested capital totals $9.5 million; the imputed interest rate is 12%. On the basis of this information, Nashville’s residual income is:   
A. $432,000.  
B. $708,000.  
C. $1,140,000.  
**D.** $2,460,000.  
E. None of the answers is correct.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 13-02*

*Feedback A: This amount is incorrect.*

*Feedback B: This amount is incorrect.*

*Feedback C: This amount is incorrect.*

*Feedback D: Correct! $3.6M – (12% x 9.5M) = $2,460,000*

*Feedback E: This answer choice is wrong, because there is a correct answer listed.*

15. The following information relates to the Corner Division of Hometown Enterprises:   
Income for the period just ended: $1,500,000  
Invested capital: $12,000,000  
If the company has an imputed interest rate of 11%, Corner’s residual income would be:   
A. $165,000.  
**B.** $180,000.  
C. $187,500.  
D. Some other dollar amount other than the ones given.  
E. A percentage greater than 11%.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 13-02*

*Feedback A: This amount is incorrect.*

*Feedback B: Correct! $1,500,000 – ($12,000,000 x 11%) = $180,000.*

*Feedback C: This amount is incorrect.*

*Feedback D: This answer choice is wrong, because there is a correct answer listed.*

*Feedback E: This amount is incorrect.*

16. Imputed interest can best be described as:   
A. the company's weighted average cost of capital.  
B. the prime interest rate on the date of the transaction.  
C. the interest rate charged for the company's bonds.  
**D.** the minimum required rate of return on invested capital.  
E. the after-tax cost of the interest payments on debt.

*AACSB: Reflective Thinking*

*AICPA BB: Critical Thinking  
AICPA: FN Research*

*Blooms: Remember*

*Difficulty: 1 Easy*

*Learning Objective: 13-02*

*Feedback A: This definition of imputed interest is incorrect.*

*Feedback B: This definition of imputed interest is incorrect.*

*Feedback C: This definition of imputed interest is incorrect.*

*Feedback D: Correct! Imputed interest can best be described as the minimum required rate of return on invested capital.*

*Feedback E: This definition of imputed interest is incorrect.*

*Use the following information to answer questions 17-20.*

The following information pertains to Travis Concrete:

Sales revenue $1,500,000

Gross margin 600,000

Income 90,000

Invested capital 450,000

The company's imputed interest rate is 8%.

17. The capital turnover is:   
**A.** 3.33.  
B. 5.00.  
C. 16.67.  
D. 20.00.  
E. 30.00.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 13-02*

*Feedback A: Correct! Sales / Invested Capital = Capital Turnover; $1,500,000 / $450,000 = 3.33*

*Feedback B: This amount is incorrect.*

*Feedback C: This amount is incorrect.*

*Feedback D: This amount is incorrect.*

*Feedback E: This amount is incorrect.*

18. The sales margin is:   
**A.** 6%.  
B. 15%.  
C. 20%.  
D. 30%.  
E. 40%.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 13-02*

*Feedback A: Correct! Sales Margin = Income / Sales = $90,000 / $1,500,000 = 6%*

*Feedback B: This amount is incorrect.*

*Feedback C: This amount is incorrect.*

*Feedback D: This amount is incorrect.*

*Feedback E: This amount is incorrect.*

19. The ROI is:   
A. 6%.  
B. 15%.  
**C.** 20%.  
D. 30%.  
E. 40%.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 13-02*

*Feedback A: This amount is incorrect.*

*Feedback B: This amount is incorrect.*

*Feedback C: Correct! Sales margin x Capital Turnover = 6% x 3.33 = 20%*

*Feedback D: This amount is incorrect.*

*Feedback E: This amount is incorrect.*

20. The residual income is:   
A. $30,000.  
B. $36,000.  
C. $42,000.  
**D.** $54,000.  
E. $82,800.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 13-02*

*Feedback A: This amount is incorrect.*

*Feedback B: This amount is incorrect.*

*Feedback C: This amount is incorrect.*

*Feedback D: Correct! RI = $90,000 – (8% x $450,000) = $54,000.*

*Feedback E: This amount is incorrect.*

21. For the period just ended, Global Industries’ Western Division reported profit of $31.9 million and invested capital of $220 million. Assuming an imputed interest rate of 12%, which of the following choices correctly denotes Western’s return on investment (ROI) and residual income?

ROI Residual Income

A. 12.0% $(5.5 million)

B. 12.0% $5.5 million

C. 14.5% $(5.5 million)

**D.** 14.5% $5.5 million

E. 14.5% $26.4 million

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 13-02*

*Feedback A: These amounts are incorrect.*

*Feedback B: These amounts are incorrect.*

*Feedback C: These amounts are incorrect.*

*Feedback D: Correct! ROI = $31.9M / $220M = 14.5%; RI = $31.9 M – ($220 M x 12%) = $5.5 M*

*Feedback E: These amounts are incorrect.*

22. For the period just ended, Trek Corporation's Trailer Division reported profit of $54 million and invested capital of $450 million. Assuming an imputed interest rate of 10%, which of the following choices correctly denotes Trailer’s return on investment (ROI) and residual income?

**ROI Residual Income**

**A.** 12.0% $9 million

B. 12.0% $(9 million)

C. 10.0% $9 million

D. $9 million 12%

E. None of the answers is correct.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 13-02*

*Feedback A: Correct! ROI = $54 M / $450 M = 12%; RI = $54M – ($450M x 10%) = $9 M.*

*Feedback B: These amounts are incorrect.*

*Feedback C: These amounts are incorrect.*

*Feedback D: These amounts are incorrect.*

*Feedback E: This answer choice is wrong, because there is a correct answer listed*

23. Which of the following elements is **not** used when calculating the weighted-average cost of capital?   
**A.** Before-tax cost of debt capital.  
B. After-tax cost of debt capital.  
C. Cost of equity capital.  
D. Market value of debt capital.  
E. Market value of equity capital.

*AACSB: Reflective Thinking  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Remember  
Difficulty: 1 Easy  
Learning Objective: 13-02*

*Feedback A: Correct! This element is not used when calculating the weighted-average cost of capital.*

*Feedback B: This element is used when calculating the weighted-average cost of capital.*

*Feedback C: This element is used when calculating the weighted-average cost of capital.*

*Feedback D: This element is used when calculating the weighted-average cost of capital.*

*Feedback E: This element is used when calculating the weighted-average cost of capital.*

24. The following information relates to the Falcon Division of Xenon Enterprises:

Interest rate on debt capital 8%  
Cost of equity capital 12%  
Market value of debt capital $50 million  
Market value of equity capital $80 million  
Income tax rate 30%

On the basis of this information, Falcon’s weighted-average cost of capital is closest to:   
A. 7.3%.  
B. 8.3%.  
**C.** 9.5%.  
D. 10.8%.  
E. None of the answers is correct.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 13-02   
 Feedback A: This amount is incorrect.*

*Feedback B: This amount is incorrect.*

*Feedback C: Correct! Weighted-average cost of capital = [( After-tax cost of debt capital ) x ( Market value of debt ) + ( Cost of equity capital ) x ( Market value of equity )] ÷ (Market value of debt + Market value of equity) = (8% x 1-.30) ($50) + (12%) ($80) / ($50 + $80) = [(.056 x $50) + 9.6 ]/ $130 = $12.4 / $130 = 9.5%.*

*Feedback D: This amount is incorrect.*

*Feedback E: This answer choice is wrong, because there is a correct answer listed.*

25. The market value of Galleon’s debt and equity capital totals $180 million, 80% of which is equity related. An analysis conducted by the company's finance department revealed a 7% after-tax cost of debt capital and a 10% cost of equity capital. On the basis of this information, Galleon’s weighted-average cost of capital:   
A. is 7.6%.  
B. is 8.5%.  
**C.** is 9.4%.  
D. cannot be determined based on the data presented because the cost of debt capital must be stated on a before-tax basis.  
E. cannot be determined based on the data presented because the cost of equity capital must be stated on an after-tax basis.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Measurement  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 13-02*

*Feedback A: This amount is incorrect.*

*Feedback B: This amount is incorrect.*

*Feedback C: Correct! Weighted-average cost of capital= [(After-tax cost of debt capital ) x ( Market value of debt ) + ( Cost of equity capital ) x ( Market value of equity )] ÷ (Market value of debt + Market value of equity) = (7%) ($36) + (10%) ($144) / ($180) = 9.4%.*

*Feedback D: This statement is incorrect.*

*Feedback E: This statement is incorrect.*

Chapter 14

1. 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.

*AACSB: Reflective Thinking  
AICPA BB: Critical Thinking  
AICPA FN: Decision Making  
Blooms: Remember  
Difficulty: 1 Easy  
Learning Objective: 14-02   
Feedback A: This statement is incorrect.*

*Feedback B: This statement is incorrect.*

*Feedback C: This statement is incorrect.*

*Feedback D: Correct! Qualitative considerations have the greatest impact in making the decision.*

*Feedback E: This statement is incorrect.*

2. 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.

*AACSB: Reflective Thinking  
AICPA BB: Critical Thinking  
AICPA FN: Decision Making  
Blooms: Remember  
Difficulty: 1 Easy  
Learning Objective: 14-02   
Feedback A: This statement is incorrect.*

*Feedback B: This statement is incorrect.*

*Feedback C: This statement is incorrect.*

*Feedback D: This statement is incorrect.*

*Feedback E: Correct! An accounting information system should be designed to provi*

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

*AACSB: Reflective Thinking  
AICPA BB: Industry  
AICPA FN: Decision Making  
Blooms: Remember  
Difficulty: 1 Easy  
Learning Objective: 14-04   
Feedback A: This is not an opportunity cost.*

*Feedback B: Correct! This is a sunk cost.*

*Feedback C: This is not a relevant cost.*

*Feedback D: This is not a differential cost.*

*Feedback E: This is not a future cost.*

4. The City of San Diego 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.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Decision Making  
Blooms: Understand  
Difficulty: 2 Medium  
Learning Objective: 14-04*

*Feedback A: This would be considered.*

*Feedback B: Correct! The purchase price of the old vehicle is not considered.*

*Feedback C: This would be considered.*

*Feedback D: This would be considered.*

*Feedback E: This would be considered.*

5. Cornerstone, 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.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Decision Making  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 14-04   
Feedback A: This amount is incorrect.*

*Feedback B: Correct! Clean and ship to outlet center is the more desirable at a relevant cost of $23,000.*

*Feedback C: This amount is incorrect.*

*Feedback D: This amount is incorrect.*

*Feedback E: This answer choice is incorrect.*

6. 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.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Decision Making  
Blooms: Understand  
Difficulty: 2 Medium  
Learning Objective: 14-04   
Feedback A: This statement is incorrect.*

*Feedback B: This statement is incorrect.*

*Feedback C: This statement is incorrect.*

*Feedback D: This statement is incorrect.*

*Feedback E: Correct! Since the capacity is idle, the opportunity cost is zero.*

7. Allison is contemplating a job offer with an advertising agency where she will make $54,000 in her first year of employment. Alternatively, Allison can begin to work in her father's business where she will earn an annual salary of $38,000. If Allison 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.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Decision Making  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 14-04   
Feedback A: This amount is incorrect.*

*Feedback B: This amount is incorrect.*

*Feedback C: Correct! The opportunity cost is her first year salary of $54,000.*

*Feedback D: This amount is incorrect.*

*Feedback E: This answer is incorrect, because there is an opportunity cost amount listed.*

8. 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.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Decision Making  
Blooms: Remember  
Difficulty: 1 Easy  
Learning Objective: 14-05*

*Feedback A: This statement is incorrect.*

*Feedback B: Correct! A special order generally should be accepted if excess capacity exists and the revenue exceeds all variable costs associated with the order.*

*Feedback C: This statement is incorrect.*

*Feedback D: This statement is incorrect.*

*Feedback E: This statement is incorrect.*

9. Two months ago, Air-tite Corporation purchased 4,500 pounds of Hydrol, paying $15,300. The demand for this product has been very strong since the acquisition, with the market price jumping to $4.05 per pound. (Air-tite 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. Two or more of the other factors are relevant.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Decision Making  
Blooms: Apply*

*Difficulty: 3 Hard*

*Learning Objective: 14-05*

*Feedback A: This is not relevant to the special order.*

*Feedback B: Correct! The increasing market price of $4.05 is relevant to the special order decision.*

*Feedback C: This is not relevant to the special order.*

*Feedback D: This is not relevant to the special order.*

*Feedback E: This is not relevant to the special order.*

10. Elkhorn, 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 anticipated to be 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. None of the answers is correct.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Decision Making  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 14-05*

*Feedback A: This amount is incorrect.*

*Feedback B: This amount is incorrect.*

*Feedback C: Correct! Cost of Goods Sold per unit = $145,000 – 30,000 = $115,000 / 10,000 = $11.50; Special order: $15 – 11.50 = $3.50 margin per unit; $3.50 x 4,000 = $14,000 increase in income.*

*Feedback D: This amount is incorrect.*

*Feedback E: This answer is wrong, because there is a correct amount listed.*

11. Brilliant, 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 |

Extra Company has offered to purchase 3,000 IT-54s at $16 each. Brilliant 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 answers is correct.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Decision Making  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 14-05*

*Feedback A: This amount is incorrect.*

*Feedback B: This amount is incorrect.*

*Feedback C: This amount is incorrect.*

*Feedback D: Correct! $16 – ($288,000 / 24,000) = $4 margin; $4 x 3,000 = $12,000 increase in income with special order.*

*Feedback E: This answer is wrong, because there is a correct amount listed.*

12. Deltones, a manufacturer of computer peripherals, has excess capacity. The company's Alabama 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 Alabama plant; in contrast, the allocated administrative cost represents a "fair share" of Deltones' corporate overhead. Alabama 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. None of the answers is correct.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Decision Making  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 14-05*

*Feedback A: Correct! The per unit variable cost of $40 is relevant to the special order decision.*

*Feedback B: This amount is incorrect.*

*Feedback C: This amount is incorrect.*

*Feedback D: This amount is incorrect.*

*Feedback E: This answer is wrong, because there is a correct amount listed.*

13. 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.

*AACSB: Reflective Thinking  
AICPA BB: Critical Thinking  
AICPA FN: Decision Making  
Blooms: Remember  
Difficulty: 1 Easy  
Learning Objective: 14-05*

*Feedback A: This term is incorrect.*

*Feedback B: Correct! Outsourcing is associated with make-or-buy decisions.*

*Feedback C: This statement is incorrect.*

*Feedback D: This statement is incorrect.*

*Feedback E: This statement is incorrect.*

14. Canyon Trails 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 Canyon Trails 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.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Decision Making  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 14-05*

*Feedback A: Correct! The benefit would be ($390,000 + $30,000) - $410,000 = $10,000.*

*Feedback B: This amount is incorrect.*

*Feedback C: This amount is incorrect.*

*Feedback D: This amount is incorrect.*

*Feedback E: This decision is incorrect; an amount of benefit is listed.*

15. Elkhart, a division of Indiana Enterprises, currently makes 100,000 units of a product that has created a number of manufacturing problems. Elkhart’s costs follow.

|  |  |
| --- | --- |
| Manufacturing costs: |  |
| Variable | $540,000 |
| Fixed | 180,000 |
| Allocated corporate administrative cost | 60,000 |

If Elkhart were to discontinue production, fixed manufacturing costs would be reduced by 70%. The relevant cost of deciding whether the division should purchase the product from an outside supplier is:   
A. $540,000.  
B. $594,000.  
**C.** $666,000.  
D. $720,000.  
E. $726,000.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Decision Making  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 14-05*

*Feedback A: This amount is incorrect.*

*Feedback B: This amount is incorrect.*

*Feedback C: Correct! The relevant cost is $540,000 + (70% x $180,000) = $666,000*

*Feedback D: This amount is incorrect.*

*Feedback E: This amount is incorrect.*

16. 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.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Decision Making  
Blooms: Understand*

*Difficulty: 2 Medium*

*Learning Objective: 14-05*

*Feedback A: This statement is incorrect.*

*Feedback B: This statement is incorrect.*

*Feedback C: Correct! 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.*

*Feedback D: This statement is incorrect.*

*Feedback E: This statement is incorrect.*

17. Fairline Skyways has a significant presence at the Charlotte International Airport and therefore operates the Diamond Club, which is across from gate 36 in terminal 1. The Diamond Club provides food and business services 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 Fairline 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. None of the answers is correct.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Decision Making  
Blooms: Understand  
Difficulty: 2 Medium  
Learning Objective: 14-05*

*Feedback A: This is incorrect.*

*Feedback B: This is incorrect.*

*Feedback C: This is incorrect.*

*Feedback D: Correct! Terminal depreciation (based on square footage) and Allocated Coastal administrative overhead would be unavoidable.*

*Feedback E: This answer is wrong, because there is a correct set of expenses listed.*

18. The Boot Department at the Omaha Department Store is being considered for closure. The following information relates to boot 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 Boot Department be closed?   
**A.** Yes, Omaha would be better off by $23,000.  
B. Yes, Omaha would be better off by $50,000.  
C. No, Omaha would be worse off by $13,000.  
D. No, Omaha would be worse off by $40,000.  
E. None of the answers is correct.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Decision Making  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 14-05*

*Feedback A: Correct! $350,000 - $280,000 - $30,000 – ($90,000 x 70%) = $(23,000).*

*Feedback B: This amount is incorrect.*

*Feedback C: This amount is incorrect.*

*Feedback D: This amount is incorrect.*

*Feedback E: This answer is wrong, because there is a correct amount listed.*

19. Carlton Corporation is composed of five divisions. Each division is allocated a share of Carlton's overhead to make divisional managers aware of the cost of running the corporate headquarters. The following information relates to the Metro Division:

|  |  |
| --- | --- |
| Sales revenue | $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 Carlton’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 answers is correct.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Decision Making  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 14-05*

*Feedback A: This amount is incorrect.*

*Feedback B: Correct! Decrease by $500,000 = $7,500,000 - $5,100,000 - $1,900,000*

*Feedback C: This amount is incorrect.*

*Feedback D: This amount is incorrect.*

*Feedback E: This answer is wrong, because there is a correct amount listed.*

20. San Ruiz 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 San Ruiz’ 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.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Decision Making  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 14-05*

*Feedback A: This amount is incorrect.*

*Feedback B: This amount is incorrect.*

*Feedback C: This amount is incorrect.*

*Feedback D: Correct! $450,000 - $370,000 = $80,000 decrease.*

*Feedback E: This amount is incorrect.*

21. When deciding whether to sell a product at the split-off point or process it further, joint costs are **not** 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.

*AACSB: Reflective Thinking  
AICPA BB: Critical Thinking  
AICPA FN: Decision Making  
Blooms: Understand*

*Difficulty: 2 Medium*

*Learning Objective: 14-06*

*Feedback A: This statement is incorrect.*

*Feedback B: This statement is incorrect.*

*Feedback C: Correct! Joint costs are not usually relevant because they are sunk costs and do not change with the decision.*

*Feedback D: This statement is incorrect.*

*Feedback E: This statement is incorrect.*

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

*AACSB: Reflective Thinking  
AICPA BB: Critical Thinking  
AICPA FN: Decision Making  
Blooms: Remember  
Difficulty: 1 Easy  
Learning Objective: 14-06*

*Feedback A: Correct! Product costs incurred after the split-off point in a joint processing environment are separable processing costs.*

*Feedback B: This term is incorrect.*

*Feedback C: This term is incorrect.*

*Feedback D: This term is incorrect.*

*Feedback E: This term is incorrect.*

23. Product costs incurred before the split-off point in a joint processing environment are called:   
A. separable processing costs.  
**B.** joint product costs.  
C. non-relevant costs.  
D. scrap costs.  
E. spoilage costs.

*AACSB: Reflective Thinking  
AICPA BB: Critical Thinking  
AICPA FN: Decision Making  
Blooms: Remember  
Difficulty: 1 Easy  
Learning Objective: 14-06*

*Feedback A: This term is incorrect.*

*Feedback B: Correct! This is the definition for joint product costs.*

*Feedback C: This term is incorrect.*

*Feedback D: This term is incorrect.*

*Feedback E: This term is incorrect.*

24. Phillippe Inc. 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 per pound. If Phillippe decides to process A 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.** increase by $5,000.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Decision Making  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 14-06*

*Feedback A: This amount is incorrect.*

*Feedback B: This amount is incorrect.*

*Feedback C: This amount is incorrect.*

*Feedback D: This amount is incorrect.*

*Feedback E: Correct! 5,000 x $20 = $100,000 + $20,000 = $120,000 cost; Selling price = $125,000 = 5,000 x $25; Net difference: $125,000 - $120,000 = $5,000 increase.*

25. Phillippe manufactures A and B from a joint process (cost = $80,000). 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 Phillippe 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.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Decision Making  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 14-06*

*Feedback A: This amount is incorrect.*

*Feedback B: This amount is incorrect.*

*Feedback C: Correct! Sale price prior to process = $15 x 10,000 = $150,000; Sale price after process $16 x10,000 = $160,000; $10,000 increase + $20,000 decrease = $10,000 decrease.*

*Feedback D: This amount is incorrect.*

*Feedback E: This amount is incorrect.*

*Use the following information to answer Questions 26-27.*

Cheyenne Enterprises manufactures Nuts and Bolts from a joint process (cost = $80,000). Five thousand pounds of Nuts can be sold at split-off for $20 per pound; ten thousand pounds of Bolts can be sold at split-off for $15 per pound. For product costing purposes Cheyenne allocates joint costs using the relative sales value method.

26. The amount of joint cost allocated to Nuts would be:   
**A.** $32,000.  
B. $40,000.  
C. $48,000.  
D. $60,000.  
E. $80,000.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Decision Making  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 14-06*

*Feedback A: Correct! ($20 x 5,000) /[($20 x 5,000) + ($15 x 10,000)] = 40%; 40% x $80,000 = $32,000.*

*Feedback B: This amount is incorrect.*

*Feedback C: This amount is incorrect.*

*Feedback D: This amount is incorrect.*

*Feedback E: This amount is incorrect.*

27. The amount of joint cost allocated to Bolts would be:   
A. $32,000.  
B. $40,000.  
**C.** $48,000.  
D. $60,000.  
E. $80,000.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Decision Making  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 14-06*

*Feedback A: This amount is incorrect.*

*Feedback B: This amount is incorrect.*

*Feedback C: Correct! ($15 x 10,000) /[($20 x 5,000) + ($15 x 10,000)] = 60%; 60% x $80,000 = $48,000*

*Feedback D: This amount is incorrect.*

*Feedback E: This amount is incorrect.*

*Use this information to answer Questions 28-30.*

Kingston 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 | $6 |
| Contribution margin per labor hour | $2.50 | $2 |

28. If Kingston follows proper managerial accounting practices, how many units of Product X should it produce?   
A. 5,000.  
B. 1,500.  
C. 8,000.  
D. 4,500.  
**E.** 6,000.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Decision Making  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 14-06*

*Feedback A: This amount is incorrect.*

*Feedback B: This amount is incorrect.*

*Feedback C: This amount is incorrect.*

*Feedback D: This amount is incorrect.*

*Feedback E: Correct! Product X has the greater contribution margin per hour, so the maximum amount of 6,000 should be produced.*

29. If Kingston follows proper managerial accounting practices, how many units of Product Y should it produce?   
A. 8,000.  
B. 4,500.  
C. 6,000.  
**D.** 5,000.  
E. 1,500.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Decision Making  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 14-06*

*Feedback A: This amount is incorrect.*

*Feedback B: This amount is incorrect.*

*Feedback C: This amount is incorrect.*

*Feedback D: Correct! 27,000 total hours – (2 x 6,000 of Product x) = 15,000 hours remaining; 15,000 / 3 hrs for Product y = 5,000 units.*

*Feedback E: This amount is incorrect.*

30. If Kingston 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 |

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Decision Making  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 14-06*

*Feedback A: This amount is incorrect.*

*Feedback B: This amount is incorrect.*

*Feedback C: This amount is incorrect.*

*Feedback D: Correct! 27,000 total hours – (2 x 6,000 of Product x) = 15,000 hours remaining; 15,000 / 3 hrs for Product y = 5,000 units.*

*Feedback E: This amount is incorrect.*

*Use the following information to answer Questions 31-32.*

Jayleen 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.

31. 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.

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Decision Making  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 14-06*

*Feedback A: This amount is incorrect.*

*Feedback B: This amount is incorrect.*

*Feedback C: Correct! CM = $10 – 8 = $2/ unit; Hours/ unit = 2,000 / 4,000 = 0.5 hours; $2/ 0.5 = $4.00 per machine hour.*

*Feedback D: This amount is incorrect.*

*Feedback E: This amount is incorrect.*

32. Assuming there is unlimited demand for both products and Jayleen 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 |

*AACSB: Analytic  
AICPA BB: Critical Thinking  
AICPA FN: Decision Making  
Blooms: Apply  
Difficulty: 3 Hard  
Learning Objective: 14-06*

*Feedback A: This amount is incorrect.*

*Feedback B: Correct! Carpet Kleen CM/unit = $7 – 4 = $3/unit and Floor deodorizer is $4/unit, so all the capacity should be used to make Floor Deodorizer = 10,000 hours/0.5 hr = 20,000 units of Floor Deodorizer and 0 units of Carpet Kleen.*

*Feedback C: This amount is incorrect.*

*Feedback D: This amount is incorrect.*

*Feedback E: This amount is incorrect.*