Quiz and Test Hints

The following hints may be helpful to you in preparing for a quiz or a test over the material covered in Chapter 25.

1. Many new terms are introduced in this chapter. You can expect true/false, multiple-choice, or matching questions testing your knowledge of these terms. Review the “Key Terms” section at the end of the chapter and be sure you understand each term. Do the Matching and Fill-in-the-Blank exercises included in this Study Guide.

2. You can expect short problems testing your ability to perform differential analysis for one or more of the six types of differential analysis illustrations presented in the chapter. Part 5 of the Illustrative Problem at the end of the chapter is a useful study aid for differential analysis of accepting additional business at a special price.

3. You also are likely to see a short problem applying the cost-plus approach to setting product prices. Remember that there are three versions of the cost-plus approach: total cost, product cost, and variable cost. You may find the Illustrative Problem to be a useful study aid.

4. If your instructor emphasized product pricing under production bottlenecks, you might also see a short problem in that area. At least be able to compute the contribution margin per bottleneck hour and describe how this information is used to adjust the product price.

5. Review the “At A Glance” section at the end of the chapter. Read and review each of the Key Points and related Learning Outcomes. For each Learning Outcome that has an Example Exercise, locate the Example Exercise in the chapter and be sure that you understand the solution and can work a similar item on a test. If you have any questions about an Example Exercise, read the section of the chapter immediately preceding the Example Exercise.
Matching

Instructions: Match each of the statements below with its proper term. Some terms may not be used.

A. activity-based costing
B. differential analysis
C. differential cost
D. differential revenue
E. markup
F. opportunity cost
G. product cost concept
H. production bottleneck
I. sunk cost
J. target costing
K. theory of constraints (TOC)
L. total cost concept
M. variable cost concept

___ 1. The amount of income forgone from an alternative use of cash or its equivalent.
___ 2. A condition that occurs when product demand exceeds production capacity.
___ 3. A concept used in applying the cost-plus approach to product pricing in which all the costs of manufacturing the product plus the selling and administrative expenses are included in the cost amount to which the markup is added.
___ 4. A cost that is not affected by subsequent decisions.
___ 5. The area of accounting concerned with the effect of alternative courses of action on revenues and costs.
___ 6. A concept used in applying the cost-plus approach to product pricing in which only the variable costs are included in the cost amount to which the markup is added.
___ 7. The amount of increase or decrease in revenue expected from a particular course of action as compared with an alternative.
___ 8. A cost allocation method that identifies activities causing the incurrence of costs and allocates these costs to products (or other cost objects), based upon activity drivers (bases).
___ 9. The amount of increase or decrease in cost expected from a particular course of action compared with an alternative.
___ 10. A manufacturing strategy that attempts to remove the influence of bottlenecks (constraints) on a process.
___ 11. A concept used in applying the cost-plus approach to product pricing in which only the costs of manufacturing the product, termed the product cost, are included in the cost amount to which the markup is added.
___ 12. A concept used to design and manufacture a product at a cost that will deliver a desired profit for a given market-determined price.
___ 13. An amount that is added to a “cost” amount to determine product price.
FILL IN THE BLANK—PART A

Instructions: Answer the following questions or complete the statements by writing the appropriate words or amounts in the answer blanks.

1. The amount of increase or decrease in revenue expected from a course of action as compared with an alternative is called __________________________.
2. The amount of increase or decrease in cost that is expected from a course of action as compared with an alternative is called the __________________________.
3. In the lease or sell decision regarding a piece of equipment, the book value of the equipment would be considered a(n) __________________________.
4. In using differential analysis, two additional factors that often need to be considered besides the basic differential revenue and costs are (1) differential revenue from investing the funds generated by the alternatives, and (2) any __________________________.
5. Product A has a loss from operations of $18,000 and allocated fixed costs of $25,000. The income from operations from all products is $75,000 and total fixed costs are $30,000. The estimated income from operations if Product A is discontinued would be ____________.
6. Part Z can be purchased for $30 per unit or manufactured internally for $8 of direct materials, $9 of direct labor, and $15 of factory overhead ($7 of which is fixed). The cost savings from manufacturing Part Z internally would be ____________.
7. The amount of income that is forgone from an alternative use of cash is called __________________________.
8. McKeon Gas Co. is deciding whether to sell one of its products at an intermediate stage of development or process it further. The decision will rest on differential revenues and the differential costs of __________________________.
9. H. Hoch and Co. is considering doing additional business at a special price. If Hoch is operating below full capacity, the differential costs of the additional production are the __________________________ manufacturing costs.
10. In deciding whether to accept business at a price lower than the normal price, the minimum short-run price should be set high enough to cover all __________________________.
11–12. The two market methods of setting the normal selling price are:
   11. __________________________.
   12. __________________________.
13. The markup percentage for the total cost concept is determined by dividing desired profit by ____________ ________.

14. The markup percentage for the variable cost concept is determined by dividing desired profit plus ____________ ________ by total variable costs.

15–17. Product M has total cost per unit of $60, including $20 per unit of selling and administrative costs. Total variable cost is $36 per unit, and desired profit is $6 per unit.

15. The markup percentage based on total cost is __________.

16. The markup percentage based on product cost is __________.

17. The markup percentage based on variable cost is __________.

18. The difference between the existing product cost and the target cost is termed the ____________.

19. A method of more accurately measuring costs of producing and selling product and focusing on identifying and tracing activities to specific products is known as ______________-__________________.

20. When the demand for the company’s product exceeds its ability to produce the product, the resultant difficulty is referred to as a(n) ______________-__________________.

21. The manufacturing strategy that focuses on reducing the influence of bottlenecks on a process is the ______________-__________________.

**Fill in the Blank—Part B**

*Instructions:* Answer the following questions or complete the statements by writing the appropriate words or amounts in the answer blanks.

1. A method of decision making that focuses on the effect of alternative courses of action on the relevant revenues and costs is ______________-__________________.

2. Costs that have been incurred in the past that are not relevant to the decision are called ____________ ________.

3. The difference between the differential revenue and differential costs is called the ______________-__________________.

4. The relevant financial factors to be considered in a lease or sell decision are differential costs and ______________-__________________.

5. Product B has a loss from operations of $12,000 and allocated fixed costs of $8,000. The income from operations from all products is
$75,000 and total fixed costs are $30,000. The estimated income from operations if Product B is discontinued would be ____________.

6. Make or buy options often arise when a manufacturer has excess ______________

7. A net cash outlay of $225,000 for a new piece of equipment could alternatively be invested to earn 10%. The $22,500 forgone by not investing the funds is called a(n) ______________

8. Product K is produced for $4 per gallon and can be sold without additional processing for $5 per gallon. Product K can be processed further into Product G at a cost of $2 per gallon ($0.80 fixed). Product G can be sold for $6.50 per gallon. The differential income per gallon from processing Product K into Product G is ____________.

9. The law that prohibits price discrimination within the United States, unless differences in prices can be justified by different costs of serving different customers, is the ______________

10–12. The three cost concepts used in applying the cost-plus approach to setting normal product prices are:

10. ______________

11. ______________

12. ______________

13. Under the ______________ concept, all costs of manufacturing a product plus the selling and administrative expenses are included in the cost amount to which the markup is added.

14. Contractors who sell products to government agencies often use the ______________ concept of applying the cost-plus approach to product pricing.

15. The markup percentage for the product cost concept is determined by dividing desired profit plus total selling and administrative expenses by ______________

16–18. Product N has total cost per unit of $40, including $15 per unit of selling and administrative costs. Total variable cost is $30 per unit, and desired profit is $5 per unit.

16. The markup percentage based on total cost is ____________.

17. The markup percentage based on product cost is ____________.

18. The markup percentage based on variable cost is ____________.

19. A cost reduction concept, pioneered by the Japanese, that assumes that the selling price is set by the marketplace is ______________

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20. The term used to describe a situation when the demand for a company’s product exceeds the ability of the company to produce it is ____________________  ____________________.

**MULTIPLE CHOICE**

*Instructions:* Circle the best answer for each of the following questions.

1. The area of accounting concerned with the effect of alternative courses of action on revenues and costs is called:
   a. gross profit analysis
   b. capital investment analysis
   c. differential analysis
   d. cost-volume-profit analysis

2. A business received an offer from an exporter for 10,000 units of product at $18 per unit. The acceptance of the offer will not affect normal production or the domestic sales price. The following data are available:
   
   Domestic sales price .........................  $25
   Unit manufacturing costs:
   Variable .......................................  16
   Fixed ............................................  4

   What is the amount of gain or loss from acceptance of the offer?
   a. $20,000 gain
   b. $20,000 loss
   c. $70,000 gain
   d. $70,000 loss

3. The amount of income that is forgone from the best available alternative to the proposed use of cash or its equivalent is called:
   a. sunk cost
   b. opportunity cost
   c. differential cost
   d. opportunity revenue

4. For which cost concept used in applying the cost-plus approach to product pricing are total selling and general expenses and desired profit allowed for in the determination of markup?
   a. total cost
   b. product cost
   c. variable cost
   d. none of the above
5. A business produces Product A in batches of 5,000 gallons, which can be sold for $3 per gallon. The business has been offered $5 per finished gallon to process two batches of Product A further into Product B. Product B will require additional processing costs of $7,800 per batch, and 10% of the gallons of Product A will evaporate during processing. What is the amount of gain or loss from further processing of Product A?
   a. $7,200 gain
   b. $4,400 gain
   c. $2,400 gain
   d. $600 loss

6. Which of the following cost concepts is not used in applying the cost-plus approach to setting the selling price?
   a. product cost
   b. total cost
   c. variable cost
   d. fixed cost

7. Which of the following concepts accepts a product price as given by the marketplace as the first step in determining the markup?
   a. total cost plus markup concept
   b. variable cost plus markup concept
   c. target costing
   d. product cost plus markup concept

8. The Majestic Company’s casting operation is a production bottleneck. Majestic produces three products with the following per unit characteristics.

<table>
<thead>
<tr>
<th></th>
<th>Product A</th>
<th>Product B</th>
<th>Product C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales price</td>
<td>$100</td>
<td>$120</td>
<td>$200</td>
</tr>
<tr>
<td>Variable cost per unit</td>
<td>40</td>
<td>50</td>
<td>120</td>
</tr>
<tr>
<td>Contribution margin per unit</td>
<td>60</td>
<td>70</td>
<td>80</td>
</tr>
<tr>
<td>Fixed cost per unit</td>
<td>10</td>
<td>30</td>
<td>50</td>
</tr>
<tr>
<td>Net profit per unit</td>
<td>50</td>
<td>40</td>
<td>30</td>
</tr>
<tr>
<td>Casting time</td>
<td>3.5 hrs.</td>
<td>3 hrs.</td>
<td>4 hrs.</td>
</tr>
</tbody>
</table>

Which product is the most profitable to the company?
   a. Product A
   b. Product B
   c. Product C
   d. Products A and C
9. Which of the following is a market method of setting the selling price?
   a. competition-based
   b. total cost-based
   c. variable cost-based
   d. product cost-based

10. Management is considering replacing its blending equipment. The annual costs of operating the old equipment are $250,000. The annual costs of operating the new equipment are expected to be $220,000. The old equipment has a book value of $35,000 and can be sold for $25,000. The cost of the new equipment would be $260,000. Which of these amounts should be considered a sunk cost in deciding whether to replace the old equipment?
   a. $250,000
   b. $220,000
   c. $35,000
   d. $25,000

11. A business has been purchasing 5,000 units of a part from an outside supplier for $40 per unit. In addition to the purchase price, there are import duties of 10% of the purchase price. A proposal was received to manufacture the part internally using excess manufacturing capacity. The per-unit cost for the part was estimated as follows:
   
<table>
<thead>
<tr>
<th>Cost Type</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct materials</td>
<td>$21</td>
</tr>
<tr>
<td>Direct labor</td>
<td>15</td>
</tr>
<tr>
<td>Variable factory overhead</td>
<td>5</td>
</tr>
<tr>
<td>Fixed factory overhead</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total cost per unit</strong></td>
<td><strong>$50</strong></td>
</tr>
</tbody>
</table>

   What is the differential income or loss from manufacturing the part, rather than purchasing it from the outside supplier?
   a. $15,000 income
   b. $5,000 loss
   c. $30,000 loss
   d. $50,000 loss

12. A business has three product lines: small, medium, and large speakers. The small speaker line has a loss from operations of $25,000, while the medium and large speaker lines have a combined income from operations of $100,000. The total fixed costs of $50,000 are allocated on the basis of sales volume across the three product lines. The small product line has 30% of the sales volume. What is the differential income or loss from discontinuing the small speaker product line?
   a. $10,000 income
   b. $25,000 income
   c. $10,000 loss
   d. $15,000 loss
13. A business currently sells mobile phones in the domestic market for $80. The cost of the phones includes $50 variable cost per unit and $20 fixed cost per unit. A bid is received from an overseas customer for 1,000 phones at a price of $60 per phone. An additional 10% export fee on price would be assessed to the mobile phone company for overseas sales. What would be the differential income or loss from accepting the overseas bid?

a. $4,000 loss  
b. $14,000 loss  
c. $4,000 income  
d. $10,000 income

TRUE/FALSE

Instructions: Indicate whether each of the following statements is true or false by placing a check mark in the appropriate column.

<table>
<thead>
<tr>
<th>Statement</th>
<th>True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. In deciding whether to replace fixed assets, the book values of the</td>
<td></td>
<td></td>
</tr>
<tr>
<td>fixed assets being replaced are sunk costs and are irrelevant.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. The amount of increase or decrease in cost that is expected from a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>particular course of action as compared with an alternative is called</td>
<td></td>
<td></td>
</tr>
<tr>
<td>opportunity cost.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. In deciding whether to accept business at a special price, a company</td>
<td></td>
<td></td>
</tr>
<tr>
<td>that is operating below full capacity will decrease its operating income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>if the special price does not exceed all costs.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Discontinuing an unprofitable segment of business will usually</td>
<td></td>
<td></td>
</tr>
<tr>
<td>eliminate all of the related fixed costs.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. The amount of income that would result from the best available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>alternative to the proposed use of cash or its equivalent is called</td>
<td></td>
<td></td>
</tr>
<tr>
<td>differential cost.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Using the total cost concept of applying the cost-plus approach to</td>
<td></td>
<td></td>
</tr>
<tr>
<td>product pricing, all costs of manufacturing the product plus the selling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>and administrative expenses are included in the cost amount to which the</td>
<td></td>
<td></td>
</tr>
<tr>
<td>markup is added.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. In differential analysis, two additional factors to be considered in</td>
<td></td>
<td></td>
</tr>
<tr>
<td>making a lease or sell decision are (1) differential revenue from</td>
<td></td>
<td></td>
</tr>
<tr>
<td>investing funds generated by alternatives and (2) any income tax</td>
<td></td>
<td></td>
</tr>
<tr>
<td>differential.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Using the cost-plus approach to product pricing, managers determine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>product prices by adding a markup to a cost amount.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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9. Contractors who sell to government agencies often use the total cost approach to product pricing. 

True  False

10. The best way to measure product profitability in a production bottleneck environment is with contribution margin per unit. 

True  False

EXERCISE 25-1

Walden Transportation Inc. has a truck that it no longer needs. The truck can be sold for $18,000 or it can be leased for a period of 5 years at $4,000 per year. At the end of the lease, the truck is expected to be sold for a negligible amount. The truck cost $50,000 four years ago, and $35,000 depreciation has been taken on it to date. To be sold for $18,000, the truck must first be repainted at a cost of $900. If the truck is to be leased for the 5-year period, Walden must provide the licenses, which cost $220 per year. The lessee must provide insurance at an annual cost of $200, tires at an estimated annual cost of $600, and repairs that are expected to amount to $2,000 during the 5-year period.

Instructions: Complete the following form to determine which alternative is more advantageous to Walden Transportation Inc. and to determine the amount of that advantage. (Ignore the fact that if the truck is leased, not all of the revenue is received at once.)

Walden Transportation Inc.
Proposal to Lease or Sell Truck

Differential revenue from alternatives:
Revenue from lease ............................................... $ 
Revenue from sale .................................................. 
Differential revenue from lease ......................... $ 

Differential cost of alternatives:
License expenses during lease ......................... $ 
Repainting expense on sale ................................. 
Differential cost of leasing ................................. 
Net differential income (loss) from lease alternative .... $
**EXERCISE 25-2**

Tran Inc. has been purchasing metal blades for $14 a set for use in producing food processors. The cost of manufacturing the blades is estimated at $6.75 for direct materials, $5.10 for direct labor, and $1.80 for factory overhead ($1.00 fixed and $0.80 variable). Because there is unused capacity available, there would be no increase in the total amount of fixed factory overhead costs if Tran manufactures the blades.

**Instructions:** Complete the following form to determine whether Tran Inc. should make or buy the blades.

Tran Inc.
Proposal to Manufacture Metal Blades

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase price of blades</td>
<td>$</td>
</tr>
<tr>
<td>Differential cost to manufacture blades:</td>
<td></td>
</tr>
<tr>
<td>Direct materials</td>
<td>$</td>
</tr>
<tr>
<td>Direct labor</td>
<td></td>
</tr>
<tr>
<td>Variable factory overhead</td>
<td></td>
</tr>
<tr>
<td>Cost savings (increase) from manufacturing blades</td>
<td>$</td>
</tr>
</tbody>
</table>

**EXERCISE 25-3**

English Chairs Inc. produces a line of rocking chairs in one section of the plant, and stuffed chairs and recliner chairs in other sections. The controller has supplied the following condensed income statement for the year just ended:

<table>
<thead>
<tr>
<th></th>
<th>Stuffed Chairs</th>
<th>Recliner Chairs</th>
<th>Rocking Chairs</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>$500,000</td>
<td>$250,000</td>
<td>$350,000</td>
<td>$1,100,000</td>
</tr>
<tr>
<td>Cost of goods sold:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variable costs</td>
<td>$250,000</td>
<td>$110,000</td>
<td>$180,000</td>
<td>$540,000</td>
</tr>
<tr>
<td>Fixed costs</td>
<td>50,000</td>
<td>30,000</td>
<td>90,000</td>
<td>170,000</td>
</tr>
<tr>
<td>Total cost of goods sold</td>
<td>$300,000</td>
<td>$140,000</td>
<td>$270,000</td>
<td>$710,000</td>
</tr>
<tr>
<td>Gross profit</td>
<td>$200,000</td>
<td>$110,000</td>
<td>$80,000</td>
<td>$390,000</td>
</tr>
<tr>
<td>Operating expenses:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variable expenses</td>
<td>$100,000</td>
<td>$60,000</td>
<td>$75,000</td>
<td>$235,000</td>
</tr>
<tr>
<td>Fixed expenses</td>
<td>60,000</td>
<td>25,000</td>
<td>43,000</td>
<td>128,000</td>
</tr>
<tr>
<td>Total operating expenses</td>
<td>$160,000</td>
<td>$85,000</td>
<td>$118,000</td>
<td>$363,000</td>
</tr>
<tr>
<td>Income (loss) from operations</td>
<td>$40,000</td>
<td>$25,000</td>
<td>$(38,000)</td>
<td>$27,000</td>
</tr>
</tbody>
</table>

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**Instructions:** Complete the following form and determine whether the rocking chairs section should be continued.

**English Chairs Inc.**  
**Proposal to Discontinue Rocking Chairs**  
**December 31, 20--**

<table>
<thead>
<tr>
<th>Differential revenue from sales of rocking chairs:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue from sales ......................................................</td>
<td>$</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Differential cost of sales of rocking chairs:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable cost of goods sold .........................</td>
<td>$</td>
</tr>
<tr>
<td>Variable operating expenses ...........................</td>
<td>$</td>
</tr>
</tbody>
</table>

Differential income (loss) from sales of rocking chairs ...... $   

The rocking chairs section probably ____________ be continued.

**EXERCISE 25-4**

Golub Inc. has a machine which cost $250,000 five years ago and has $155,000 accumulated depreciation to date. The company can sell the machine for $83,000 and replace it with a larger one costing $370,000. The variable annual operating cost of the present machine amounts to $65,000. The variable annual operating cost of the new machine is estimated to be $30,000. It is estimated that either machine could be used for seven years from this date, December 31, 20--, and that at the end of the seven-year period neither would have a significant residual value.

**Instructions:** Complete the following schedule and determine the advisability of replacing the present machine.

**Golub Inc.**  
**Proposal to Replace Machine**  
**December 31, 20--**

<table>
<thead>
<tr>
<th>Annual variable costs—present machine ......................</th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual variable costs—new machine ..........................</td>
<td>$</td>
</tr>
<tr>
<td>Annual differential decrease (increase) in variable costs $</td>
<td></td>
</tr>
<tr>
<td>Number of years applicable ....................................</td>
<td>$</td>
</tr>
<tr>
<td>Total differential decrease (increase) in variable costs  $</td>
<td></td>
</tr>
<tr>
<td>Proceeds from sale of present machine ......................</td>
<td>$</td>
</tr>
<tr>
<td>Cost of new machine .............................................</td>
<td>$</td>
</tr>
<tr>
<td>Net differential decrease (increase) in cost, seven-year total $</td>
<td></td>
</tr>
<tr>
<td>Annual net differential decrease (increase) in cost—new machine $</td>
<td></td>
</tr>
</tbody>
</table>

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PROBLEM 25-1

Smith Company recently began production of a new product, G, which required the investment of $500,000 in assets. The costs and expenses of producing and selling 50,000 units of Product G are as follows:

Variable costs:

<table>
<thead>
<tr>
<th>Cost Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct materials</td>
<td>$1.20</td>
</tr>
<tr>
<td>Direct labor</td>
<td>2.40</td>
</tr>
<tr>
<td>Factory overhead</td>
<td>.40</td>
</tr>
<tr>
<td>Selling and administrative expenses</td>
<td>1.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$5.00</strong></td>
</tr>
</tbody>
</table>

Fixed costs:

<table>
<thead>
<tr>
<th>Cost Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factory overhead</td>
<td>$35,000</td>
</tr>
<tr>
<td>Selling and administrative expenses</td>
<td>15,000</td>
</tr>
</tbody>
</table>

Smith Company is currently establishing a selling price for Product G. The president of Smith Company has decided to use the cost-plus approach to product pricing and has indicated that Product G must earn a 12% rate of return on invested assets.

Instructions:

1. Determine the amount of desired profit from the production and sale of Product G.

2. Assuming that the total cost concept is used, determine (a) the cost amount per unit, (b) the markup percentage, and (c) the selling price of Product G.

   (a)

   (b)

   (c)
PROBLEM 25-2

Based upon the data in Problem 25-1, assume that Smith Company uses the product cost concept of product pricing.

Instructions: Determine (1) the cost amount per unit, (2) the markup percentage, and (3) the selling price of Product G. (Round to the nearest cent.)

(1)

(2)

(3)
**Problem 25-3**

Based upon the data in Problem 25-1, assume that Smith Company uses the variable cost concept of product pricing.

*Instructions:* Determine (1) the cost amount per unit, (2) the markup percentage, and (3) the selling price of Product G.

(1)

(2)

(3)
Chapter 25

**Problem 25-4**

The Zelda Company produces three products, Products D, E, and F. All three products require heat treatment in a furnace operation. The furnace operation is a production bottleneck. The annual cost of the furnace operation is $180,000. Information about the three products is as follows:

<table>
<thead>
<tr>
<th></th>
<th>Product D</th>
<th>Product E</th>
<th>Product F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales price per unit</td>
<td>$750</td>
<td>$600</td>
<td>$400</td>
</tr>
<tr>
<td>Variable cost per unit</td>
<td>300</td>
<td>350</td>
<td>200</td>
</tr>
<tr>
<td>Contribution margin per unit</td>
<td>450</td>
<td>250</td>
<td>200</td>
</tr>
<tr>
<td>Fixed cost per unit</td>
<td>200</td>
<td>200</td>
<td>150</td>
</tr>
<tr>
<td>Profit per unit</td>
<td>250</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Furnace hours per unit</td>
<td>15</td>
<td>10</td>
<td>8</td>
</tr>
</tbody>
</table>

**Instructions:** Determine the price for Products E and F that would generate the same profitability as Product D.