Managerial Accounting 13th edition Hilton Solutions Manual

SKU: 9781264100699-SOLUTIONS

TBEXAM.COM

CHAPTER 2
Basic Cost Management Concepts

FOCUS ON ETHICS (Located before the Chapter Summary in the text.)

Is "just following orders" an acceptable excuse?

The WorldCom controller allegedly did not perform his professional duties in accordance with relevant laws, regulations, and ethical standards for practitioners of managerial accounting and financial management. The justification that the controller makes for this alleged unethical duping of investors, that he was ordered to do so by senior management, is an insufficient defense of his actions. He was legally and ethically obliged to find and correct accounting errors, and to make an accurate representation of the firm's financial position to his fellow managers, the board of directors, and the investing public.

The extent of the fraud at Volkswagen makes it unimaginable that similar situations did not arise there. Sometimes, because of negligence or conflicts of interest, senior management may, purposely or even accidentally, give unethical instructions. Managers are obliged under these circumstances to uphold their professional integrity and insist on an appropriate treatment and presentation of information.

TBEXAM.COM

ANSWERS TO REVIEW QUESTIONS

2-1 **Product costs are costs that are associated with manufactured goods until the time period during which the products are sold, when the product costs become expenses. Period costs are expensed during the time period in which they are incurred.**

2-2 **Product costs are also called inventoriable costs because they are assigned to manufactured goods that are inventoried until a later period, when the products are sold. The product costs remain in the Work-in-Process or Finished-Goods Inventory account until the time period when the goods are sold.**

2-3 **The most important difference between a manufacturing firm and a service industry firm, with regard to the classification of costs, is that the goods produced by a manufacturing firm are inventoried, whereas the services produced by a service industry firm are consumed as they are produced. Thus, the costs incurred in manufacturing products are treated as product costs until the period during which the goods are sold. Most of the costs incurred in a service industry firm to produce services are operating expenses that are treated as period costs.**

TBEXAM.COM

© McGraw Hill LLC. All rights reserved. No reproduction or distribution without the prior written consent of McGraw Hill LLC.

TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES
Managerial Accounting 13th edition Hilton Solutions Manual

TBEXAM.COM

2-4 Product costs include the backpack's direct material (e.g., fabric, stitching, zippers and pulls), direct labor involved in production, and various manufacturing overhead costs (e.g., electricity, insurance on the plant, and depreciation on plant and equipment).

2-5 The four types of production processes are as follows:

- Job shop: Low production volume; little standardization; one-of-a-kind products. Examples include custom home construction, feature film production, and ship building.
- Batch: Multiple products; low volume. Examples include construction equipment, tractor trailers, and cabin cruisers.
- Assembly: A few major products; higher volume. Examples include kitchen appliances and automobile assembly.
- Continuous flow: High production volume; highly standardized commodity products. Examples include food processing, textiles, lumber, and chemicals.

2-6 The cost of idle time is treated as manufacturing overhead because it is a normal cost of the manufacturing operation that should be spread out among all of the manufactured products. The alternative to this treatment would be to charge the cost of idle time to a particular job that happens to be in process when the idle time occurs. Idle time often results from a random event, such as a power outage. Charging the cost of the idle time resulting from such a random event to only the job that happened to be in process at the time would overstate the cost of that job.

TBEXAM.COM

2-7 Compensation paid to employees for overtime premium is included in manufacturing overhead in order to spread the extra cost of the overtime over all of the products produced, since overtime often is a normal cost of the manufacturing operation. The alternative would be to charge the overtime premium to the particular job in process during overtime. In most cases, such treatment would overstate the cost of that job, since it is only coincidental that a particular job happened to be done on overtime. The need for overtime to complete a particular job results from the fact that other jobs were completed during regular hours.

2-8 The phrase "different costs for different purposes" refers to the fact that the word "cost" can have different meanings depending on the context in which it is used. Cost data that are classified and recorded in a particular way for one purpose may be inappropriate for another use.

© McGraw Hill LLC. All rights reserved. No reproduction or distribution without the prior written consent of McGraw Hill LLC.

TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES
Managerial Accounting 13th edition Hilton Solutions Manual

TBEXAM.COM

2-9 The city of Tampa would use cost information for planning when it developed a budget for its operations during the next year. Included in that budget would be projected costs for police and fire protection, street maintenance, and city administration. At the end of the year this budget would be used for cost control. The actual costs incurred would be compared to projected costs in the budget. City administrators would also use cost data in making decisions, such as where to locate a new fire station.

2-10 A fixed cost remains constant in total across changes in activity, whereas the total variable cost changes in proportion to the level of activity.

2-11 The fixed cost per unit declines as the level of activity (or cost driver) increases. Specifically, it declines at a decreasing rate: going from one unit produced to two divides the fixed cost per unit in half; going from two units to three divides it into thirds; three to four into fourths, etc. The cost per unit is reduced because the total fixed cost, which does not change as activity changes, is spread over a larger number of activity units.

2-12 The variable cost per unit remains constant as the level of activity (or cost driver) changes. Total variable costs change in proportion to activity, and the additional variable cost when one unit of activity is added is the variable cost per unit.

2-13 Airline cost drivers associated with a particular flight could include any volume- or operations-oriented measure that is likely to be associated with increases and decreases in different kinds of costs associated with that flight. Examples might include the number of passengers, number of flights, weight of freight carried, number of gate personnel, number of airplane seats, distance to destination, and even cost weighting factors associated with one airport vs another.

TBEXAM.COM

2-14

a. Number of students: Yes. This characteristic of the college relates to the quantity of services provided and many costs would increase or decrease with more or fewer students.

b. Number of disciplines offered for study: No, although the distinction is subtle. While it is true that the greater the diversity in a college's course offerings, the greater will be the costs incurred, this is not an "activity" that occurs in regular operations. It is a design choice that, once made, results in a one-time change in cost level.

c. Urban versus rural location: No. While a college's location will affect many costs (housing, support labor costs, transportation, etc.) it is a one-time choice that is not an activity that varies.

TBEXAM.COM

© McGraw Hill LLC. All rights reserved. No reproduction or distribution without the prior written consent of McGraw Hill LLC.

TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES
Managerial Accounting 13th edition Hilton Solutions Manual

TBEXAM.COM

2-15 Examples of direct costs of the food and beverage department in a hotel include the money spent on the food and beverages served, the compensation paid to table service personnel, and the costs of entertainment in the dining room and lounge. Examples of indirect costs of the food and beverage department include allocations of the costs of advertising for the entire hotel, of the costs of the grounds and maintenance department, and of the compensation paid to the hotel's general manager.

2-16 Costs that are likely to be controllable by a city's airport manager include the compensation paid to personnel hired by the airport manager, the cost of heat and light in the airport manager's administrative offices, and the cost of some materials consumed in the process of operating the airport, such as cleaning, painting, and maintenance materials. Costs that are likely to be uncontrollable by the city's airport manager include depreciation of the airport facilities, fees paid by the airport to the federal government for air traffic control services, and insurance for the airport employees and patrons.

2-17 a. Uncontrollable cost – chief of nursing has no control over pharmaceutical costs and generally does not determine the drugs or dosages prescribed.

b. Controllable cost – chief of nursing would be responsible for scheduling, and s/he controls, and is accountable for, the level of care that goes into schedule preparation.

TBEXAM.COM

c. Uncontrollable cost – chief of nursing does not control the choice of depreciation method nor is s/he likely to be the primary decision maker when a bed is purchased.

2-18 Out-of-pocket costs are paid in cash at or near the time they are incurred. An opportunity cost is the potential benefit given up when the choice of one action precludes the selection of a different action.

2-19 A sunk cost is a cost that was incurred in the past and cannot be altered by any current or future decision. A differential cost is the difference in a cost item under two decision alternatives.

2-20 A marginal cost is the extra cost incurred in producing one additional unit of output. The average cost is the total cost of producing a particular quantity of product or service, divided by the number of units of product or service produced.

2-21 The process of registering for classes varies widely among colleges and universities, and the responses to this question will vary as well. Examples of information that might be useful include the credit requirements and course requirements to obtain a particular degree, and a list of the prerequisites for each of the elective courses in a particular major. Such information could help the student plan an academic program over several semesters or quarters. An example of information that might create information overload is a comprehensive listing of every course offered by the college in the past five years.

© McGraw Hill LLC. All rights reserved. No reproduction or distribution without the prior written consent of McGraw Hill LLC.

TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES
Managerial Accounting 13th edition Hilton Solutions Manual

TBEXAM.COM

2-22 **The purchase cost of the old bar code scanners is a sunk cost, since it occurred in the past and cannot be changed by any future course of action. The manager is exhibiting a common behavioral tendency to pay too much attention to sunk costs.**

2-23 **a. Direct cost**

b. Direct cost

c. Indirect cost

d. Indirect cost

TBEXAM.COM

TBEXAM.COM

© McGraw Hill LLC. All rights reserved. No reproduction or distribution without the prior written consent of McGraw Hill LLC.

TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES
Managerial Accounting 13th edition Hilton Solutions Manual

TBEXAM.COM

SOLUTIONS TO EXERCISES

EXERCISE 2-24 (10 MINUTES)

The general formula for solving all three cases is as follows:

Beginning inventory of finished goods	+	Cost of goods manufactured during period	–	Ending inventory of finished goods	=	Cost-of-goods sold expense

Using this formula, we can find the missing amounts as follows:

	Case		
	I	II	III
Beginning inventory of finished goods	$ 84,000*	$12,000	7,000
Add: Cost of goods manufactured	419,000	95,000	318,000*
Subtract: Ending inventory of finished goods	98,000	8,000	21,000
Cost of goods sold	$405,000	$99,000*	$304,000

*Amount missing in exercise.

EXERCISE 2-25 (10 MINUTES)

TBEXAM.COM

1.	Hours worked	40
	Wage rate	× $ 18
	Total compensation	$720

2. Classification:

Direct labor (36 hours × $18)	$648
Overhead (idle time: 4 hours × $18)	72
Total compensation	$720

EXERCISE 2-26 (10 MINUTES)

1.	Regular wages (40 hours × $16)	$ 640
	Overtime wages (5 hours × $24)	120
	Total compensation	$ 760

2.	Overtime hours	5 hrs.
	Overtime premium per hour ($24 – $16)	× $ 8
	Total overtime premium	$ 40

© McGraw Hill LLC. All rights reserved. No reproduction or distribution without the prior written consent of McGraw Hill LLC.

TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES
Managerial Accounting 13th edition Hilton Solutions Manual

TBEXAM.COM

EXERCISE 2-26 (CONTINUED)

3. Classification:

Direct labor (45 hours × $16)	$ 720
Overhead (overtime premium: 5 hours × $8)	40
Total compensation	$ 760

EXERCISE 2-27 (30 MINUTES)

(1) Mass customization is a production process that allows set modifications to a standardized product in order to better match the product to customer needs. As a production process, it combines the standardization of mass production with a limited form of the customization of a job shop.

(2) The technique seems well suited to Falcon Northwest's computer-manufacturing operation for high-end gaming computers because of the company's direct-selling approach, in which most customers order customized computer systems on-line. This allows Falcon to order limited quantities of the components necessary to assemble the customized computer systems that have been ordered, and delivery is made in a relatively short period of time.

(3) Under this approach, raw-materials and finished-goods inventory levels would be lower. Manufacturing overhead costs would likely be somewhat higher in order to support the process of specifying, ordering, receiving, and transporting smaller lots of production components. Direct materials costs should be comparable to other manufacturing techniques, as long as care is taken to negotiate supply contracts that cover the needs of a long period of time (so that renegotiations do not have to take place frequently for small quantities for components), but with slightly higher delivery costs because requirements are spread over more deliveries. Direct labor cost would likely be higher because the customization work would be less routinized.

TBEXAM.COM

TBEXAM.COM

© McGraw Hill LLC. All rights reserved. No reproduction or distribution without the prior written consent of McGraw Hill LLC.

TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES
Managerial Accounting 13th edition Hilton Solutions Manual

TBEXAM.COM

EXERCISE 2-28 (20 MINUTES)

1. Tire costs: Product cost, variable, direct material
2. Sales commissions: Period cost, variable
3. Wood glue: Product cost, variable, manufacturing overhead (indirect material)
4. Hourly wages of security guards: Product cost, fixed (defined with respect to amount of product produced), manufacturing overhead
5. Salary of financial vice-president: Period cost, fixed
6. Advertising costs: Period cost, fixed
7. Straight-line depreciation: Product cost, fixed, manufacturing overhead
8. Wages of assembly-line personnel: Product cost, variable, direct labor
9. Delivery costs on customer shipments: Period cost, variable
10. Newsprint consumed: Product cost, variable, direct material
11. Plant insurance: Product cost, fixed, manufacturing overhead
12. LED costs: Product cost, variable, direct material

TBEXAM.COM

TBEXAM.COM

© McGraw Hill LLC. All rights reserved. No reproduction or distribution without the prior written consent of McGraw Hill LLC.

TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES
Managerial Accounting 13th edition Hilton Solutions Manual

TBEXAM.COM

EXERCISE 2-29 (25 MINUTES)

1.

ALEXANDRIA ALUMINUM COMPANY
SCHEDULE OF COST OF GOODS MANUFACTURED
FOR THE YEAR ENDED DECEMBER 31, 20X1

Direct material:		
Raw-material inventory, January 1	$ 60,000	
Add: Purchases of raw material	250,000	
Raw material available for use	$310,000	
Deduct: Raw-material inventory, December 31	70,000	
Raw material used		$240,000
Direct labor		400,000
Manufacturing overhead:		
Indirect material	$ 10,000	
Indirect labor	25,000	
Depreciation on plant and equipment	100,000	
Utilities	25,000	
Other	30,000	
Total manufacturing overhead		190,000
Total manufacturing costs		$830,000
Add: Work-in-process inventory, January 1		120,000
Subtotal		$950,000
Deduct: Work-in-process inventory, December 31		115,000
Cost of goods manufactured		$835,000

2.

ALEXANDRIA ALUMINUM COMPANY
SCHEDULE OF COST OF GOODS SOLD
FOR THE YEAR ENDED DECEMBER 31, 20X1

Finished-goods inventory, January 1	$150,000
Add: Cost of goods manufactured	835,000
Cost of goods available for sale	$985,000
Deduct: Finished-goods inventory, December 31	165,000
Cost of goods sold	$820,000

TBEXAM.COM

© McGraw Hill LLC. All rights reserved. No reproduction or distribution without the prior written consent of McGraw Hill LLC.

TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES
Managerial Accounting 13th edition Hilton Solutions Manual

TBEXAM.COM

EXERCISE 2-29 (CONTINUED)

3.

ALEXANDRIA ALUMINUM COMPANY
INCOME STATEMENT
FOR THE YEAR ENDED DECEMBER 31, 20X1

Sales revenue	$1,105,000
Less: Cost of goods sold	820,000
Gross margin	$ 285,000
Selling and administrative expenses	110,000
Income before taxes	$ 175,000
Income tax expense	70,000
Net income	$ 105,000

4. The Build a Spreadsheet Excel file can be downloaded from the Connect Instructor Library: Build a Spreadsheet 02-29.xls

EXERCISE 2-30 (15 MINUTES)

	Number of Muffler Replacements		
	500	600	700
Total costs:			
Fixed costs	(a) $42,000	$42,000	(b) $42,000
Variable costs	(c) 25,000	30,000	(d) 35,000
Total costs	(e) $67,000	$72,000	(f) $77,000
Cost per muffler replacement:			
Fixed cost	(g) $ 84	(h) $ 70	(i) $ 60
Variable cost	(j) 50	(k) 50	(l) 50
Total cost per muffler replacement	(m) $134	(n) $120	(o) $110

TBEXAM.COM

Explanatory Notes:

(a) Total fixed costs do not vary with activity.

(c) Variable cost per replacement = $30,000/600 = $50

Total variable cost for 500 replacements = $50 × 500 = $25,000

(g) Fixed cost per replacement = $42,000/500 = $84

(j) Variable cost per replacement = $25,000/500 = $50

© McGraw Hill LLC. All rights reserved. No reproduction or distribution without the prior written consent of McGraw Hill LLC.

TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES
Managerial Accounting 13th edition Hilton Solutions Manual

TBEXAM.COM

EXERCISE 2-31 (15 MINUTES)

1.	Phone bill, January: $100 + ($.25 × 6,000)	$1,600	
	Phone bill, February: $100 + ($.25 × 5,000)	$1,350	
2.	Cost per call, January: $1,600/6,000	$ .267	(rounded)
	Cost per call, February: $1,350/5,000	$ .27	
3.	Fixed component, January	$ 100	
	Variable component, January: $.25 × 6,000	1,500	
	Total	$1,600	

4. Since each phone call costs $.25, the marginal cost of making the 6,001st call is $.25.

5. The average cost of a phone call in January (rounded) is $.267 ($1,600/6,000).

EXERCISE 2-32 (5 MINUTES)

Martin Chuzzlewit's expenditure is a *sunk* cost. It is irrelevant to any future decision Martin may make about the land.

TBEXAM.COM

EXERCISE 2-33 (5 MINUTES)

Annual cost using European component: $8,900 × 10	$89,000
Annual cost using Part A200: ($5,100 + $500) × 10	56,000
Annual differential cost	$33,000

EXERCISE 2-34 (5 MINUTES)

1. The $140,000 is the *opportunity cost* associated with using the cloud storage licensed by the Department of Education for work in the governor's office.
2. The $140,000 licensing cost should be assigned to the governor's office. It was incurred as a result of activity in that office.

© McGraw Hill LLC. All rights reserved. No reproduction or distribution without the prior written consent of McGraw Hill LLC.

TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES
Managerial Accounting 13th edition Hilton Solutions Manual

TBEXAM.COM

EXERCISE 2-35 (10 MINUTES)

1. Your decision to see the game really cost you $400, the amount forgone when you refused to sell the ticket. A convenient way to think about this is as follows: You could have sold the ticket for $400, thereby resulting in a profit on the deal of $250 ($400 sales proceeds minus $150 out-of-pocket purchase cost). Instead, you went to the game, which left you relieved of your $150 out-of-pocket cost. The difference between the $150 *reduction* in your wealth and the $250 *profit* you could have had is $400. Thus, $400 is the true cost of going to the game.

2. The $400 is an *opportunity cost.* At the time you made the decision to attend the game, the $150 you actually had paid for the ticket is a *sunk cost.* It is not relevant to any future decision.

EXERCISE 2-36 (15 MINUTES)

1. The marginal cost would include any food and beverages consumed by the passenger and the (almost imperceptible) increase in fuel costs.

2. In most cases, only the cost of the food and beverage consumed by the customer would be a marginal cost. It is unlikely that the restaurant would need to employ additional service personnel, dishwashers, and so on.

TBEXAM.COM

3. For certain, the marginal cost of an extra flight would include the aircraft fuel, compensation paid to the flight crew, and the food and beverages consumed by the passengers and crew. There might also be additional costs for ground, maintenance and baggage personnel, but it would depend on whether those services are contracted on a per-flight basis or the airline hires employees for those purposes at the airport (and those employees have excess capacity). Both models are used.

4. The marginal cost would include the additional compensation paid to the branch bank employees and the additional electricity used for light, heat, and computer equipment.

5. The marginal cost of the snowboard would include the direct material. It is unlikely that labor compensation and other costs would change with the addition of only one more product unit.

TBEXAM.COM

© McGraw Hill LLC. All rights reserved. No reproduction or distribution without the prior written consent of McGraw Hill LLC.

TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES
Managerial Accounting 13th edition Hilton Solutions Manual

TBEXAM.COM

SOLUTIONS TO PROBLEMS

PROBLEM 2-37 (20 MINUTES)

1. 1. Income statement
   2. Balance sheet
   3. Income statement
   4. Income statement
   5. Cost-of-goods-manufactured schedule
   6. Income statement
   7. Cost-of-goods-manufactured schedule
   8. Cost of-goods-manufactured schedule
   9. Balance sheet, cost-of-goods-manufactured schedule
   10. Income statement
   11. Income statement

2. The asset that differs among these businesses is inventory. Service businesses typically carry no (or very little) inventory. Retailers and wholesalers normally stock considerable inventory. Manufacturers also carry significant inventories, typically subdivided into three categories: raw material, work in process, and finished goods.

3. The income statements of service business normally have separate sections for operating revenues, operating expenses, and other income (expenses). In contrast, those of retailers, wholesalers, and manufacturers disclose sales revenue, followed immediately by cost of goods sold and gross margin. Operating expenses are listed next followed by other income (expenses).

TBEXAM.COM

PROBLEM 2-38 (30 MINUTES)

1. Manufacturing overhead:

Indirect labor……	$109,000
Building depreciation ($80,000 x 75%)..	60,000
Other factory costs……..	344,000
Total……..	$513,000

TBEXAM.COM

© McGraw Hill LLC. All rights reserved. No reproduction or distribution without the prior written consent of McGraw Hill LLC.

TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES
Managerial Accounting 13th edition Hilton Solutions Manual

TBEXAM.COM

PROBLEM 2-38 (CONTINUED)

2. Cost of goods manufactured:

Direct material:		
Raw-material inventory, Jan. 1	$ 15,800	
Add: Purchases of raw material	175,000	
Raw material available for use	$190,800	
Deduct: Raw-material inventory, Dec. 31	18,200	
Raw material used		$172,600
Direct labor		254,000
Manufacturing overhead		513,000
Total manufacturing costs		$939,600
Add: Work-in-process inventory, Jan. 1		35,700
Subtotal		$975,300
Deduct: Work-in-process inventory, Dec. 31		62,100
Cost of goods manufactured		$913,200

3. Cost of goods sold:

Finished-goods inventory, Jan. 1	$ 111,100
Add: Cost of goods manufactured	913,200
Cost of goods available for sale	$1,024,300
Deduct: Finished-goods inventory, Dec. 31	97,900
Cost of goods sold	$ 926,400

TBEXAM.COM

4. Net income:

Sales revenue		$1,495,000
Less: Cost of goods sold		926,400
Gross margin		$ 568,600
Selling and administrative expenses:		
Salaries	$133,000	
Building depreciation ($80,000 x 25%)	20,000	
Other	195,000	348,000
Income before taxes		$ 220,600
Income tax expense ($220,600 x 30%)		66,180
Net income		$ 154,420

5. The company sold 11,500 units during the year ($1,495,000 ÷ $130). Since 160 of the units came from finished-goods inventory (1,350 – 1,190), the company would have manufactured 11,340 units (11,500 – 160).

6. The Build a Spreadsheet Excel file can be downloaded from the Connect Instructor Library: Build a Spreadsheet 02-38.xls

© McGraw Hill LLC. All rights reserved. No reproduction or distribution without the prior written consent of McGraw Hill LLC.

TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES
Managerial Accounting 13th edition Hilton Solutions Manual

TBEXAM.COM

PROBLEM 2-39 (25 MINUTES)

Since gross margin equals 30% of sales, cost of goods sold equals 70% of sales, or $231,000 ($330,000 x 70%). Thus, the finished goods destroyed by the fire cost $44,000, computed as follows:

Finished-goods inventory, Jan. 1 (given)……..	$ 37,000
Add: Cost of goods manufactured*……	238,000
Cost of goods available for sale (given)……	$275,000
Deduct: Finished-goods inventory, Apr. 12*……	44,000
Cost of goods sold (calculated above)……..	$231,000

***Fill in these blanks, given the other numbers in this table.**

Direct material used:

Direct material averages 25% of prime costs (i.e., direct material + direct labor). Thus:
Let X = direct material used
X = (X + $120,000) x 25%
0.75X = $30,000
X = $40,000

Manufacturing overhead:

TBEXAM.COM

Manufacturing overhead equals 50% of total production costs.
Thus: Let Y = manufacturing overhead
Y = (direct material used + direct labor + manufacturing overhead) x 50%
Y = ($40,000 + $120,000 + Y) x 50%
0.50Y = $80,000
Y = $160,000

The work in process destroyed by the fire cost $103,000, computed as follows:

Direct material……	$ 40,000
Direct labor (given)……	120,000
Manufacturing overhead……..	160,000
Total manufacturing costs……...	$320,000
Add: Work-in-process inventory, Jan. 1 (given)…	21,000
Subtotal……..	$341,000
Deduct: Work-in-process inventory, Apr. 12*…….	103,000
Cost of goods manufactured (from above)…….	$238,000

***$103,000 = $341,000 – $238,000**

TBEXAM.COM

© McGraw Hill LLC. All rights reserved. No reproduction or distribution without the prior written consent of McGraw Hill LLC.

TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES
Managerial Accounting 13th edition Hilton Solutions Manual

TBEXAM.COM

PROBLEM 2-40 (25 MINUTES)

1. Fixed manufacturing overhead per unit:

$600,000 ÷ 24,000 units produced = $25

Average unit manufacturing cost:

Direct material	$ 20
Direct labor	37
Variable manufacturing overhead	48
Fixed manufacturing overhead	25
Average unit cost	$130

Production	24,000 units
Sales	20,000 units
Ending finished-goods inventory	4,000 units

Cost of December 31 finished-goods inventory:

4,000 units x $130 = $520,000

2. Net income:

Sales revenue (20,000 units x $185)	$3,700,000
Cost of goods sold (20,000 units x $130)	2,600,000
Gross margin	$1,100,000
Selling and administrative expenses	860,000
Income before taxes	$ 240,000
Income tax expense ($240,000 x 30%)	72,000
Net income	$ 168,000

3. (a) No change. Direct labor is a variable cost, and the cost per unit will remain constant.

(b) No change. Despite the decrease in the number of units produced, this is a fixed cost, which remains the same in total.

(c) No change. Selling and administrative costs move more closely with changes in sales than with units produced. Additionally, this is a fixed cost.

(d) Increase. The average unit cost of production will change because of the per-unit fixed manufacturing overhead. A reduced production volume will be divided into the fixed dollar amount, which increases the cost per unit.

© McGraw Hill LLC. All rights reserved. No reproduction or distribution without the prior written consent of McGraw Hill LLC.

TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES

Managerial Accounting 13th edition Hilton Solutions Manual

TBEXAM.COM

PROBLEM 2-41 (40 MINUTES)

	Case A	Case B	Case C
Beginning inventory, raw material	$60,000*	$ 20,000	$ 15,000
Ending inventory, raw material	90,000	10,000*	30,000
Purchases of raw material	100,000	85,000	70,000*
Direct material used	70,000	95,000	55,000*
Direct labor	200,000*	100,000	125,000
Manufacturing overhead	250,000	150,000*	160,000
Total manufacturing costs	520,000	345,000	340,000
Beginning inventory, work in process	35,000	20,000	15,000*
Ending inventory, work in process	30,000*	35,000	5,000
Cost of goods manufactured	525,000	330,000*	350,000
Beginning inventory, finished goods	50,000	40,000	20,000*
Cost of goods available for sale	575,000*	370,000*	370,000
Ending inventory, finished goods	30,000*	40,000*	25,000
Cost of goods sold	545,000	330,000	345,000*
Sales	800,000*	500,000*	480,000
Gross margin	255,000	170,000	135,000*
Selling and administrative expenses	105,000*	75,000	45,000*
Income before taxes	150,000	95,000*	90,000
Income tax expense	40,000	45,000	35,000*
Net income	110,000*	50,000*	55,000

TBEXAM.COM

*Amount missing in problem.

PROBLEM 2-42 (25 MINUTES)

1. a. Total prime costs:

Direct material	$ 2,100,000
Direct labor:	
Wages	485,000
Fringe benefits	95,000
Total prime costs	$ 2,680,000

TBEXAM.COM

© McGraw Hill LLC. All rights reserved. No reproduction or distribution without the prior written consent of McGraw Hill LLC.

TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES

Managerial Accounting 13th edition Hilton Solutions Manual

TBEXAM.COM

PROBLEM 2-42 (CONTINUED)

b. Total manufacturing overhead:

Depreciation on factory building	$ 115,000
Indirect labor: wages	140,000
Production supervisor's salary	45,000
Service department costs	100,000
Indirect labor: fringe benefits	30,000
Fringe benefits for production supervisor	9,000
Total overtime premiums paid	55,000
Cost of idle time: production employees	40,000
Total manufacturing overhead	$ 534,000

c. Total conversion costs:

Direct labor ($485,000 + $95,000)	$ 580,000
Manufacturing overhead	534,000
Total conversion costs	$1,114,000

d. Total product costs:

TBEXAM.COM

Direct material	$2,100,000
Direct labor	580,000
Manufacturing overhead	534,000
Total product costs	$3,214,000

e. Total period costs:

Advertising expense	$ 99,000
Administrative costs	150,000
Rental of office space for sales personnel	15,000
Sales commissions	5,000
Product promotion costs	10,000
Total period costs	$ 279,000

2. The $15,000 in rental cost for sales office space rental is an opportunity cost. It measures the opportunity cost of using the former sales office space for raw-material storage.

PROBLEM 2-43 (35 MINUTES)

1.

© McGraw Hill LLC. All rights reserved. No reproduction or distribution without the prior written consent of McGraw Hill LLC.

TBEXAM.COM - THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES
Managerial Accounting 13th edition Hilton Solutions Manual

TBEXAM.COM

SAN FERNANDO FASHIONS COMPANY
SCHEDULE OF COST OF GOODS MANUFACTURED
FOR THE YEAR ENDED DECEMBER 31, 20X2

Direct material:		
Raw-material inventory, January 1	$ 40,000	
Add: Purchases of raw material	180,000	
Raw material available for use	$220,000	
Deduct: Raw-material inventory, December 31	25,000	
Raw material used		$195,000
Direct labor		200,000
Manufacturing overhead:		
Indirect material	$ 10,000	
Indirect labor	15,000	
Utilities: plant	40,000	
Depreciation: plant and equipment	60,000	
Other	80,000	
Total manufacturing overhead		205,000
Total manufacturing costs		$600,000
Add: Work-in-process inventory, January 1		40,000
Subtotal		$640,000
Deduct: Work-in-process inventory, December 31		30,000
Cost of goods manufactured		$610,000

TBEXAM.COM

TBEXAM.COM

2.

SAN FERNANDO FASHIONS COMPANY
SCHEDULE OF COST OF GOODS SOLD
FOR THE YEAR ENDED DECEMBER 31, 20X2

Finished goods inventory, January 1	$ 20,000
Add: Cost of goods manufactured	610,000
Cost of goods available for sale	$630,000
Deduct: Finished-goods inventory, December 31	50,000
Cost of goods sold	$580,000

© McGraw Hill LLC. All rights reserved. No reproduction or distribution without the prior written consent of McGraw Hill LLC.

TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES
Managerial Accounting 13th edition Hilton Solutions Manual

TBEXAM.COM

PROBLEM 2-43 (CONTINUED)

3.

SAN FERNANDO FASHIONS COMPANY
INCOME STATEMENT
FOR THE YEAR ENDED DECEMBER 31, 20X2

Sales revenue	$950,000
Less: Cost of goods sold	580,000
Gross margin	$370,000
Selling and administrative expenses	150,000
Income before taxes	$220,000
Income tax expense	90,000
Net income	$130,000

4. The Build a Spreadsheet Excel file can be downloaded from the Connect Instructor Library: Build a Spreadsheet 02-43.xls

PROBLEM 2-44 (15 MINUTES)

1.	Regular hours: 40 × $12	$480
	Overtime hours: 8 × $18	144
	Total cost of wages	$624
2.	a. Direct labor: 38 × $12	$456
	b. Manufacturing overhead (idle time): 1 × $12	12
	c. Manufacturing overhead (overtime premium): 8 × ($18 – $12)	48
	d. Manufacturing overhead (indirect labor): 9 × $12	108
	Total cost of wages	$624

TBEXAM.COM

PROBLEM 2-45 (20 MINUTES)

1. a, d, g, i
2. a, d, g, j
3. b, c, f
4. b, d, g, k
5. a, d, g, k

PROBLEM 2-45 (CONTINUED)

6. a, d, g, j

© McGraw Hill LLC. All rights reserved. No reproduction or distribution without the prior written consent of McGraw Hill LLC.

TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES
Managerial Accounting 13th edition Hilton Solutions Manual

TBEXAM.COM

7. b, c, f

8. b, d, g, k

9. b, c and d*, e and f and g*, k*

   *The building is used for several purposes.

10. b, c, f

11. b, c, h

12. b, c, f

13. b, c, e

14. b, c and d=, e and f and g=, k=

    =The building that the furnace heats is used for several purposes.

15. b, d, g, k

TBEXAM.COM

PROBLEM 2-46 (20 MINUTES)

1. 3 hours × ($18 + $6) = $72

   Notice that the overtime premium on the flight is not a direct cost of the flight.

TBEXAM.COM

2. 3 hours × ($18 × 0.5) = $27

   This is the overtime premium, which is part of Gaines' overall compensation.

3. The overtime premium should be included in overhead and allocated across all of the company's flights.

4. The $82 is an opportunity cost of using Gaines on the flight departing from Topeka on August 11. The cost should be assigned to the August 11 flight departing from Topeka.

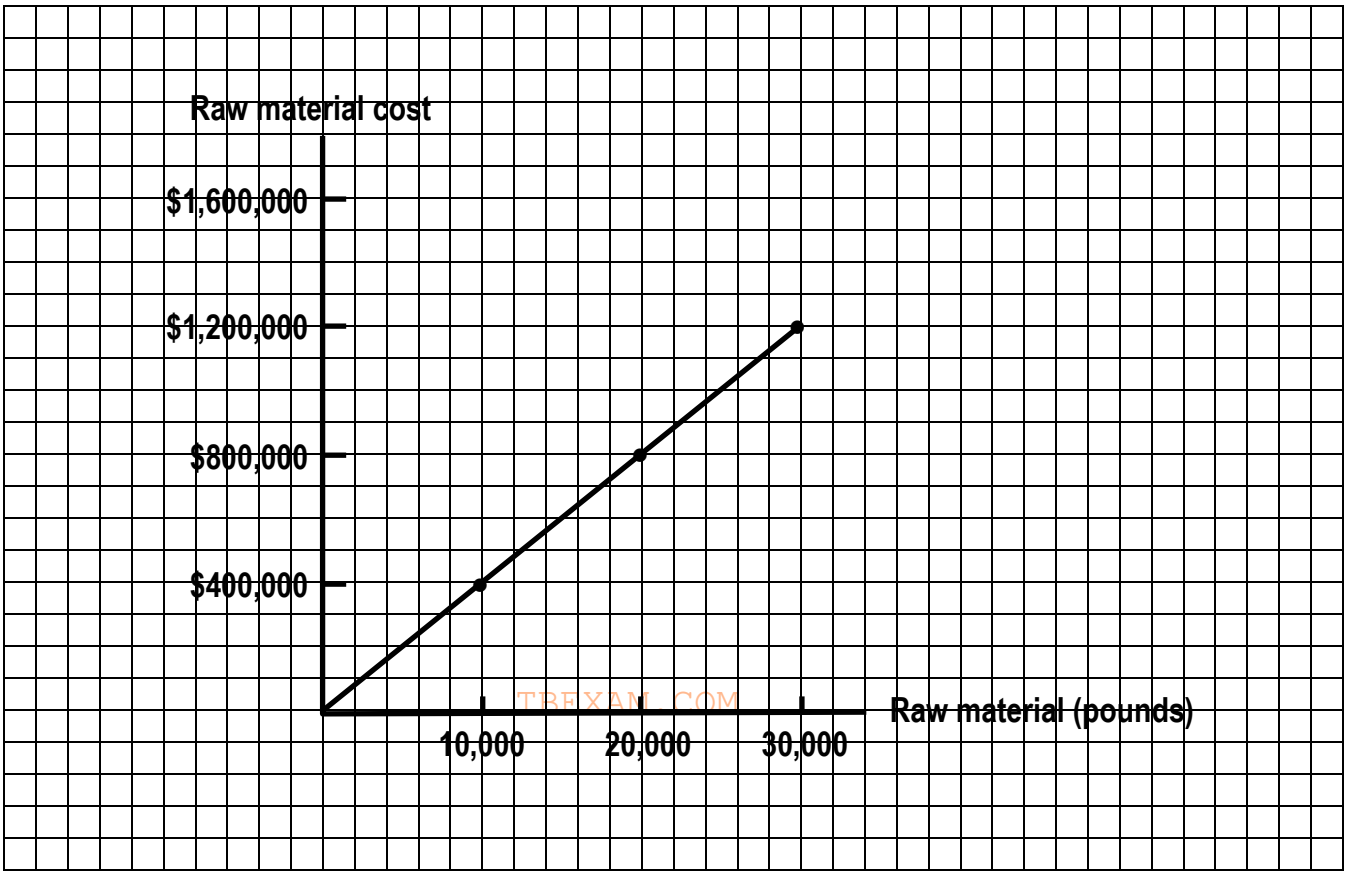
© McGraw Hill LLC. All rights reserved. No reproduction or distribution without the prior written consent of McGraw Hill LLC.

TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES
Managerial Accounting 13th edition Hilton Solutions Manual

TBEXAM.COM

PROBLEM 2-47 (15 MINUTES)

1. Graph of raw-material cost:



2.

Production Level in Pounds	Unit Cost	Total Cost
1	$40 per pound	$40
10	$40 per pound	$400
1,000	$40 per pound	$40,000

TBEXAM.COM

© McGraw Hill LLC. All rights reserved. No reproduction or distribution without the prior written consent of McGraw Hill LLC.

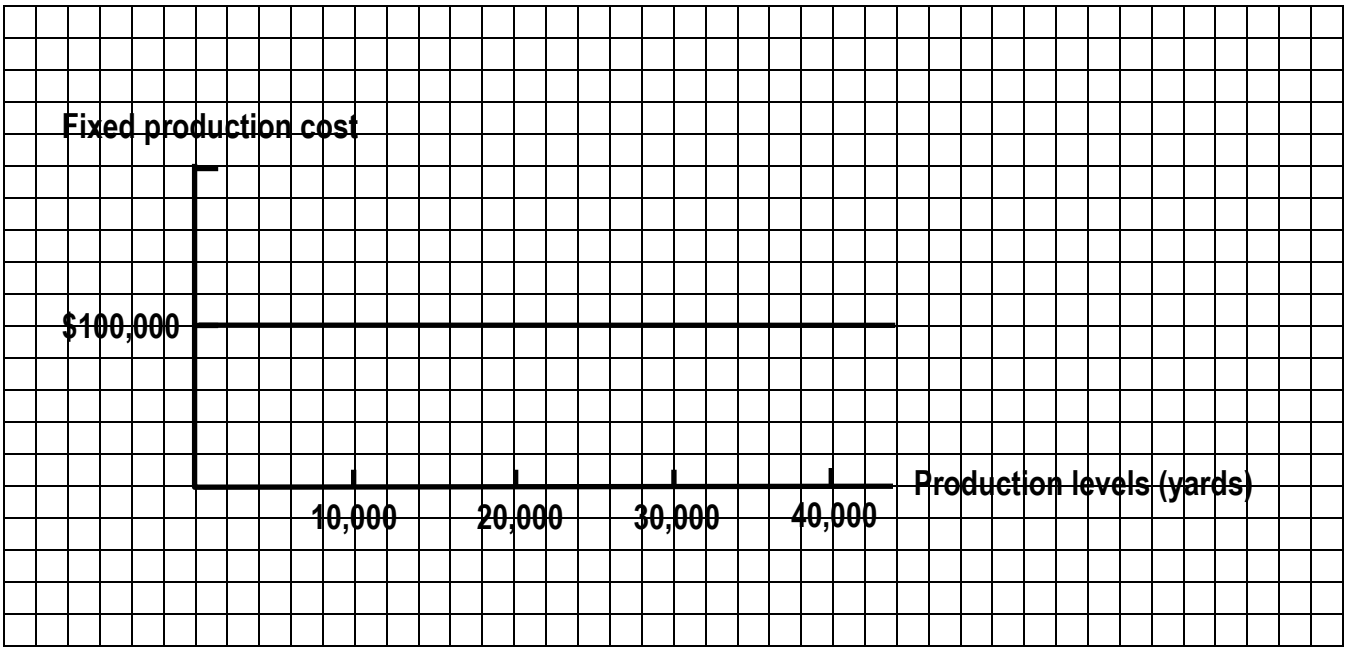
TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES

Managerial Accounting 13th edition Hilton Solutions Manual

TBEXAM.COM

PROBLEM 2-48 (25 MINUTES)

1. **Graph of fixed production cost:**



TBEXAM.COM

2.

Production Level in Yards	Unit Fixed Cost	Total Fixed Cost
1	$100,000 per yard	$100,000
10	$10,000 per yard	$100,000
10,000	$10 per yard	$100,000
40,000	$2.50 per yard	$100,000

TBEXAM.COM

© McGraw Hill LLC. All rights reserved. No reproduction or distribution without the prior written consent of McGraw Hill LLC.

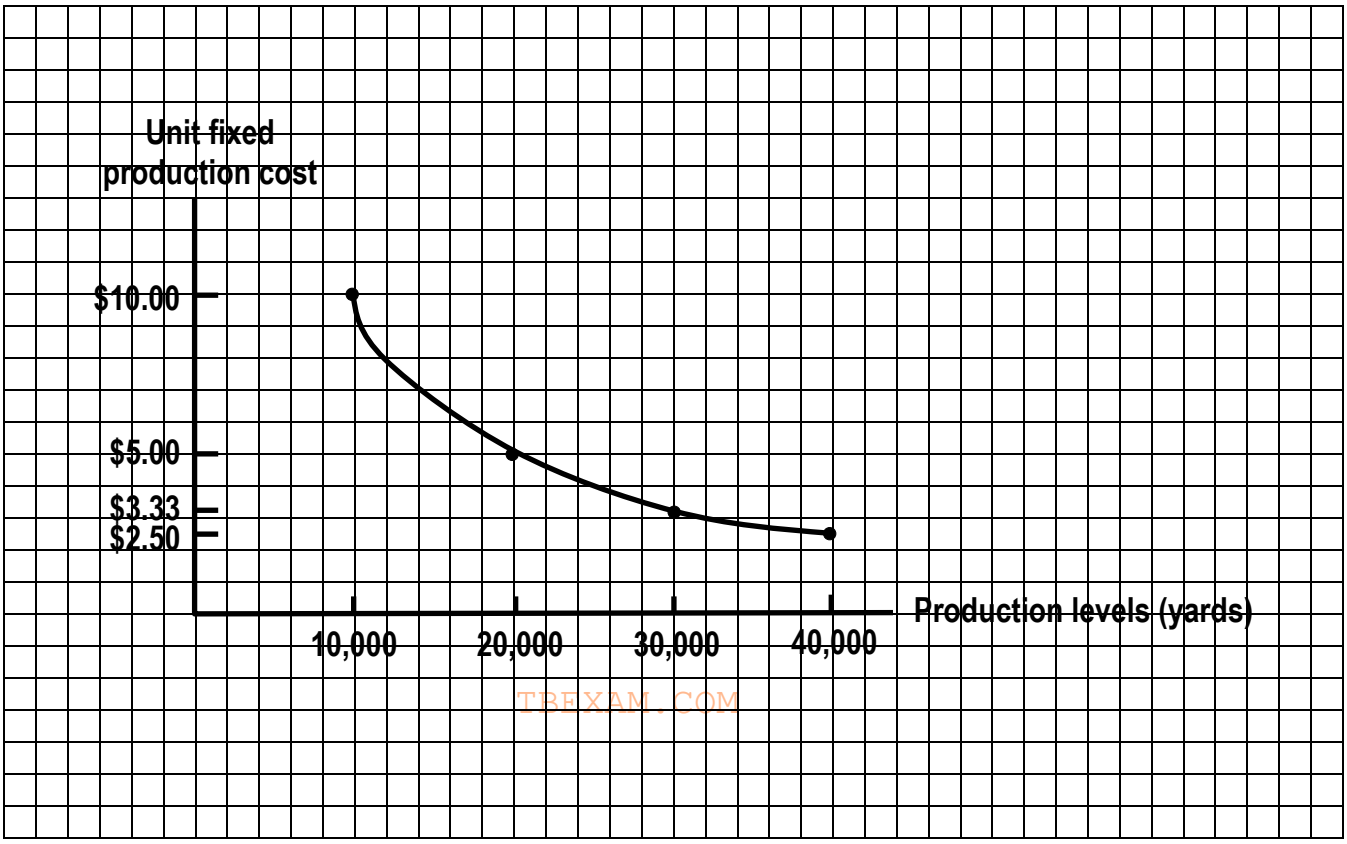
TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES

Managerial Accounting 13th edition Hilton Solutions Manual

TBEXAM.COM

PROBLEM 2-48 (CONTINUED)

3. Graph of unit fixed production cost:



TBEXAM.COM

TBEXAM.COM

PROBLEM 2-49 (10 MINUTES)

Cost Item Number	Direct or Indirect	Partially Controllable by Department Supervisor
1.	indirect	no
2.	indirect	no
3.	direct	yes
4.	direct	no
5.	direct	yes

© McGraw Hill LLC. All rights reserved. No reproduction or distribution without the prior written consent of McGraw Hill LLC.

TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES
Managerial Accounting 13th edition Hilton Solutions Manual

TBEXAM.COM

PROBLEM 2-50 (10 MINUTES)

Cost Item Number	Product Cost or Period Cost
1.	period*
2.	product
3.	product
4.	product
5.	product
6.	period*
7.	product
8.	period*
9.	product

*Service industry firms typically treat all costs as operating expenses which are period expenses. Such firms do not inventory costs because they usually have nothing of significance in inventory.

PROBLEM 2-51 (15 MINUTES)

	Variable or Fixed	20x2 Forecast	Explanation
Direct material	V	$3,600,000	$3,000,000 × 1.20
Direct labor	V	2,640,000	$2,200,000 × 1.20
Manufacturing overhead			
Utilities (primarily electricity)	V	168,000	$140,000 × 1.20
Depreciation on plant and equipment	F	230,000	same
Insurance	F	160,000	same
Supervisory salaries	F	300,000	same
Property taxes	F	210,000	same
Selling costs			
Advertising	F	195,000	same
Sales commissions	V	108,000	$90,000 × 1.20
Administrative costs			
Salaries of top management and staff	F	372,000	same
Office supplies	F	40,000	same
Depreciation on building and equipment	F	80,000	same

TBEXAM.COM

© McGraw Hill LLC. All rights reserved. No reproduction or distribution without the prior written consent of McGraw Hill LLC.

TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES
Managerial Accounting 13th edition Hilton Solutions Manual

TBEXAM.COM

PROBLEM 2-52 (15 MINUTES)

1. f, average cost
2. e, marginal cost
3. c, sunk cost
4. a, opportunity cost
5. d, differential cost
6. b, out-of-pocket cost
7. e, marginal cost

PROBLEM 2-53 (20 MINUTES)

1. b, d, e, k
2. a, c, e, k
3. h
4. a, d, e, j

TBEXAM.COM

5. d, e, i, j
6. i
7. d, e, i
8. a, d, e, k
9. a, d, e, k
10. j
11. g (The $300 cost savings is a differential cost.)
12. a, c, e
13. d, e, k
14. d, e, k
15. b, d, e, k

TBEXAM.COM

© McGraw Hill LLC. All rights reserved. No reproduction or distribution without the prior written consent of McGraw Hill LLC.

TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES
Managerial Accounting 13th edition Hilton Solutions Manual

TBEXAM.COM

PROBLEM 2-54 (40 MINUTES)

1. Procter & Gamble is a manufacturing firm. Its income statement highlights the firm's cost-of-goods-sold expense, which is the cost of all of the products sold during the year. Cost of goods sold is subtracted from net sales to arrive at the gross profit. The company's other operating expenses then are subtracted from the gross profit.

   Walmart Inc. is a retail firm. Its income statement also shows the firm's cost of sales, which is another name for cost of goods sold. The cost of sales includes all of the costs of acquiring merchandise for resale. The company's other operating expenses are identified separately from cost of sales.

   Southwest Airlines Company is an airline, which is a service industry firm. The company does not sell an inventoriable product, but rather provides air transportation service. Therefore, the company's income statement does not list any cost-of-goods-sold expense. All of its expenses are operating expenses.

2. Cost-accounting data are used to measure all of the costs on all three companies' income statements. For example, the cost-accounting system at Procter & Gamble measures the cost of direct labor, direct material, and manufacturing overhead incurred in the manufacturing process. Walmart's cost-accounting system measures the cost of acquiring merchandise for resale. Southwest Airlines' cost-accounting system measures the cost of aviation fuel consumed.

3. The compensation paid to ticket agents would be included in salaries, wages, and benefits. Depreciation of the airline's computer equipment would be included in depreciation.

4. Walmart's cost of newspaper advertising would be included in selling expenses. The cost of merchandise sold would be included in cost of sales (same as cost of goods sold).

5. The compensation of a Procter & Gamble brand manager would be included in selling expenses. The compensation paid to production employees is a product cost, so it is part of the cost of goods sold. Similarly, raw-material costs are product costs, and they are included in cost of goods sold.

TBEXAM.COM

© McGraw Hill LLC. All rights reserved. No reproduction or distribution without the prior written consent of McGraw Hill LLC.

TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES
Managerial Accounting 13th edition Hilton Solutions Manual

TBEXAM.COM

PROBLEM 2-55 (10 MINUTES)

1.	$400	($850 – $450)
2.	$330	($1,540 – $1,210)
3.	$310	($1,850 – $1,540)
4.	$425	($850/2)
5.	$385	($1,540/4)
6.	$370	($1,850/5)

PROBLEM 2-56 (25 MINUTES)

1. b, c, h, j, m
2. a, c, i, j, l
3. b, d, i, j, m
4. a, c, i, j, l
5. a, c, i, j, l
6. e
7. a, c, i, j, l
8. a, c, f, i, j, l
9. b, d, k, m
10. a, c, i, j, m
11. b, c, i, j, l
12. a, c, i, j, l
13. b, c, g, j, l
14. b, c, i, j, l
15. b, c, i, j, l

TBEXAM.COM

TBEXAM.COM

© McGraw Hill LLC. All rights reserved. No reproduction or distribution without the prior written consent of McGraw Hill LLC.

TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES
Managerial Accounting 13th edition Hilton Solutions Manual

TBEXAM.COM

PROBLEM 2-57 (25 MINUTES)

1.

Output (750 milliliter bottles)	Calculation	Unit Cost
10,000	$177,000/10,000	$17.70
15,000	$195,500/15,000	$13.03 (rounded)
20,000	$214,000/20,000	$10.70

The unit cost is minimized at a sales volume of 20,000 bottles.

2.

Output (750 milliliter bottles)	Sales Revenue	Total Costs	Profit
10,000	$180,000	$177,000	$ 3,000
15,000	225,000	195,500	29,500
20,000	240,000	214,000	26,000

Profit is maximized at a production level of 15,000 bottles of wine.

3. The 15,000-bottle level is best for the company, since it maximizes profit.

4. The unit cost decreases as output increases, because the fixed cost per unit declines as production and sales increase.

TBEXAM.COM

A lower price is required to motivate consumers to purchase a larger amount of wine.

TBEXAM.COM

© McGraw Hill LLC. All rights reserved. No reproduction or distribution without the prior written consent of McGraw Hill LLC.

TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES
Managerial Accounting 13th edition Hilton Solutions Manual

TBEXAM.COM

PROBLEM 2-58 (15 MINUTES)

1. If the company buys 30,000 units of Part MR24, at a price of $\$X$ per unit, its total cost will be:

$$(30{,}000 \times \$X) + \$60{,}000$$

If the company manufactures the parts, its total cost will be:

$$(30{,}000 \times \$11) + \$150{,}000$$

By equating these two expressions for total cost, we can solve for the price, X, at which the total cost is the same under the two alternatives:

$$30{,}000X + \$60{,}000 = (30{,}000)(\$11) + \$150{,}000$$
$$30{,}000X = \$420{,}000$$
$$X = \$14$$

$$30{,}000X + \$60{,}000 = (30{,}000)(\$11) + \$150{,}000$$
$$30{,}000X = \$420{,}000$$
$$X = \$14$$

Thus the firm will realize a net benefit by purchasing Part MR24 if the outside supplier charges a price less than $14.

2. If the firm buys Y units of Part MR24 at a price of $12.875 per unit, the total cost will be:

$$(\$12.875 \times Y) + \$60{,}000 \quad (\$12.875 \times Y) + \$60{,}000$$

TBEXAM.COM

If the company manufactures Y units of Part MR24, the total cost will be:

$$(\$11 \times Y) + \$150{,}000 \quad (\$11 \times Y) + \$150{,}000$$

If we equate these expressions, we can solve for the number of parts, Y, at which the firm will be indifferent between making and buying Part MR24.

$$\$12.875Y + \$60{,}000 = \$11Y + \$150{,}000$$
$$\$1.875Y = \$90{,}000$$
$$Y = \$48{,}000$$

Thus, the company will be indifferent between the two alternatives if it requires 48,000 units of Part MR24 each month.

TBEXAM.COM

© McGraw Hill LLC. All rights reserved. No reproduction or distribution without the prior written consent of McGraw Hill LLC.

TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES
Managerial Accounting 13th edition Hilton Solutions Manual

TBEXAM.COM

SOLUTIONS TO CASES

CASE 2-59 (30 MINUTES)

1. **MEMORANDUM**

Date: Today

To: James Cassanitti

From: I. M. Student

Subject: Costs related to Printer Case Department

The $29,500 building rental cost allocated to the Printer Case Department is part of larger rental costs for the entire building. Even if the Printer Case Department is closed down, CompTech still will occupy the entire building. Therefore, the entire rental cost, including the $29,500 portion allocated to the Printer Case Department, will be incurred whether or not the department closes.

The real cost of the space occupied by the Printer Case Department is the $39,000 the company is paying to rent warehouse space. This cost would be avoided if the Printer Case Department were closed, since the storage operation could be moved into the company's main building. The $39,000 rental cost is the *opportunity cost* of using space in the main building for the Printer Case Department.

TBEXAM.COM

The supervisor of the Printer Case Department will be retained by the company regardless of the decision about the Printer Case Department. However, if the Printer Case Department is kept in operation the company will have to hire a new supervisor for the Assembly Department. The salary of that new supervisor is a relevant cost of continuing to operate the Printer Case Department.

Another way of looking at the situation is to realize that with the Printer Case Department in operation, the company will need two supervisors: the current Printer Case Department supervisor and a new supervisor for the Assembly Department. Alternatively, if the Printer Case Department is closed, only the current Printer Case Department supervisor will be needed and will move to the Assembly Department. The difference, then, between the two alternatives is the cost of compensation paid to the new Assembly Department supervisor if the Printer Case Department is not closed.

TBEXAM.COM

© McGraw Hill LLC. All rights reserved. No reproduction or distribution without the prior written consent of McGraw Hill LLC.

TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES
Managerial Accounting 13th edition Hilton Solutions Manual

TBEXAM.COM

CASE 2-59 (CONTINUED)

2. The controller has an ethical obligation to state accurately the projected cost savings from closing the Printer Case Department. The production manager and other decision makers have a right to know the financial implications of closing the department. Several of the ethical standards for management accountants (listed in Chapter 1) apply, including the following:

Competence:

- **Maintain an appropriate level of professional expertise by continually developing knowledge and skills.**
- **Perform professional duties in accordance with relevant laws, regulations, and technical standards.**
- **Provide decision support information and recommendations that are accurate, clear, concise, and timely.**
- **Recognize and communicate professional limitations or other constraints that would preclude responsible judgment or successful performance of an activity.**

Credibility:

TBEXAM.COM

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

TBEXAM.COM

© McGraw Hill LLC. All rights reserved. No reproduction or distribution without the prior written consent of McGraw Hill LLC.

TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES
Managerial Accounting 13th edition Hilton Solutions Manual

TBEXAM.COM

CASE 2-60 (50 MINUTES)

1. a. **Front Yard Printing would be indifferent to acquiring either the small-volume copier, 1024S, or the medium-volume copier, 1024M, at the point where the costs for 1024S and 1024M are equal. This point may be calculated using the following formula, where *X* equals the number of copies:**

$$(\text{Variable cost}_S \times X_S) + \text{fixed cost}_S = (\text{variable cost}_M \times X_M) + \text{fixed cost}_M$$

1024S		1024M
$.14*X* + $8,000	=	$.09*X* + $11,000
$.05*X*	=	$3,000
X	=	60,000 copies

The conclusion is that Front Yard Printing would be indifferent to acquiring either the 1024S or 1024M machine at an annual volume of 60,000 copies.

b. **A decision rule for selecting the most profitable copier, when the volume can be estimated, would establish the points where Front Yard Printing is indifferent to each machine. The volume where the costs are equal between alternatives can be calculated using the following formula, where *X* equals the number of copies:**

$$(\text{Variable cost}_S \times X_S) + \text{fixed cost}_S = (\text{variable cost}_M \times X_M) + \text{fixed cost}_M$$

For the 1024S machine compared to the 1024M machine:

1024S		1024M
$.14*X* + $8,000	=	$.09*X* + $11,000
$.05*X*	=	$3,000
X	=	60,000 copies

TBEXAM.COM

© McGraw Hill LLC. All rights reserved. No reproduction or distribution without the prior written consent of McGraw Hill LLC.

TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES

Managerial Accounting 13th edition Hilton Solutions Manual

TBEXAM.COM

CASE 2-60 (CONTINUED)

For the 1024M machine compared to the 1024G machine:

1024M		1024G
$\$.09X + \$11,000$	=	$\$.05X + \$20,000$
$\$.04X$	=	$\$9,000$
X	=	225,000 copies

The decision rule is to select the alternative as shown in the following chart.

Anticipated Annual Volume	Optimal Model Choice
0–60,000	1024S
60,000–225,000	1024M
225,000 and higher	1024G

2. a. The previous purchase price of the zante on hand, $5.00 per gallon, and the average cost of the zante inventory, $4.75 per gallon, are sunk costs. These costs were incurred in the past and will have no impact on future costs. They cannot be changed by any future action and are irrelevant to any future decision. Although the current price of zante is $5.50 per gallon, no zante will be purchased at this price. Thus, it too is irrelevant to the current special order. If the order is accepted, the required 800 gallons of zante will be replaced at a cost of $5.75 per gallon. Therefore, the real cost of zante for the special order is $4,600 (800 × $5.75).

b. The $20,000 paid by CBE for its stock of vitis is a sunk cost. It was incurred in the past and is irrelevant to any future decision. The current market price of $11 per kilogram is irrelevant, since no more vitis will be purchased. If the special order is accepted, CBE will use 1,500 kilograms of its vitis stock, thereby losing the opportunity to sell its entire 2,000-kilogram stock for $14,000. Thus, the $14,000 is an opportunity cost of using the vitis in production instead of selling it to Solo Industries. Moreover, if CBE uses 1,500 kilograms of vitis in production, it will have to pay $1,000 for its remaining 500 kilograms to be disposed of at a hazardous waste facility. This $1,000 disposal cost is an out-of-pocket cost.

The real cost of using the vitis in the special order is $15,000 ($14,000 opportunity cost + $1,000 out-of-pocket cost).

TBEXAM.COM

© McGraw Hill LLC. All rights reserved. No reproduction or distribution without the prior written consent of McGraw Hill LLC.

TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES
Managerial Accounting 13th edition Hilton Solutions Manual

TBEXAM.COM

CASE 2-60 (CONTINUED)

3. The projected donations from the wildlife show amount to $100,000 (10 percent of the TV audience at $10,000 per 1 percent of the viewership). The projected donations from the animal welfare series amount to $75,000 (15 percent of the TV audience at $5,000 per 1 percent of the viewership). Therefore, the differential revenue is $25,000, with the advantage going to the wildlife show. However, if the animal welfare show is aired, the station will be able to sell the wildlife show to network TV. Therefore, airing the wildlife show will result in the incurrence of a $25,000 opportunity cost.

The conclusion, then, is that the station's management should be indifferent between the two shows, since each would generate revenue of $100,000.

Wildlife show (10 × $10,000)	$100,000	donation
Animal welfare show (15 × $5,000)	$ 75,000	donation
Animal welfare show (sell wildlife show)	25,000	sales proceeds
	$100,000	total revenue

TBEXAM.COM

TBEXAM.COM

© McGraw Hill LLC. All rights reserved. No reproduction or distribution without the prior written consent of McGraw Hill LLC.

TBEXAM.COM – THE WORLD'S LARGEST TEST BANK AND SOLUTIONS DATABASE WITH UNBEATABLE RATES
Managerial Accounting 13th edition Hilton Solutions Manual