Cost Accounting With Integrated Data Analytics 1st edition Farmer Solutions Manual

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Chapter 2

So Many Costs, So Many Terms

Assignment Classification Table (By Learning Objective)

Learning Objectives	Questions	Brief Exercises	Exercises	Problems
1. Review financial statement terms to interpret a company's results.	1, 2, 3, 4	1, 2, 3	1, 2, 3, 4	1, 2, 3, 4
2. Examine financial statements to differentiate between service providers, merchandisers, and manufacturers.	5, 6	4, 5	3, 4, 5	1, 2, 5
3. Interpret commonly used cost terms used in decision-making.	7, 8, 9	5, 6	6, 7	2, 3, 4, 5, 6, 7
4. Describe the basics of cost behavior within the relevant range.	10	7	5, 8	3, 8, 9
5. Trace the flow of costs from the balance sheet to the income statement.	11	8, 9	9, 10, 11	4, 6, 7, 10
6. Contrast gross margin with contribution margin.	12, 13, 14, 15	10, 11, 12, 13	12, 13, 14, 15	2, 3, 4, 5, 7, 8, 9

Assignment Characteristics Table

Item	Description	Level of Difficulty	Time (minutes)
E2.1	Determine appropriate classifications of costs and expenses.	Moderate	10–15
E2.2	Determine the opportunity cost associated with selecting an option.	Moderate	10–15
E2.3	Interpret various accounts within an existing set of financial statements for a service entity.	Simple	5–10
E2.4	Determine the profitability and sunk cost for a product that needs to be reworked.	Moderate	10–15
E2.5	Determine profitability of a service organization given variable and fixed costs.	Simple	5–10
E2.6	Classify costs as product or period and determine total manufacturing costs.	Simple	5–10
E2.7	Determine missing cost and expense components for a manufacturing company.	Simple	10–15
E2.8	Manipulate variable and fixed cost information to address profitability questions.	Moderate	15–20
E2.9	Determine product cost components and ending inventory balances.	Moderate	10–15
E2.10	Prepare schedules of COGM and COGS plus additional considerations.	Moderate	10–15
E2.11	Follow the flow of costs through inventory accounts to determine COGS.	Moderate	10–15
E2.12	Prepare income statements for one year using the contribution margin and traditional formats.	Simple	5–10
E2.13	Recast a traditional income statement into a contribution margin income statement format.	Moderate	15–20
E2.14	Recast a contribution margin income statement into a traditional income statement format.	Moderate	10–15
E2.15	Distinguish product costs from period costs and determine full costs plus additional considerations.	Moderate	5–10
P2.1	Classify costs for a merchandiser and complete the income statement.	Moderate	10–15
P2.2	Determine full costs from a merchandiser’s income statement plus additional considerations.	Moderate	10–15
P2.3	Classify costs as product or period, variable or fixed, and prepare income statements.	Moderate	15–20
P2.4	Determine product costs to calculate COGM and COGS plus additional considerations.	Moderate	20–25
P2.5	Evaluate the profitability of a company’s product and service lines, and its overall profitability.	Moderate	10–15
P2.6	Trace the flow of product costs through the inventory accounts plus additional considerations.	Moderate	15–20
P2.7	Use select financial statement information to solve for missing components.	Complex	20–25
P2.8	Interpret profitability as well as fixed and variable cost information from a graph.	Moderate	15–20
P2.9	Create corrected income statements using both a traditional and contribution margin format.	Complex	20–25
P2.10	Fill in missing T-account detail given beginning and ending balances plus additional information.	Complex	20–25
Case	Compare the benefits of the traditional and contribution margin income statement formats.	Moderate	10–15

Answers to Questions

1. The foregone benefits from the options not chosen are opportunity costs—the net benefits minus costs given up in order to go with the option you choose. For example, if you choose audit, you forego the benefits of being in the office a lot, as many tax professionals appreciate the consistency of their office environment. If you choose tax, on the other hand, you forego the benefits of working at the client's location, as many audit professionals enjoy being in a variety of settings while conducting their work.

LO: 1, Bloom: C, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Communication, Reflective Thinking, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Communication, IMA: N/A

2. The amount your friend originally paid for his car is a sunk cost—a cost that was incurred in the past that he is now stuck with. If he recovered some of the cost by selling it (potentially for less than he paid for it) that would represent a new relevant cost, but the original cost of the car is still sunk.

If his car broke down, he shouldn't automatically fix it. It would depend on a few factors.

- If he fixes it, how long will the repair last?
- Would he be better off getting rid of this car now and getting something more reliable?

The subsequent decision should not hinge on how much was originally paid for the car. That cost is a sunk cost, and while it can cloud his perspective, it should not affect his decision-making going forward.

LO: 1, Bloom: K, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Communication, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Communication, IMA: N/A

3. Yes. All of COGS is an expense because it represents inventory items that have been sold. In other words, there is no future benefit anymore. The customer now has title to these goods, so the expense is matched against the revenue of this period (i.e., accrual accounting).

LO: 1, Bloom: C, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Communication, AICPA BC: N/A, AICPA AC: Measurement Analysis and Interpretation, Reporting, AICPA PC: Communication, IMA: Reporting & Control: Cost Accounting

4. Salaries and wages expense and advertising expense are both cash expenditures. Depreciation and amortization expenses are not cash expenditures.

Even though depreciation and amortization expenses are non-cash expenditures, they are still properly considered expenses on the income statement because they are "costs" of the current period. They each reflect a portion of an asset's initial cost that was used up, and therefore recognized as an expense this period. That portion of the computers and software cost helped to generate revenue this period—hence the matching principle in financial accounting.

LO: 1, Bloom: C, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Communication, AICPA BC: N/A, AICPA AC: Measurement Analysis and Interpretation, Reporting, AICPA PC: Communication, IMA: Reporting & Control: Cost Accounting

5.

Service Provider	Some service providers will have no inventory on their balance sheets; other service providers, like **Dish Network** will have component Raw Material (RM) Inventory (for items such as wiring, satellite receivers, remote controls, etc.).
Merchandiser	They would only have "Merchandise Inventory." **Ace Hardware** specifically, though, would have many specific types of merchandise inventory (paint, lawn equipment, tools, etc.).
Manufacturer	Raw Materials (RM) Inventory, Work in Process (WIP) Inventory, and Finished Goods (FG) Inventory

LO: 2, Bloom: K, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Communication, IMA: Reporting & Control: Cost Accounting

Questions Chapter 2 (Continued)

6. For the two finished projects, assuming the clients have now paid for them or at least have been billed for them, the costs would be held in COGS. For the project that is only 2/3 complete, the costs would be held in WIP Inventory and would include DM, DL, and MOH costs. She wouldn't have anything in inventory for the project that hasn't been started yet, though she might have some costs in RM Inventory if she keeps some basic raw materials on-hand for these projects.

LO: 2, Bloom: C, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Communication, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Communication, IMA: Reporting & Control: Cost Accounting

7. Direct labor costs for a manufacturer are initially recorded as part of WIP Inventory, which is an asset. These costs are combined with other direct and indirect product costs to determine the total cost (asset) of the inventory item(s). When these inventory items are sold, those assets transition to expenses on the income statement as COGS.

LO: 3, Bloom: C, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Communication, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Communication, IMA: Reporting & Control: Cost Accounting

8. Ping's friend is incorrect. The inverse is true: product costs are the same thing as manufacturing costs, and period costs are the same thing as non-manufacturing costs. Examples of these costs for a dining room furniture manufacturer could include:

Product/Manufacturing Costs	DM—oak (lumber), wood varnish, felt pads for legs DL—workers' time used to cut wood, assemble MOH—glue, ink to stamp manufacturing date, factory utilities
Period/Non-Manufacturing Costs	Advertising Salaries for company executives Commission for salespeople

LO: 3, Bloom: C, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Communication, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Communication, IMA: Reporting & Control: Cost Accounting

9. Prime costs = DM + DL (the direct, traceable [primary] costs in a product)
Conversion costs = DL + MOH (costs incurred to convert the direct materials into the final product)

Prime costs	DM + DL
Conversion costs	DL + MOH (examples such as depreciation on machinery and equipment, factory utilities, indirect materials, and indirect labor)

LO: 3, Bloom: C, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Communication, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: N/A, IMA: Reporting & Control: Cost Accounting

10. Some examples of fixed production costs for a manufacturer such as Wilford Company are depreciation on plant and equipment, supervisor salaries, and rent, insurance, and taxes on the plant. All of these costs supply the relevant range of capacity noted in the question.
Direct material costs, on the other hand, are variable product costs. They are incurred for each unit that is produced. They do not supply capacity, rather, they reflect the necessary material cost that is needed in each unit manufactured.

LO: 4, Bloom: C, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Communication, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Communication, IMA: Reporting & Control: Cost Accounting

11. Raw materials (RM) Inventory, WIP Inventory, and FG Inventory store product costs on the balance sheet before the products are sold. RM Inventory recognizes only raw material costs that are available for production. WIP Inventory recognizes all production costs that are being used to produce the products. Once the products are complete, FG Inventory houses the total cost of goods available for sale. Once the finished units are sold, COGS recognizes the product costs as expenses on the income statement.

LO: 5, Bloom: K, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Communication, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Communication, IMA: Reporting & Control: Financial Recordkeeping, Reporting & Control: Cost Accounting

Questions Chapter 2 (Continued)

12. The full cost of a product is the per-unit cost of all activities in the company's value chain (all value-added business functions). This means that a product's full cost includes both product and period costs, and both variable and fixed costs. This information would be critical when setting the product's selling price and evaluating the profitability of the product (we would want the selling price to be higher than the full cost of the product to generate a profit).

LO: 6, Bloom: C, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Communication, AICPA BC: N/A, AICPA AC: Measurement Analysis and Interpretation, Reporting, AICPA PC: Communication, IMA: Reporting & Control: Financial Recordkeeping, Reporting & Control: Cost Accounting

13. When costs are grouped by behavior (variable vs. fixed), the key subtotal is contribution margin, as presented on a contribution margin income statement. When costs are grouped by function (product vs. period), the subtotal is gross margin, as presented on a traditional GAAP income statement.

LO: 6, Bloom: K, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, AICPA BC: N/A, AICPA AC: Measurement Analysis and Interpretation, Reporting, AICPA PC: Communication, IMA: Reporting & Control: Financial Statement Preparation

14. No. While the traditional and contribution margin income statements show different subtotals (gross margin and contribution margin), both have the same total amount of operating income*. All of the same expenses are included in each; they are just organized and presented differently. The contribution margin income statement is generally recognized to be the more appropriate income for internal decision-making, however, as it can easily be adjusted to reflect a different volume of units, a different selling price, a different variable cost per unit, and a different amount of fixed costs. Chapter 4 in this text, on Cost-Volume-Profit, elaborates more fully on the decision-making usefulness of this income statement format.

*This holds true when the quantity of units produced equals the quantity of units sold. We assume this to be the case throughout this chapter but relax this assumption in later chapters.

LO: 6, Bloom: C, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Communication, AICPA BC: N/A, AICPA AC: Measurement Analysis and Interpretation, Reporting, AICPA PC: Communication, IMA: Reporting & Control: Financial Statement Preparation

15. (d) Both. MOH costs are product costs and can consist of both variable and fixed costs. Contribution margin income statements organize costs by behavior (first variable, then fixed), so variable MOH costs would be reported above the contribution margin subtotal, while fixed MOH costs would be reported below the contribution margin subtotal.

LO: 6, Bloom: C, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Communication, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Communication, IMA: Reporting & Control: Financial Statement Preparation

Solutions to Brief Exercises

Brief Exercise 2.1

Revenue ($15 × 450 hours)	$	6,750
Less: Expenses		(3,900)
Profit	$	2,850

His expenses would not include COGS, because he is not *selling any goods*. He is providing a service.

Five expenses Eli would have recognized in his business might include:

1. Gas/oil for lawnmower
2. Depreciation on mower/trailer/truck
3. Maintenance on mower/trailer/truck
4. Labor cost, if others are hired
5. Insurance on his business

And yes, all of these expenses are costs.

LO: 1, Bloom: AP, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Communication, Analytic, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Communication, IMA: Reporting & Control: Cost Accounting

Brief Exercise 2.2

The only sunk cost is the five-year-old purchase price of $45,000. Sunk costs are costs that were incurred in the past. The truck purchase has already been made, and therefore those costs should not be considered in future decision-making.

LO: 1, Bloom: C, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Communication, Analytic, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Communication, IMA: Strategy, Planning, & Performance: Capital Investment Decisions

Brief Exercise 2.3

Item	Asset or Expense	Calculation	Amount
	Asset (beginning of month)		$ 32,000.00
Forklift purchase	Expense (depreciation expense)	$32,000 ÷ 8 ÷ 12 =	333.33
	Asset (end of month)	$32,000 − $333.33 =	31,666.67
Purchase of materials	Expense (all materials were used; included in COGS)		114,000.00
Payroll	Expense (production payroll in COGS, other in SG&A)		45,000.00
Investment in mutual fund	Asset (will benefit future periods)		65,000.00

Total expenses: $333.33 + $114,000.00 + $45,000.00 = **$159,333.33**
Total assets: $31,667.67 + $65,000.00 = **$96,667.67**

LO: 1, Bloom: AP, Difficulty: Simple, Time: 5-10, AACSB: Knowledge, Analytic, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: N/A, IMA: Reporting & Control: Financial Recordkeeping, Reporting & Control: Cost Accounting

Brief Exercise 2.4

The firm will recognize labor cost for this job of **$1,100** (20 hours × $55 per hour).
These labor costs will be included in the firm's Cost of Services or Cost of Sales on its income statement (depending on its preference in terminology).

LO: 2, Bloom: AP, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Analytic, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: N/A, IMA: Reporting & Control: Financial Recordkeeping

Brief Exercise 2.5

As a retailer (merchandiser) last year, Xelda's COGS consisted of the cost of the products (such as reams of paper, toner for printers, shelving units, etc.) it purchased from suppliers and subsequently sold to consumers.
This year, Xelda would have many of the same COGS for all of the items it still purchases from suppliers and turns around and sells to its consumers. But for the products it manufactures itself, the COGS would include DM, DL, and MOH costs. DM costs would include the shelving kits as purchased; DL costs would include Xelda's cost of labor to assemble the shelving units; MOH cost would include any other indirect materials or indirect labor Xelda incurred in the assembly of the shelving units.
The key difference in product costs between merchandisers and manufacturers is the additional conversion cost (DL and MOH) needed in a manufacturing environment. These conversion costs, along with DM costs, are included in the company's COGS when the manufactured products are sold.

LO: 2, 3, Bloom: C, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Communication, Analytic, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Communication, IMA: Reporting & Control: Financial Recordkeeping, Reporting & Control: Cost Accounting

Brief Exercise 2.6

Prime costs include direct material costs and direct labor costs:

$10,000 + $15,000 = **$25,000**

Conversion costs include direct labor costs and manufacturing overhead (MOH) costs. In this case, MOH includes the production supervisor's salary, production utilities, and depreciation on production equipment.

$15,000 + $3,000 + $1,500 + $8,000 = **$27,500**

LO: 3, Bloom: AP, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Analytic, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: N/A, IMA: Reporting & Control: Cost Accounting

Brief Exercise 2.7

Last Year			**This Year**		
Total variable costs ($4.50 × 40,000)	$	180,000	Total variable costs ($4.50 × 50,000)	$	225,000
Total fixed costs		80,000	Total fixed costs		80,000
Total cost		260,000	Total cost		305,000
Per-unit cost ($260,000 ÷ 40,000)	$	6.50	Per-unit cost ($305,000 ÷ 50,000)	$	6.10

LO: 4, Bloom: AP, Difficulty: Simple, Time: 5-10, AACSB: Knowledge, Analytic, AICPA BC: N/A, AICPA AC: Measurement Analysis and Interpretation, Reporting, AICPA PC: N/A, IMA: Reporting & Control: Cost Accounting

Brief Exercise 2.8

Baked Goods Inventory

Beg.	390		
Purchases	875		
		?	COGS
End.	530		

Solve for COGS:
$390 + $875 − COGS = $530
$1,265 − COGS = 530
COGS = **$735**

LO: 5, Bloom: AP, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Analytic, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: N/A, IMA: Reporting & Control: Financial Recordkeeping

Brief Exercise 2.9

Merchandise Inventory

Beg.	24,000		
Purchases	89,000		
		105,000	COGS
End.	?		

Solve for the ending balance:
$24,000 + $89,000 − $105,000 = Ending Balance
Ending Balance = **$8,000**

LO: 5, Bloom: AP, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Analytic, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: N/A, IMA: Reporting & Control: Financial Recordkeeping

Brief Exercise 2.10

Contribution Margin Income Statement

Revenue	$	21,000
Less: Variable costs		7,500
Contribution margin		13,500
Less: Fixed costs		3,900
Operating income	$	9,600

Traditional Income Statement

Revenue	$	21,000
Less: COGS		6,000
Gross margin		15,000
Less: SG&A expenses		5,400
Operating income	$	9,600

Note: Notice that operating income is the same, regardless of which income statement format is used*. Each format includes the same items but has its own way of organizing the information.
*This holds true when the quantity of units produced equals the quantity of units sold. We assume this to be the case throughout this chapter but relax this assumption in later chapters.

LO: 6, Bloom: AP, Difficulty: Simple, Time: 5-10, AACSB: Knowledge, Analytic, AICPA BC: N/A, AICPA AC: Measurement Analysis and Interpretation, Reporting, AICPA PC: N/A, IMA: Reporting & Control: Financial Statement Preparation

Brief Exercise 2.11

Revenue	$	340,000
÷ Volume of units		170
Average selling price	$	2,000

Total variable costs = 170 units × $950 variable cost/unit = $161,500

Contribution Margin Income Statement		
Revenue	$	340,000
Less: Variable costs		161,500
Contribution margin	$	178,500
÷ Volume of units		170
CM/unit	$	1,050

LO: 6, Bloom: AP, Difficulty: Simple, Time: 5-10, AACSB: Knowledge, Analytic, AICPA BC: N/A, AICPA AC: Measurement Analysis and Interpretation, Reporting, AICPA PC: N/A, IMA: Reporting & Control: Financial Statement Preparation

Brief Exercise 2.12

To determine the missing amounts, set up a traditional income statement and fill in the given amounts. Work backwards from operating income to solve for gross margin, first. Then, work backwards from gross margin to solve for total revenue.

Traditional Income Statement		
Revenue ($227,000 + $77,500)	$	304,500
Less: COGS		77,500
Gross margin ($185,000 + $42,000)	$	227,000
Less: SG&A expenses		42,000
Operating income	$	185,000

LO: 6, Bloom: AP, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Analytic, AICPA BC: N/A, AICPA AC: Measurement Analysis and Interpretation, Reporting, AICPA PC: N/A, IMA: Reporting & Control: Financial Statement Preparation

Brief Exercise 2.13

The full cost of Nora's waffle cone activity this month includes *all* costs in the company's value chain (product and period, fixed and variable).

Total Full cost = $2,500 + $1,300 + $400 + $1,000 + $500 = **$5,700**

Full cost/unit = $5,700 ÷ 2,280 cones = **$2.50/cone**

LO: 6, Bloom: AP, Difficulty: Simple, Time: 3-5, AACSB: Knowledge, Analytic, AICPA BC: N/A, AICPA AC: Measurement Analysis and Interpretation, Reporting, AICPA PC: N/A, IMA: Reporting & Control: Cost Accounting

Solutions to Exercises

Exercise 2.1 (10–15 minutes)

a.

Account	Total	Expense	Asset
Cost of merchandise sold	$ 420,000	$ 420,000	
Salaries and wages expense	238,000	238,000	
Uncollectible accounts expense	19,500	19,500	
Depreciation expense	85,600	85,600	
Rent expense	76,300	76,300	
Marketing expense	25,800	25,800	
Research and development	44,000	44,000	
Cost of land for new office building	320,000		$ 320,000
Total	$ 1,229,200	$ 909,200	$ 320,000

b. The total for the “Expense” column from part (a) = **$909,200**
Operating income = Revenue − Expenses
Operating income = $1,315,000 − $909,200 = **$405,800**

c. It is common for companies to use a variety of names for different types of costs and expenses. In many cases, multiple terms can be appropriately used to describe the same expense—such as the uncollectible accounts expense shown above. Many different account titles are used and accepted for this type of expense; each company determines its preferred term and then will use that consistently going forward. In other cases, due to a lack of understanding or a lack of care some individuals will loosely throw terms around without realizing they are causing confusion.
Any individual who would like to have a clear(er) understanding of a company’s accounts should ask to speak with a professional in the accounting department so he or she can ask questions and get clarification on account names, meanings, placement on the financial statements, etc. Accounting professionals enjoy speaking this language of business and are generally more than happy to help others learn the language, as well.

LO: 1, Bloom: AP, Difficulty: Moderate, Time: 10-15, AACSB: Knowledge, Communication, Analytic, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Communication, IMA: Reporting & Control: Financial Recordkeeping

Exercise 2.2 (10–15 minutes)

a.

Driving

Mileage reimbursement	1,200 mi × $0.51/mi	$ 612
Meal reimbursement	3 days × $44/day	132
Total		$ 744

Flying

Flight		$ 300
Meal reimbursement	2.5 days × $44/day	110
Parking at airport		80
Total		$ 490

Exercise 2.2 (Continued)

Flying would be the least costly option.

b. This information further makes flying the least costly option. His ability to be productive will not reduce the travel cost of either option, but his productive time will allow the firm to generate profit from his ability to work while on the flight (Sales − Cost of Services).

c. Opportunity costs are the foregone benefits of the option(s) not chosen. In this case, the opportunity costs of choosing to drive are the actual difference in travel cost ($744 − $490 = $254), and the lost profit that could have been generated while on the flight.

But no, these opportunity costs will not show up on the firm's financial statements. Opportunity costs are not actually incurred by the firm.

LO: 1, Bloom: AP, Difficulty: Moderate, Time: 10-15, AACSB: Knowledge, Communication, Analytic, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Decision Making, Communication, IMA: N/A

Exercise 2.3 (5–10 minutes)

a. Yes, Cost of revenue *is* an expense. It is the cost of earning the revenue this year, or the expense that matches the revenue earned this year. It may not include the word "expense" in the name because the company chose the name based on industry trends, or just preference. This is common language, though, similar to COGS, which is also an expense.

b. Another name for this category would be Selling, General, and Administrative Expenses (SG&A). All of these listed are expenses, but not all of them are *cash* expenses:

Cash	**Non-Cash**
- Selling and marketing - R&D - General & administrative expenses - Restructuring charges	- Depreciation & amortization

c. Prepaid expenses and other current assets increased by $2,340 from 2020 to 2021. The only way this account could increase is if more prepaid assets were purchased (paid for) than the existing prepaid assets were used (expensed).

LO: 1, 2, Bloom: AN, Difficulty: Simple, Time: 5-10, AACSB: Knowledge, Analytic, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Communication, IMA: Reporting & Control: Financial Statement Analysis

Exercise 2.4 (10–15 minutes)

a. Total cost/volume of shirts = $125,000 ÷ 20,000 shirts = **$6.25 cost/unit**
GM/unit = selling price − cost/unit = $13.00 − $6.25 = **$6.75/unit**

b.

Cost of collar	$ 0.50	Selling price	$ 13.00
New DL cost	2.00	Less: Cost/unit	8.75
Original cost	6.25	New GM/unit	$ 4.25
New total cost/unit	$ 8.75		

Exercise 2.4 (Continued)

c. The sunk cost in this situation was the original cost of **$6.25/shirt**.

Selling price	$ 11.00
Less: Cost/unit	6.25
New GM/unit	$ 4.75

The GM/unit selling them as-is for $11 is $4.75 per unit.
This is greater than the GM/unit of $4.25 after fixing them and selling them for $13.
The difference in GM between the two scenarios is $0.50, which would result in extra total margin of $10,000 ($0.50 × 20,000 units) for the company. So, **yes**, Trihs-T would have been better off selling them as-is.

LO: 1, 2, Bloom: AN, Difficulty: Moderate, Time: 10-15, AACSB: Knowledge, Communication, Analytic, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Communication, IMA: Strategy, Planning, & Performance: Strategic Cost Management

Exercise 2.5 (5–10 minutes)

a. The snorkeling excursion business is a service organization. The only product that is provided as part of the deal is the snack to the customer.

b. There are a lot of examples that students could give, including the following: depreciation expense on the boat, cost for the tour guide (or the boat driver, if Isaiah's going to be the guide), depreciation on life jackets, insurance on the boat, and liability insurance on his business, for example. Fuel expense would be a fixed cost per trip,

c. The only variable cost described is the cost of food for each person.

d.

2 trips/day × 15 days/month =	30 trips/month
30 trips/month × 12 customers/trip =	360 customers/month
360 customers/month × $125/customer =	$45,000 revenue/month

Subtract total fixed costs ($15,000) from revenue ($45,000), and you'll get the total variable costs he would need in order to break even ($30,000).

If we divide these total variable costs ($30,000) by the total number of customers (360), we get the variable cost per customer of **$83.33**.
As long as Isaiah can keep the cost of snacks below $83.33 per person, he will make a profit on each snorkeling customer. It seems very likely that he could keep his snack costs below that level.

LO: 2, 4, Bloom: AP, Difficulty: Simple, Time: 5-10, AACSB: Knowledge, Communication, Analytic, AICPA BC: Strategic Perspective, AICPA AC: Reporting, AICPA PC: Communication, IMA: Reporting & Control: Cost Accounting

Exercise 2.6 (5–10 minutes)

1	2	3 (a)	4 (b)	5 (b)
Cost Description	**Amount**	**Product or Period**	**Direct or Indirect**	**Prime or Conversion**
Wages for hourly factory workers	$ 45,000	Product	Direct	Both
Social media marketing	13,000	Period	-	-
Canvas material	32,500	Product	Direct	Prime
Thread for sewing the bags	1,000	Product	Indirect	Conv.
Executive salaries	87,000	Period	-	-
Factory supervisor salaries	63,500	Product	Indirect	Conv.
Depreciation on factory assets	39,000	Product	Indirect	Conv.
Wages and commission to salespeople	45,000	Period	-	-
Utility costs for the factory	9,300	Product	Indirect	Conv.

c. Total manufacturing costs = DM + DL + MOH

DM (canvas material)		$ 32,500
DL (factory worker wages)		45,000
MOH		
Thread	$ 1,000	
Factory supervisor salaries	63,500	
Depreciation on factory assets	39,000	
Utility costs for the factory	$ 9,300	
Total MOH		112,800
Total manufacturing costs		$ 190,300

LO: 3, Bloom: AP, Difficulty: Simple, Time: 5-10, AACSB: Knowledge, Analytic, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: N/A, IMA: Reporting & Control: Cost Accounting

Exercise 2.7 (10–15 minutes)

a. COGS is made up of DM, DL, and MOH, and DM is the only amount not known. So, set up an equation and solve it algebraically.
COGS = DM + DL + MOH
$33,800 = DM + $8,200 + $14,000
$33,800 = DM + $22,200
DM = **$11,600**

Period costs are another name for operating expenses, so period costs = **$9,100.**

Product costs are just equal to COGS in this case because there were no beginning/ending inventories: **$33,800**.

Total expenses = product costs + period costs
Total expenses = $33,800 + $9,100 = **$42,900**

b. Since there are no beginning or ending inventories, the DM cost expensed is equal to the total DM cost incurred: **$11,600**. It is included in COGS.

Exercise 2.7 (Continued)

c.

Total operating expenses	$	9,100
Less: Advertising expense		1,500
Less: Executive/administrative salaries		4,000
Unaccounted-for operating expenses	$	3,600

That $3,600 could be comprised of:

- Insurance, depreciation, and/or utilities on office space and equipment,
- Rent on office space,
- Commissions to salespeople, and/or
- Shipping to customers, for example.

LO: 3, Bloom: AN, Difficulty: Simple, Time: 10-15, AACSB: Knowledge, Analytic, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: N/A, IMA: Reporting & Control: Cost Accounting

Exercise 2.8 (15–20 minutes)

a. Total fixed costs = Fixed MOH/unit × volume of units
Total fixed costs = $0.40 × 2,000,000 units = **$800,000**

Gross Margin = Revenue − COGS
COGS = product cost/unit × volume of units sold
GM = (2,000,000 × $1.95) − (2,000,000 × $0.80) = **$2,300,000**

b. New FC/unit = total FC ÷ new volume of units
New FC/unit = $800,000 ÷ 1,600,000 = $0.50 **(it increased by $0.10)**

DM	$	0.10
DL		0.20
Variable MOH		0.10
Fixed MOH		0.50
New total cost/unit	$	0.90

GM = Revenue − COGS
GM = (1,600,000 × $1.95) − (1,600,000 × $0.90) = **$1,680,000**

c. New FC/unit = total FC ÷ new volume of units
New FC/unit = $800,000 ÷ 2,500,000 = $0.32 **(it decreased by $0.08 from the original)**

DM	$	0.10
DL		0.20
Variable MOH		0.10
Fixed MOH		0.32
New total cost/unit	$	0.72

GM = Revenue − COGS
GM = (2,500,000 × $1.95) − (2,500,000 × $0.72) = **$3,075,000**

Exercise 2.8 (Continued)

d. The salespeople would have more flexibility to give discounts under scenario (c), as cost is lower. So, if the selling price stays the same, the company would profit more for every unit sold. But, if the salespeople give deep discounts under option (c), the company may not be any better off.

If, for example, salespeople discounted the selling price to $1.80, the company would be better off, generating GM of $2,700,000:

Selling price	$ 1.80
Less: Cost per unit	0.72
GM/unit	$ 1.08
× volume (C)	2,500,000
New GM	$ 2,700,000

To generate the same GM as last year, we can work backwards to determine the selling price:

Selling price ($0.92 + $0.72)	$ 1.64
Less: Cost per unit	0.72
GM/unit ($2,300,000 ÷ 2,500,000)	$ 0.92
× volume (C)	2,500,000
New GM	$ 2,300,000

Work backward. Divide GM needed by the volume to get the GM/unit needed, then add back the cost/unit from (c) to get the selling price needed.

Compared to the regular selling price of $1.95, this is $0.31 per unit lower, which is a 16% discount:

$0.31 ÷ $1.95 = 0.16 → 16% discount.

LO: 4, Bloom: AN, Difficulty: Moderate, Time: 15-20, AACSB: Knowledge, Analytic, AICPA BC: Process and Resource Management Perspectives, AICPA AC: Reporting, Systems and Process Management, AICPA PC: N/A, IMA: Reporting & Control: Cost Accounting

Exercise 2.9 (10–15 minutes)

a. Set up a T-account and solve for DM used.

DM Inventory

Beg.	10,000		
Purchases	90,000		
		?	DM used
End.	5,000		

$10,000 + $90,000 − DM used = $5,000
$100,000 − DM used = $5,000
DM used = **$95,000**

b. Total manufacturing costs = DM used + DL + MOH
$95,000 + $130,000 + $110,000 = **$335,000**

Exercise 2.9 (Continued)

c. Set up T-accounts and solve for the ending balances.

WIP Inventory

	Debit	Credit	
Beg.	14,000		
DM used	95,000		
DL	130,000		
MOH	110,000		
		327,000	COGM
End.	?		

$14,000 + $335,000 − $327,000 = WIP Inventory ending balance
WIP Inventory ending balance = **$22,000**

FG Inventory

	Debit	Credit	
Beg.	3,000		
COGM	327,000		
		315,000	COGS
End.	?		

$3,000 + $327,000 − $315,000 = FG Inventory ending balance
FG Inventory ending balance = **$15,000**

LO: 5, Bloom: AP, Difficulty: Moderate, Time: 10-15, AACSB: Knowledge, Analytic, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: N/A, IMA: Reporting & Control: Financial Statement Preparation, Reporting & Control: Cost Accounting

Exercise 2.10 (10–15 minutes)

a.

Schedule of COGM & COGS

Beginning Direct Materials Inventory	$ 8,500	
Purchases of direct materials	140,000	
Direct materials available for use	$ 148,500	
Less: Ending Direct Materials Inventory	10,300	
Direct materials used		$ 138,200
Direct labor		220,000
Manufacturing overhead		
Production supervisor salary	60,000	
Utility costs in production space	13,000	
Depreciation on manufacturing facility and equipment	45,000	
Indirect materials	8,000	
Indirect labor	15,000	141,000
Total manufacturing costs		499,200
Beginning WIP Inventory		20,000
Less: Ending WIP Inventory		12,000
Cost of goods manufactured		**507,200**
Beginning Finished Goods Inventory		6,500
Less: Ending Finished Goods Inventory		8,000
Cost of Goods Sold		**$ 505,700**

Exercise 2.10 (Continued)

COGM: To find COGM, we need the cost of DM used, DL cost, and MOH cost. First, make a DM Inventory T-account and solve for cost of DM used.

DM Inventory

Beg.	8,500		
Purchases	140,000		
		?	DM used
End.	10,300		

\$8,500 + \$140,000 − DM used = \$10,300
\$148,500 − DM used = \$10,300
DM used = \$138,200

Then, add up all the MOH costs:

Production supervisor salary	\$ 60,000
Utilities in production space	13,000
Depreciation on manufacturing factory/equipment	45,000
Indirect materials	8,000
Indirect labor	15,000
Total MOH costs	\$ 141,000

Now, make a WIP Inventory T-account, enter what is known, and solve for COGM.

WIP Inventory

Beg.	20,000		
DM used	138,200		
DL	220,000		
MOH	141,000		
		?	COGM
End.	12,000		

\$20,000 + \$138,200 + \$220,000 + \$141,000 − COGM = \$12,000
\$519,200 − COGM = \$12,000
COGM = \$507,200

COGS: Now, we can find COGS by setting up a FG Inv T-account, filling in what we have, and solving for it.

FG Inventory

Beg.	6,500		
COGM	507,200		
		?	COGS
End.	8,000		

Exercise 2.10 (Continued)

\$6,500 + \$507,200 − COGS = \$8,000
\$513,700 − COGS = \$8,000
COGS = **\$505,700**

b. No; these schedules are for internal purposes only. They help identify product costs and provide the detail behind the calculations of COGM and COGS.

c. No; these costs are not part of the COGM or COGS. They are period costs, so they would only be shown on the income statement as part of the operating expense or SG&A section.

LO: 5, Bloom: AP, Difficulty: Moderate, Time: 10-15, AACSB: Knowledge, Communication, Analytic, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Communication, IMA: Reporting & Control: Financial Statement Preparation

Exercise 2.11 (10–15 minutes)

a. Create T-accounts and fill in the information you're given. Then, solve for ending balances.

DM Inventory

[1]Beg.	4,000		
[2]Purchases	35,000		
		?	DM used
[1]End.	2,700		

\$4,000 + \$35,000 − DM used = \$2,700
\$39,000 − DM used = \$2,700
DM used = \$36,300

WIP Inventory

Beg.	6,000		
DM used	36,300		
[3]DL	29,000		
[4]MOH	16,000		
		?	COGM
[given]End.	-		

\$6,000 + \$36,300 + \$29,000 + \$16,000 − COGM = \$0
\$87,300 − COGM = \$0
COGM = \$87,300

FG Inventory

[6]Beg.	-		
COGM	87,300		
		?	COGS
[7]End.	2,400		

\$87,300 − COGS = \$2,400
COGS = \$87,300 − \$2,400 = **\$84,900**

Exercise 2.11 (Continued)

The client used DM purchased, DL cost, and MOH cost to calculate COGS: $35,000 + $29,000 + $16,000 = $80,000

The correct COGS amount considers beginning and ending balances of each type of inventory in addition to new DM, DL, and MOH costs incurred. The client neglected to consider the effect of any inventory balance, beginning or ending.

b. GM would have been too high by $4,900. The client subtracted only $80,000 to reach GM while it should have subtracted $84,900 to reach GM.

c. It would be effective for Charlie to use a ledger or T-accounts to show the movement/transfer of costs from one inventory account to another, at the same time explaining the capitalization of these product costs in inventory, until the point that they are sold.

LO: 5, Bloom: AN, Difficulty: Moderate, Time: 10-15, AACSB: Knowledge, Communication, Analytic, AICPA BC: Customer Perspective, AICPA AC: Reporting, AICPA PC: Communication, IMA: Reporting & Control: Financial Recordkeeping

Exercise 2.12 (5–10 minutes)

a.

Contribution Margin Income Statement

Revenue ($20 × 2,400 units)	$ 48,000
Less: Variable product costs ($8 × 2,400 units)	19,200
Less: Variable period costs ($1 × 2,400 units)	2,400
Contribution margin	26,400
Less: Fixed costs	13,000
Operating income	$ 13,400

b.

Traditional Income Statement

Revenue ($20 × 2,400 units)	$ 48,000
Less: COGS ($8 × 2,400 units)	19,200
Gross margin	28,800
Less: Variable SG&A expenses ($1 × 2,400 units)	2,400
Less: Fixed SG&A expenses	13,000
Operating income	$ 13,400

c. The contribution margin income statement organizes costs by behavior (variable vs. fixed) using CM as the key subtotal, while the traditional income statement organizes costs by function (product vs. period) and uses GM as the key subtotal. Both income statements recognize the same operating income, still.

The CM income statement lends itself better to volume-based budgeting since the variable costs are clearly identifiable in this format (and since total variable costs will change if volume changes, even while total fixed costs will not change).

Exercise 2.12 (Continued)

A traditional income statement is more challenging for estimating volume-based changes because the variable and fixed components of the product cost (and oftentimes the SG&A costs, too) are not identifiable.

LO: 6, Bloom: AP, Difficulty: Simple, Time: 5-10, AACSB: Knowledge, Communication, Analytic, AICPA BC: N/A, AICPA AC: Measurement Analysis and Interpretation, Reporting, AICPA PC: Communication, IMA: Reporting & Control: Financial Statement Preparation, Reporting & Control: Financial Statement Analysis

Exercise 2.13 (15–20 minutes)

For both a) and b), split COGS and SG&A into their variable and fixed components. Use what you're given (fixed manufacturing costs and the variable SG&A rate) and solve for the missing component.

Traditional Income Statement

Revenue	$	35,000,000
Less: COGS		22,950,000
Gross margin	$	12,050,000
Less: SG&A expenses		5,015,000
Operating income	$	7,035,000

a) Variable COGS:
$22,950,000 − $8,450,000 = $14,500,000
$14,500,000 ÷ 50,000 units = **$290/unit**
Fixed COGS: $8,450,000

b) Variable SG&A:
$25 × 50,000 units = $1,250,000
Fixed SG&A:
$5,015,000 − $1,250,000 = **$3,765,000**

c.

Contribution Margin Income Statement

Revenue	$	35,000,000
Less: Variable costs ($14,500,000 + $1,250,000)		15,750,000
Contribution margin	$	19,250,000
Less: Fixed costs ($8,450,000 + $3,765,000)		12,215,000
Operating income	$	7,035,000

She would want to create this income statement for decision-making purposes, as it will allow her to budget for different revenue and total variable costs given different volumes and/or given a change in selling prices. Many different what-if scenarios could be quickly pulled together when using the contribution margin format.

d. GM/unit = $12,050,000 ÷ 50,000 units = **$241/unit**
CM/unit = $19,250,000 ÷ 50,000 units = **$385/unit**

GM/unit is the amount earned per unit that will go toward covering period/SG&A costs and generating a profit after manufacturing costs have been covered.
CM/unit is the amount earned per unit that will go toward covering fixed costs and generating a profit after variable costs have been covered.

LO: 6, Bloom: AN, Difficulty: Moderate, Time: 15-20, AACSB: Knowledge, Communication, Analytic, AICPA BC: N/A, AICPA AC: Measurement Analysis and Interpretation, Reporting, AICPA PC: Communication, IMA: Reporting & Control: Financial Statement Preparation

Exercise 2.14 (10–15 minutes)

a.

(1) Total Cost of Services = Variable Cost of services + Fixed Cost of services
$220,000 + $148,000 = **$368,000**

(2) Total SG&A costs = Variable SG&A + Fixed SG&A
$33,000 + $73,000 = **$106,000**

Exercise 2.14 (Continued)

b.

Traditional Income Statement	
Revenue	$550,000
Less: Cost of Services	368,000
Gross margin	182,000
Less: SG&A expenses	106,000
Operating income	$ 76,000

c. The income statement given in the exercise is a CM income statement, which means the costs are organized by behavior (variable vs. fixed), rather than by function (product vs. period), like they are in the traditional GM income statement. Still, both income statements determine operating income to be the same amount because the same costs are included in both statements, they are just presented differently in each.

d. The partners likely wanted the managers to do this exercise so they could see how the different categories of costs are presented differently on each income statement yet yield the same operating income. This knowledge could help them be more aware of how their own work—their efficiencies and inefficiencies—can impact the company's bottom line.

LO: 6, Bloom: AN, Difficulty: Moderate, Time: 10-15, AACSB: Knowledge, Communication, Analytic, AICPA BC: N/A, AICPA AC: Measurement Analysis and Interpretation, Reporting, AICPA PC: Communication, IMA: Reporting & Control: Financial Statement Preparation

Exercise 2.15 (5–10 minutes)

a.

Cost of stone slabs	$26,400
MOH in fabrication process	3,500
Labor costs of cutting, treating, and installation	18,700
Total product costs	$48,600

b.

Commissions for salespeople	$3,150
Depreciation on sales and office space	2,800
Marketing costs	900
R&D costs	1,300
Total SG&A costs	$8,150

c. Full cost = product costs + SG&A costs
Full cost = $48,600 + $8,150 = **$56,750**

Average full cost/project = full cost ÷ number of projects
Average full cost/project = $56,750 ÷ 15 = **$3,783.33**

d. You should prefer to have the information from **part (c)** of this problem so you can base the selling price on the *full* cost of a project rather than just one type of cost. The company will only generate a profit if its selling price is higher than the product's full cost.

LO: 6, Bloom: AN, Difficulty: Moderate, Time: 5-10, AACSB: Knowledge, Communication, Analytic, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Communication, IMA: Reporting & Control: Cost Accounting

Solutions to Problems

Problem 2.1

a.

Initial freight cost of getting product to lumber yard	$ 133,800	(1) Cost of sales
Marketing costs	87,000	(2) SG&A
Total cost of product sold	1,534,000	(1) Cost of sales
Depreciation cost and utility cost for lumber yard	78,600	(3) Depreciation and amortization
Cost of labor	495,000	(2) SG&A
Other operating costs	20,600	(2) SG&A

Note: Labor isn't a product cost for a merchandiser because the labor cost is not for making the product, it's necessary for selling the product. Keep that key difference between manufacturers and merchandisers in mind!

Traditional Income Statement

Revenue	$2,620,000
Less: Cost of sales (freight [$133,800] + cost of products sold [$1,543,000])	1,676,800
Gross margin	943,200
Less: Expenses	
SG&A (marketing [$87,000] + labor [$495,000] + other [$20,600])	602,600
Depreciation and amortization	78,600
Operating income	$ 262,000

b. When all merchandise inventory is sold, then all inventory costs move to Cost of Sales and are deducted to arrive at operating income. In this case, whether the freight cost was grouped in Cost of Sales or in SG&A, operating income would not have been different. However, if some of the inventory were *unsold*, and still on the balance sheet, a portion of freight costs would still be in inventory as well. That would cause operating income to differ between the treatment of freight as a product cost (grouped with cost of sales) versus SG&A (fully expensed when incurred.)

Gross margin *would* have been different had Kenton classified the freight cost differently, as shown below. This would have affected Kenton's evaluation of its performance, especially if there is a target gross margin ratio the company is expected to earn (GM% was 36% in part (a) ($943,200 ÷ $2,620,000); and it is 41% here ($1,077,000 ÷ $2,620,000)).

Traditional Income Statement

Revenue	$2,620,000
Less: Cost of sales (cost of products sold [$1,543,000])	1,543,000
Gross margin	1,077,000
Less: Expenses	
SG&A (marketing [$87,000] + labor [$495,000] + other [$20,600] + freight [$133,800])	736,400
Depreciation and amortization	78,600
Operating Income	$ 262,000

Problem 2.1 (Continued)

c. Freight-in is the cost required to get the product to the *company* selling it, and it's part of that company's inventoriable cost. Delivery cost is the cost required to get the product to the *customer* after the sale. Therefore, freight-in would be the most appropriate term for the freight cost in this problem.

LO: 1, 2, Bloom: AP, Difficulty: Moderate, Time: 10-15, AACSB: Knowledge, Communication, Analytic, AICPA BC: N/A, AICPA AC: Measurement Analysis and Interpretation, Reporting, AICPA PC: Communication, IMA: Reporting & Control: Financial Statement Preparation

Problem 2.2

a. Full cost = product costs + period costs
Full cost = COGS + SG&A
Full cost = $246,100 + $210,700 = **$456,800**

Product costs = **$246,100**
Period costs = **$210,700**

Average selling price = Sales ÷ number of units
Average selling price = $533,500 ÷ 35,700 units = **$14.94**

Average full cost/unit = Full cost ÷ number of units
Average full cost/unit = $456,800 ÷ 35,700 units = **$12.80**

b. Remember: sunk costs were incurred in the past, and they therefore should not influence our rational decision-making today. In this situation, the sunk costs would be all expenses, long-term assets, and a few current assets (including inventory and prepaid expenses). These are all "sunk" because we can't undo these "investments."

c. You would *not* find opportunity costs on the financial statements. They represent foregone benefits from choosing one path over another and are costs that aren't actually incurred. Many possible opportunity costs could be given for Murray regarding a foregone benefit as a result of choosing a different option.
One example of an opportunity cost for Murray could be foregone profit from selling in Australia if the company decided to sell only in North America.

LO: 1, 2, 3, 6, Bloom: AN, Difficulty: Moderate, Time: 10-15, AACSB: Knowledge, Analytic, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: N/A, IMA: Reporting & Control: Financial Statement Analysis

Problem 2.3

a.

Description	Amount	Product or Period	Variable or Fixed
Depreciation on factory	$ 50,000	Product	Fixed
Executive salaries	130,000	Period	Fixed
Direct materials costs	325,000	Product	Variable
Administrative salaries	79,000	Period	Fixed
Wages for factory workers	432,500	Product	Variable
Advertising expense	39,500	Period	Fixed
Indirect materials	66,000	Product	Variable
Factory supervisor salaries	90,000	Product	Fixed
Commissions to salespeople	55,000	Period	Variable

b.

(1)

Traditional Income Statement

Revenue (32,000 × $46)		$ 1,472,000
Less: COGS		
DM cost	$ 325,000	
Factory wages	432,500	
Factory supervisor salaries	90,000	
Depreciation on factory	50,000	
Indirect materials	66,000	963,500
Gross margin		508,500
Less: SG&A expenses		
Executive salaries	130,000	
Administrative salaries	79,000	
Advertising expense	39,500	
Commissions to salespeople	55,000	303,500
Operating income		$ 205,000

Problem 2.3 (Continued)

(2)

Contribution Margin Income Statement

Revenue (32,000 × $46)		$ 1,472,000
Less: Variable costs		
DM cost	$ 325,000	
Factory wages	432,500	
Commissions to salespeople	55,000	
Indirect materials	66,000	878,500
Contribution margin		593,500
Less: Fixed costs		
Depreciation on factory	50,000	
Executive salaries	130,000	
Administrative salaries	79,000	
Advertising expense	39,500	
Factory supervisor salaries	90,000	388,500
Operating income		$ 205,000

Operating income = **$205,000**

c. Operating income is the same on each of the two income statement formats. Both income statements include the same costs, but they are presented differently (organized differently) in each.

d. The numbers in red have changed from part (b).

Traditional Income Statement

Revenue (32,000 × $46)		$ 1,472,000
Less: COGS		
DM cost	$ 325,000	
Factory wages ($432,500 × 1.05)	454,125	
Factory supervisor salaries	90,000	
Depreciation on factory	50,000	
Indirect materials	66,000	985,125
Gross margin		486,875
Less: SG&A expenses		
Executive salaries	130,000	
Administrative salaries	79,000	
Advertising expense	39,500	
Commissions to salespeople ($55,000 × 1.05)	57,750	306,250
Operating income		$ 180,625

Problem 2.3 (Continued)

Contribution Margin Income Statement

Revenue (32,000 × $46)		$ 1,472,000
Less: Variable costs		
DM cost	$ 325,000	
Factory wages ($432,500 × 1.05)	454,125	
Commissions to salespeople ($55,000 × 1.05)	57,750	
Indirect materials	66,000	902,875
Contribution margin		569,125
Less: Fixed costs		
Depreciation on factory	50,000	
Executive salaries	130,000	
Administrative salaries	79,000	
Advertising expense	39,500	
Factory supervisor salaries	90,000	388,500
Operating income		$ 180,625

	Last Year	**Next Year**	**Change**	
GM	$ 508,500	$ 486,875	$ 21,625	decrease
CM	593,500	569,125	24,375	decrease
Operating income	205,000	180,625	24,375	decrease

Expenses increased, so GM, CM, and operating income all decreased. Note that CM and operating income decreased by the same amount, because on the CM income statement, both of the changed expenses were variable costs, which are presented above CM.

LO: 1, 3, 4, 6, Bloom: AN, Difficulty: Moderate, Time: 15-20, AACSB: Knowledge, Communication, Analytic, AICPA BC: N/A, AICPA AC: Measurement Analysis and Interpretation, Reporting, AICPA PC: Communication, IMA: Reporting & Control: Financial Statement Preparation

Problem 2.4

a., b.

Transaction Description	Amount	Initially an Asset or Expense (a)	Product Cost (b)
Advertising	$ 12,000	Expense	-
Flour, eggs, sugar	290,000	Asset (DM inv)	Yes
Depreciation on baking equipment and kitchen	45,000	Asset (MOH → WIP Inv)	Yes
Delivery expense	8,700	Expense	-
Wages (baking employees)	378,000	Asset (DL → WIP Inv)	Yes
Research and development	5,600	Expense	-
Utilities on bakery space	24,000	Asset (MOH → WIP Inv)	Yes
Investment in mutual fund	60,000	Asset	-
Cash proceeds from loan	50,000	Asset	-
Wages (indirect labor)	42,000	Asset (MOH → WIP Inv)	Yes
Salaries (executives and office staff)	130,000	Expense	-

c.

Schedule of COGM & COGS

Beginning Direct Materials Inventory	$ 46,000	
Purchases of direct materials	290,000	
Direct materials available for use	336,000	
Less: Ending Direct Materials Inventory	32,000	
Direct materials used		$ 304,000
Direct labor		378,000
Manufacturing overhead		
Depreciation	45,000	
Utilities	24,000	
Wages	42,000	111,000
Total manufacturing costs		$ 793,000
Beginning WIP Inventory		2,800
Less: Ending WIP Inventory		2,100
Cost of goods manufactured		793,700
Beginning Finished Goods Inventory		35,000
Less: Ending Finished Goods Inventory		25,000
Cost of Goods Sold		$ 803,700

d. Expected sales revenue = $803,700 × 1.4 = **$1,125,180**
GM% = (Sales − COGS) ÷ Sales
GM% = ($1,125,180 − $803,700) ÷ $1,125,180 = **28.6%**

Problem 2.4 (Continued)

e. GM% = (Sales − COGS) ÷ Sales
GM% = ($1,080,000 − $803,700) ÷ $1,080,000 = **25.6%**

This GM ratio is less than the expected ratio found in part (d), so Frank may not be happy about that. This could have been a result of slightly higher product costs than normal and/or from setting a selling price slightly less than the typical 140% mark-up on product cost.

Frank might expect an increase in sales next year due to a delayed reaction from this year's sponsorship. He may want to consider sponsoring that event again if the leaders feel they can gain some traction in sales.

LO: 1, 3, 5, 6, Bloom: AN, Moderate, Time: 20-25, AACSB: Knowledge, Communication, Analytic, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Communication, IMA: Reporting & Control: Financial Statement Preparation

Problem 2.5

a.

Garden Center	Landscaping
- Cost of plants, flowers, trees, etc. sold ($341,000) - Sales (65% = $519,025)	- Landscaping labor cost ($145,000) - Landscaping supplies ($4,100) - Sales (35% = $279,475)

b.

Traditional Income Statement

	Garden Center	Landscaping	Company
Revenue	$ 519,025	$ 279,475	$ 798,500
Less: COGS	341,000		341,000
Cost of services:			
Less: Landscaping labor cost		145,000	145,000
Less: Landscaping supplies		4,100	4,100
Gross Margin	$ 178,025	$ 130,375	$ 308,400
÷ Revenue	÷ $519,025	÷ $279,475	÷ $798,499
GM%	34.30%	46.65%	38.62%
Meets 40% GM% standard?	No	Yes	No

c.

Traditional Income Statement

Revenue	$ 798,500
Less: COGS	341,000
Less: Cost of services	
Landscaping labor cost	145,000
Landscaping supplies	4,100
Gross margin	308,400
Less: All other expenses	
General sales and labor cost	89,500
Administrative labor cost	38,500
Advertising expense	86,400
Depreciation on equipment	5,800
Fuel cost	2,700
Utilities	3,500
Plant food/fertilizer	1,700
Operating income	$ 80,300

Problem 2.5 (Continued)

d. Dear Alisha,

Overall company performance looks very good, with positive income and a profit margin of 10.06% ($80,300 ÷ $798,500). While the combined income statement is useful in presenting this overall view, the more detailed segment income statement is much more useful; from it we can see the higher profitability of the services arm of the business. Still, the product side of the business is doing very well too, just not quite up to the 40% GM% target. It would be useful going forward if the company could continue to track the performance of each business line separately for more targeted decision-making efforts.

In the past, the company may not have separated this information due to the difficulty of breaking the different business lines' revenue and expenses apart. This could especially be true for the landscaping side of the business, where a portion of the sales earned would likely be from the products they are planting. If that is indeed the case, the total COGS presented as a garden center cost may include some landscaping COGS. Without additional detail, we are unable to determine the portion, though. This could explain why the garden center is currently showing a slightly lower GM% than the landscaping side of the business. Hopefully going forward, a more concerted effort can be made to keep key revenue and expense items separate for each of these business lines.

LO: 2, 3, 6, Bloom: AP, Difficulty: Moderate, Time: 10-15, AACSB: Knowledge, Communication, Analytic, AICPA BC: N/A, AICPA AC: Measurement Analysis and Interpretation, Reporting, AICPA PC: Communication, IMA: Reporting & Control: Financial Statement Preparation

Problem 2.6

a.

	Product or Period?	Inventory?
New sewing machine ($2,500)	Product	MOH (depreciation on sewing machine)
Purchased thread, etc. ($300)	Product	MOH (indirect materials)
Purchased jeans ($1,000)	Product	DM purchased
Paid friend ($1,800)	Product	DL
Finished jackets, sold all but 1	-	FG Inventory (Beg Bal = 0, End Bal = $80)
Freight out ($400)	Period	-
Advertising expense ($300)	Period	-
Finished all but 1	-	WIP Inventory (Beg Bal = 0, End Bal = $40)
Counted 40 jeans	-	DM Inventory (Beg Bal = $30, End Bal = $120)

b.

DM Inventory

Beg.	30	
Purchases	1,000	
		? DM used
End.	120	

$30 + $1,000 − DM used = $120
$1,030 − DM used = $120
DM used = **$910**

WIP Inventory

Beg.	-	
DM used	910	
DL	1,800	
MOH	?	
		? COGM
End.	40	

MOH = Depreciation on sewing machine + Indirect materials
MOH = $500 + $300 = **$800**

$0 + $910 + $1,800 + $800 − COGM = $40
$3,510 − COGM = $40
COGM = **$3,470**

Problem 2.6 (Continued)

FG Inventory

Beg.	400		
COGM	3,470		
		?	COGS
End.	80		

$400 + $3,470 − COGS = $80
$3,870 − COGS = $80
COGS = **$3,790**

c. Total manufacturing costs (TMC) = DM used + DL + MOH
TMC = $910 + $1,800 + $800 = **$3,510**

Prime costs = DM used + DL
Prime costs = $910 + $1,800 = **$2,710**

Conversion costs = DL + MOH
Conversion costs = $1,800 + $800 = **$2,600**

d. COGM was **$3,470**, and COGS was **$3,790**.
It is important for Dorothy to understand these costs so that she can set a selling price that will allow her to recover her cost (and possibly generate some margin). Without knowing these costs, she can't determine whether or not an already-set selling price is generating any margin or a desired margin.

LO: 3, 5, Bloom: AP, Difficulty: Moderate, Time: 15-20, AACSB: Knowledge, Communication, Analytic, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Communication, IMA: Reporting & Control: Financial Recordkeeping

Problem 2.7

For a) and b), use what you're given and solve for what you need using T-accounts and income statements. Follow along with the explanations in boxes.

a. Becca

First, set up FG Inventory and WIP Inventory T-accounts, as well as a traditional income statement. Populate the three with as much as you can, based on what you're given.

BECCA: FG Inventory

(i) Beg.	_____		
COGM	450		
		_____	COGS
End.	145		

(i) You're told that COGAFS is $825, so you can use that to solve for FG Beg Bal here:

COGAFS = FG Inv Beg. Bal + COGM
$825 = FG Inv Beg. Bal + $450
FG Inv Beg. Bal = $825 − $450 = **$375**.

BECCA: Traditional Income Statement

Revenue	$	1,370
Less: COGS		_____
Gross margin **(ii)**		_____
Less: SG&A expenses		470
Operating income	$	220

(ii) With operating income and SG&A Expenses, you can solve for gross margin:

$220 + $470 = **$690**.

BECCA: WIP Inventory

Beg.	285		
DM used	215		
(iii) DL	_____		
MOH	80		
		450	COGM
(iv) End.	_____		

(iii) Total Manufacturing Costs is $530, so use that to solve for DL:

TMC = DM used + DL + MOH
$530 = $215 + DL + $80
DL = $530 − $215 − $80 = **$235**.

(iv) You now have all of the values in the WIP Inventory T-account but End Bal, so solve for that:

$285 + $215 + $235 + $80 − $450 = **$365**.

b. Sean

SEAN: FG Inventory

Beg.	130		
(iv) COGM	_____		
		370	COGS
(iii) End.	_____		

(iv) You're told that COGAFS is $425, so you can use that to solve for COGM here:

COGAFS = FG Inv Beg. Bal + COGM
$425 = $130 + COGM
COGM = $425 − $130 = **$295**.

(iii) then solve for FG Inv. End Bal:
$130 + $295 − $370 = **$55**.

Problem 2.7 (Continued)

SEAN: Traditional Income Statement

Revenue **(i)**	$	____
Less: COGS		370
Gross margin	$	620
Less: SG&A expenses		____
Operating income	$	195

(i) Solve for Sales by adding COGS back to GM:

$620 + $370 = **$990**.

SEAN: WIP Inventory

Beg.	____		
(ii) DM used	____		
DL	180		
MOH	205		
		____	COGM
End.	280		

(ii) You're told that Total Manufacturing Costs (DM used + DL + MOH) is $470, so use that to solve for DM used:

TMC = DM used + DL + MOH
$470 = DM used + $180 + $205
DM used = $470 − $180 − $205 = **$85**.

c. Conversion Costs = DL + MOH

BECCA

$$\frac{\text{DL + MOH}}{\text{TMC}} = \frac{\$235 + \$80}{\$530} = 59\%$$

SEAN

$$\frac{\text{DL + MOH}}{\text{TMC}} = \frac{\$180 + \$205}{\$470} = 82\%$$

Sean's scenario reflects conversion costs that exceed 80% of its manufacturing costs.

d. GM ratio = GM ÷ Sales

BECCA

$$\frac{\text{GM}}{\text{Sales}} = \frac{\$690}{\$1,370} = 50\%$$

SEAN

$$\frac{\text{GM}}{\text{Sales}} = \frac{\$620}{\$990} = 63\%$$

Again, **Sean's** scenario reflects a GM% that exceeds 60%.

LO: 3, 5, 6, Bloom: AN, Difficulty: Complex, Time: 20-25, AACSB: Knowledge, Analytic, AICPA BC: N/A, AICPA AC: Measurement Analysis and Interpretation, Reporting, AICPA PC: N/A, IMA: Reporting & Control: Financial Recordkeeping

Problem 2.8

a.

i. Total costs = **Red line** (starts at $2,000 [FC] and increases at a slope of the VC/unit given)
ii. Fixed costs = **Grey line** (starts at $2,000 and doesn't change)
iii. Total revenue = **Blue line** (starts at $0 and increases at a slope of the selling price/unit)
iv. Total variable costs = **Orange line** (starts at $0 and increases at a slope of the VC/unit given)

b. Looking at the graph we can see that no profit would be generated at a sales volume of 20 units (because the total cost line is higher than the total revenue line at this volume). The company would generate a profit at a volume of 40 units and 60 units, however, as the total revenue line is higher than the total cost line at both volumes.
If we want to determine the amount of profit or loss earned at each of the above volumes, further analysis will reveal the details.

Revenue: To find the selling price, pick a point on the blue line and divide the revenue at that point by the volume of units sold at that point: $2,000 ÷ 20 units = $100 per unit. Now multiply $100 by each sales volume to find the revenue.
Variable costs: to find the variable cost per unit, pick a point on the orange line and divide the variable costs at that point by the volume of units sold at that point: $3,000 ÷ 100 units = $30 per unit.
We can then combine the revenue, variable cost, and fixed cost information to calculate profit or loss at each volume:

Contribution Margin Income Statement

	20 units	**40 units**	**60 units**
Revenue ($100 × volume of units)	$ 2,000	$ 4,000	$ 6,000
Less: Variable costs ($30 × volume of units)	600	1,200	1,800
Contribution margin	$ 1,400	$ 2,800	$ 4,200
Less: Fixed costs	2,000	2,000	2,000
Operating income (loss)	$ (600)	$ 800	$ 2,200
Profit?	No	Yes	Yes

Note: Remember that fixed costs stay the same *in total* even as the volume of units changes.

c. Total Fixed Costs = **$2,000** FC/unit = $2,000 ÷ 40 = **$50**

d. Total Fixed Costs = **$2,000** FC/unit = $2,000 ÷ 60 = **$33.33**

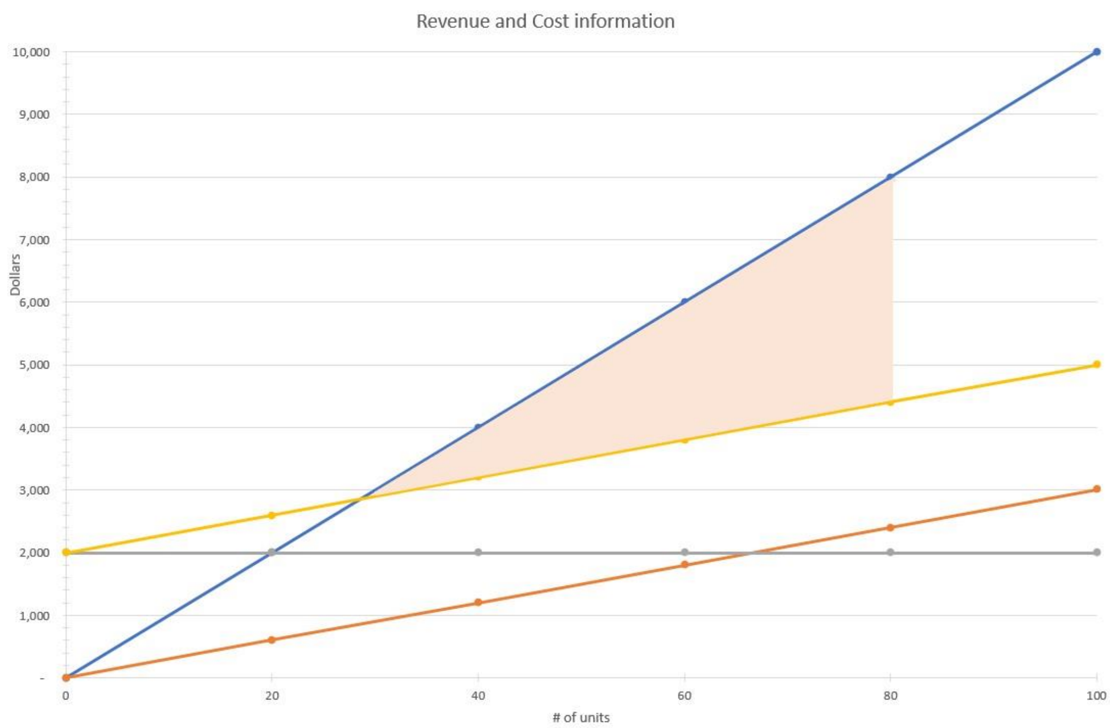
e. The red and orange lines are parallel; red reflects total costs while orange reflects total variable costs. The slope of the two lines is the same, which is $30/unit, because total costs will increase at the variable rate (since fixed costs stay stable regardless of volume).

Problem 2.8 (Continued)

f.

Contribution Margin Income Statement		
Revenue ($100 × 80 units)	$	8,000
Less: Variable costs ($30 × 80 units)		2,400
Contribution margin	$	5,600
Less: Fixed costs		2,000
Operating income	$	3,600

The difference between the blue line (total revenue) and the red line (total costs) is profit. The orange shaded area in the graph below represents profit.



g. The CM income statement would allow LaVonne the ability to quickly transform the graphical information into different income statement scenarios because it organizes costs by behavior (variable vs. fixed), and this graph has them organized that way, as well.

h. Yes, presenting information graphically can be very useful for users, especially because the supervisors and managers specifically asked for her to *show* them things rather than *telling* them. This format might be easier for them to understand and remember the relationships as opposed to a traditional income statement.

LO: 4, 6, Bloom: AN, Difficulty: Moderate, Time: 15-20, AACSB: Knowledge, Communication, Analytic, Technology, AICPA BC: N/A, AICPA AC: Measurement Analysis and Interpretation, Reporting, AICPA PC: Communication, IMA: Reporting & Control: Cost Accounting

Problem 2.9

a. Yes, the intern is correct that the income statement categories are correctly identified in each income statement format.
The types of costs that are typically included in each of the following categories are described below:
(1) COGS: product costs for the units sold, including DM used, DL, and MOH.
(2) SG&A: selling, general, and administrative expenses such as office rent, administrative/executive salaries, and advertising expense.
(3) Variable costs: costs that vary based on the quantity of units sold, such as DM used, DL, and sales commissions.
(4) Fixed costs: costs that do not change regardless of the volume of units sold, such as administrative/executive salaries, advertising expense, and depreciation.

b. Selling price = Sales ÷ volume of units sold = $960,000 ÷ 30,000 = **$32**

Solve for total CM, then, knowing the operating income from Format 1 is correct, use that and the total CM to solve for total fixed costs.
Total CM = CM/unit × volume of units sold
Total CM = $22 × 30,000 = **$660,000**

CM	$	660,000
Less: Fixed costs		
Operating income	$	260,000

CM − fixed costs = operating income
$660,000 − fixed costs = $260,000
Fixed costs = **$400,000**

c.

Traditional Income Statement		
Revenue	$	960,000
Less: COGS		522,500
Gross margin	$	437,500
Less: SG&A expenses		177,500
Operating income	$	260,000

COGS:
Variable COGS = $8.75 × 30,000 units = $262,500
Fixed COGS = 65% × $400,000 = $260,000
Total COGS = $262,500 + $260,000 = **$522,500**

Problem 2.9 (Continued)

SG&A Expenses:

Total Variable cost/unit = Selling price/unit − CM/unit

Total VC/unit = $32 − $22 = $10

Variable SG&A/unit = Total VC/unit − Variable COGS/unit

Variable SG&A/unit = $10.00 − $8.75 = $1.25

Variable SG&A = $1.25 × 30,000 units = $37,500

Fixed SG&A = Total fixed costs − fixed COGS

Fixed SG&A = $400,000 − $260,000 = $140,000

Total SG&A = $37,500 + $140,000 = **$177,500**

[The same calculations are repeated below to show that the same costs are being represented in a different order.]

Contribution Margin Income Statement

Revenue	$ 960,000
Less: Variable costs	300,000
Contribution margin	660,000
Less: Fixed costs	400,000
Operating income	$ 260,000

Variable costs:

Variable COGS = $8.75 × 30,000 units = $262,500

Variable SG&A = $1.25 × 30,000 units = $37,500

Total variable costs = $262,500 + $37,500 = **$300,000**

Fixed costs:

Fixed COGS = 65% × $400,000 = $260,000

Fixed SG&A = Total fixed costs − fixed COGS

Fixed SG&A = $400,000 − $260,000 = $140,000

Total fixed costs = $260,000 + $140,000 = **$400,000**

d. It's important to have this information formatted in a traditional income statement for the benefit of external users such as creditors, and also for comparison purposes when benchmarking performance. The subtotal of gross margin is useful when evaluating the margin earned just on the products sold, before considering other operating expenses.

It's very useful to have a contribution margin format income statement for internal use related to decision-making, resource management, pricing, and risk evaluation (i.e. break-even, CVP analysis, etc.). The subtotal of contribution margin is useful when evaluating the margin earned after recognizing the variable costs associated with the products sold, before considering any fixed expenses.

LO: 4, 6, Bloom: E, Difficulty: Complex, Time: 20-25, AACSB: Knowledge, Communication, Analytic, AICPA BC: N/A, AICPA AC: Measurement Analysis and Interpretation, Reporting, AICPA PC: Communication, IMA: Reporting & Control: Financial Statement Preparation

Problem 2.10

Use the information you're given and work through the T-accounts.

DM Inventory

Beg.	500		
Purchases	_____		
		_____	DM used
End.	1,200		

WIP Inventory

Beg.	2,100		
DM used	_____		
DL	_____		
MOH	_____		
		_____	COGM
End.	4,300		

FG Inventory

Beg.	8,700		
COGM	_____		
		_____	COGS
End.	12,500		

COGS

	217,000	
End.		

a. COGS = **$217,000** (given)

Use the FG Inventory account to solve for COGM:
Beg FG Inventory + COGM − COGS = End FG Inventory
\$8,700 + COGM − \$217,000 = \$12,500
COGM = **$220,800**

DM Inventory

Beg.	500		
Purchases	_____		
		_____	DM used
End.	1,200		

WIP Inventory

Beg.	2,100		
DM used	_____		
DL	_____		
MOH	_____		
		220,800	*COGM*
End.	4,300		

Problem 2.10 (Continued)

FG Inventory

Beg.	8,700		
COGM	*220,800*		
		217,000	*COGS*
End.	12,500		

COGS

	217,000	
End.		

b. Total manufacturing costs = DM used + DL + MOH
Calculate DL from what was given: $88,000 × 0.5 = $44,000
Calculate MOH from what was given:
Manufacturing supervisor salaries ($88,000 x 0.5) + manufacturing utilities ($4,000 × 0.75) + manufacturing depreciation ($19,000) + indirect materials and indirect labor ($3,000) = $69,000

Solve for DM used:
Beg WIP Inventory + DM used + DL + MOH − COGM = End WIP Inventory
$2,100 + DM used + $44,000 + $69,000 − $220,800 = $4,300
DM used = $110,000
Total manufacturing costs = $110,000 + $44,000 + $69,000 = **$223,000**

c. We've already solved for these in part (b).
DM used = **$110,000**
DL = **$44,000**
MOH = **$69,000**

DM Inventory

Beg.	500		
Purchases	____		
		110,000	*DM used*
End.	1,200		

WIP Inventory

Beg.	2,100		
DM used	*110,000*		
DL	*44,000*		
MOH	*69,000*		
		220,800	*COGM*
End.	4,300		

FG Inventory

Beg.	8,700		
COGM	*220,800*		
		217,000	*COGS*
End.	12,500		

Problem 2.10 (Continued)

COGS

	217,000		
End.			

d. Beg DM Inventory + DM Purchased − DM used = End DM Inventory
$500 + DM Purchased − $110,000 = $1,200
DM Purchased = **$110,700**

DM Inventory

Beg.	500		
Purchases	*110,700*		
		110,000	*DM used*
End.	1,200		

WIP Inventory

Beg.	2,100		
DM used	*110,000*		
DL	*44,000*		
MOH	*69,000*		
		220,800	*COGM*
End.	4,300		

FG Inventory

Beg.	8,700		
COGM	*220,800*		
		217,000	*COGS*
End.	12,500		

COGS

	217,000		
End.			

e. Italicized amounts are what we solved for here.

DM Inventory

Beg.	500		
Purchases	*110,700*		
		110,000	*DM used*
End.	1,200		

WIP Inventory

Beg.	2,100		
DM used	*110,000*		
DL	*44,000*		
MOH	*69,000*		
		220,800	*COGM*
End.	4,300		

Problem 2.10 (Continued)

FG Inventory

Beg.	8,700		
COGM	*220,800*		
		217,000	*COGS*
End.	12,500		

COGS

	217,000		
End.			

LO: 5, Bloom: AN, Difficulty: Complex, Time: 20-25, AACSB: Knowledge, Analytic, AICPA BC: N/A, AICPA AC: Reporting, AICPA PC: Communication, IMA: Reporting & Control: Cost Accounting

Solution to Analysis and Decision-Making Case

Case

a. Yes, they both make excellent points—information from both a traditional and a contribution margin income statement format is very important and useful for different types of users.

Gross margin on a traditional income statement is a very common and important measure of performance.

Contribution margin on a contribution margin income statement is also a very important measure of performance.

b.

GM:
1. For external users
2. Allows a company to be compared to others in the industry
3. A traditional income statement with GM as its key subtotal reflects costs that have been separated by function (product vs. period) to reveal the margin specifically earned on the products sold.

CM:
1. For internal users
2. Helps with day-to-day decision-making
3. A contribution margin income statement with CM as its key subtotal reflects costs that have been separate by behavior (variable vs. fixed) to reveal the margin specifically earned after variable costs are considered.

c. No; just because a company's CM percentage is higher than its GM percentage does not mean that CM is a superior measure.

In terms of gross margin: it means that the company's margin after covering product costs is 35%, recognizing that the remaining 65% of the revenue will be used to cover the company's non-product (operating expenses), hopefully with some left over to reflect a profit.

In terms of contribution margin, it means that the company's margin after covering variable costs is 45%, recognizing that the remaining 55% of the revenue will be used to cover the company's fixed costs, hopefully with some left over to reflect a profit.

Without additional information on what the company's profit margin is or what its operating expenses or fixed costs are as a percentage of revenue, we cannot determine whether its cost structure consists of predominantly fixed or variable costs.

d. The company should explain to the two managers the benefits of both income statement formats and both key subtotals. Further, company leadership should recognize its full intention to utilize both income statements and key subtotals for their key advantages. If both managers can see that they were right—that their favored subtotal is in fact a crucial measure for the business—it could be a win-win situation. Both managers could be ambassadors for improving the culture of the company, pulling other managers in and helping them better understand the financial situation of the company. If all managers become more financially literate, just imagine where their ideas could take them!

LO: 1, 4, 6, Bloom: AN, Difficulty: Moderate, Time: 10-15, AACSB: Analytic, Communication, AICPA BC: N/A, AICPA AC: Measurement Analysis and Interpretation, Reporting, AICPA PC: Communication, IMA: Reporting & Control: Cost Accounting