CHAPTER 2

Job Order Costing

ASSIGNMENT CLASSIFICATION TABLE

Learning Objectives		Questions	Brief Exercises	Do It!	Exercises	A Problems
1.	Describe cost systems and the flow of costs in a job order system.	1, 2, 3, 4, 5, 6, 7, 8	1, 2	1	1, 2, 3, 4, 6, 7, 8, 9, 11	1A, 2A, 3A, 5A
2.	Use a job cost sheet to assign costs to work in process.	9, 10, 11, 12	3, 4, 5	2	1, 2, 3, 6, 7, 8, 10, 12	1A, 2A, 3A, 5A
3.	Demonstrate how to determine and use the predetermined overhead rate.	13, 14, 15	6, 7	3	2, 3, 5, 6, 7, 8, 11, 12, 13	1A, 2A, 3A, 4A, 5A
4.	Prepare entries for	16	8, 9	4	2, 3, 6, 7, 8,	1A, 2A, 3A,

	manufacturing and service jobs completed and sold.				10, 11, 12	5A
5.	Distinguish between under- and overapplied manufacturing overhead.	17, 18	10	5	4, 5, 9, 13	1A, 2A, 3A, 4A, 5A

ASSIGNMENT CHARACTERISTICS TABLE

Problem Number	Description	Difficulty Level	Time Allotted(min.)
1A	Prepare entries in a job order cost system and job cost sheets.	Simple	30 -40
2A	Prepare entries in a job order cost system and partial income statement.	Moderate	30 -40
3A	Prepare entries in a job order cost system and cost of goods manufactured schedule.	Simple	30 -40
4A	Compute predetermined overhead rates, apply overhead, and calculate under- or overapplied overhead.	Simple	20 -30
5A	Analyze manufacturing accounts and determine missing amounts.	Complex	30 -40

Correlation Chart between Bloom's Taxonomy, Learning Objectives and End-of-Chapter Exercises and Problems

Learning Objective	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
1. Describe cost systems and the flow of costs in a job order system.	Q2-5 Q2-7 Q2-8	Q2-1 Q2-4 Q2-2 Q2-6 Q2-3 BE2-1	BE2-2 E2-6 P1-1A P2-2A DI2-1 E2-7 P2-3A P2-5A E2-1 E2-8 E2-4 E2-2 E2-9 E2-3 E2-11			
2. Use a job cost sheet to assign costs to work in process.	Q2-11 Q2-12	Q2-9 Q2-10	BE2-3 E2-2 E2-10 P2-2A BE2-4 E2-3 E2-12 P2-5A BE2-5 E2-6 P2-1A DI2-2 E2-7 P2-3A E2-1 E2-8			
3. Demonstrate how to determine and use the predetermined overhead rate.	Q2-15	Q2-13 Q2-14	BE2-6 E2-6 P2-1A E2-5 BE2-7 E2-7 P2-3A P2-2A DI2-3 E2-8 P2-4A P2-5A E2-2 E2-11 E2-3 E2-12 E2-13			
4. Prepare entries for manufacturing and service jobs completed and sold.		Q2-16 BE2-9	BE2-8 E2-6 E2-11 P2-2A DI2-4 E2-7 E2-12 P2-5A E2-2 E2-8 P2-1A E2-3 E2-10 P2-3A			
5. Distinguish between under- and overapplied manufacturing overhead.		Q2-17 Q2-18	E2-9 P2-3A BE2-10 P2-4A E2-13 P2-1A	DI2-5 P2-2A E2-4 P2-5A E2-5		
Broadening Your Perspective		BYP2-3 BYP2-4	CD-2	BYP2-2		BYP2-1 BYP2-5 BYP2-6 BYP2-7

ANSWERS TO QUESTIONS

1. (a) Cost accounting involves the measuring, recording, and reporting of product costs. A cost accounting system consists of manufacturing cost accounts that are fully integrated into the general ledger of a company.
   (b) An important feature of a cost accounting system is the use of a perpetual inventory system that provides immediate, up-to-date information on the cost of a product.

2. (a) The two principal types of cost accounting systems are: (1) job order cost system and (2) process cost system. Under a job order cost system, costs are assigned to each job or batch of goods; at all times each job or batch of goods can be separately identified. A job order cost system measures costs for each completed job, rather than for set time periods. Under a process cost system, product-related costs are accumulated by or assigned to departments or processes for a set period of time. Job order costing lends itself to specific, special-order manufacturing or servicing while process costing is better suited to similar, large-volume products and continuous process manufacturing.
   (b) A company can use both types of systems. For example, General Motors uses process costing for standard model cars and job order costing for custom-made vehicles.

3. A job order cost system is most likely to be used by a company that receives special orders, or custom builds, or produces heterogeneous items or products; that is, the product manufactured or the service rendered is tailored to the customer or client's requests, needs, or situation. Examples of industries that use job order systems are custom home builders, commercial printing companies, motion picture companies, construction contractors, repair shops, accounting and law firms, hospitals, shipbuilders, and architects.

4. A process cost system is most likely to be used by manufacturing firms with continuous production flows usually found in mass production, assembly line, large-volume, uniform, or relatively similar product industries. Companies producing appliances, chemicals, pharmaceuticals, rubber and tires, plastics, cement, petroleum, and automobiles utilize process cost systems.

5. The major steps in the flow of costs in a job order cost system are: (1) accumulating the manufacturing costs incurred and (2) assigning the accumulated costs to work done.

6. The three inventory control accounts and their subsidiary ledgers are:
   Raw materials inventory—materials inventory records.
   Work in process inventory—job cost sheets.
   Finished goods inventory—finished goods records.

7. The source documents used in accumulating direct labor costs are time tickets and time cards.

8. Disagree. Entries to Manufacturing Overhead are also made at the end of an accounting period. For example, there will be adjusting entries for factory depreciation, property taxes, and insurance.

9. The source document for materials is the materials requisition slip and the source document for labor is the time ticket. The entries are:

Materials			Labor		
Work in Process Inventory	XX		Work in Process Inventory	XX	
Manufacturing Overhead	XX		Manufacturing Overhead	XX	
Raw Materials Inventory		XX	Factory Labor		XX

10. The purpose of a job cost sheet is to record the costs chargeable to a specific job and to determine the total and unit costs of the completed job.

11. The source documents for charging costs to specific jobs are materials requisition slips for direct materials, time tickets for direct labor, and the predetermined overhead rate for manufacturing overhead.

12. The materials requisition slip is a business document used as an authorization to issue materials from inventory to production. It is approved and signed by authorized personnel so that materials may be removed from inventory and charged to production, to specific jobs, departments, or processes. The materials requisition slip is the basis for posting to the materials inventory records and to the job cost sheet.

13. Disagree. Actual manufacturing overhead cannot be determined until the end of a period of time. Consequently, there could be a significant delay in assigning overhead and in determining the total cost of the completed job.

14. The relationships for computing the predetermined overhead rate are the estimated annual overhead costs and an expected activity base such as direct labor hours. The rate is computed by dividing the estimated annual overhead costs by the expected annual operating activity.

15. At any point in time, the balance in Work in Process Inventory should equal the sum of the costs shown on the job cost sheets of unfinished jobs. Alternatively, posting to Work in Process Inventory may be compared with the sum of the postings to the job cost sheets for each of the manufacturing cost elements.

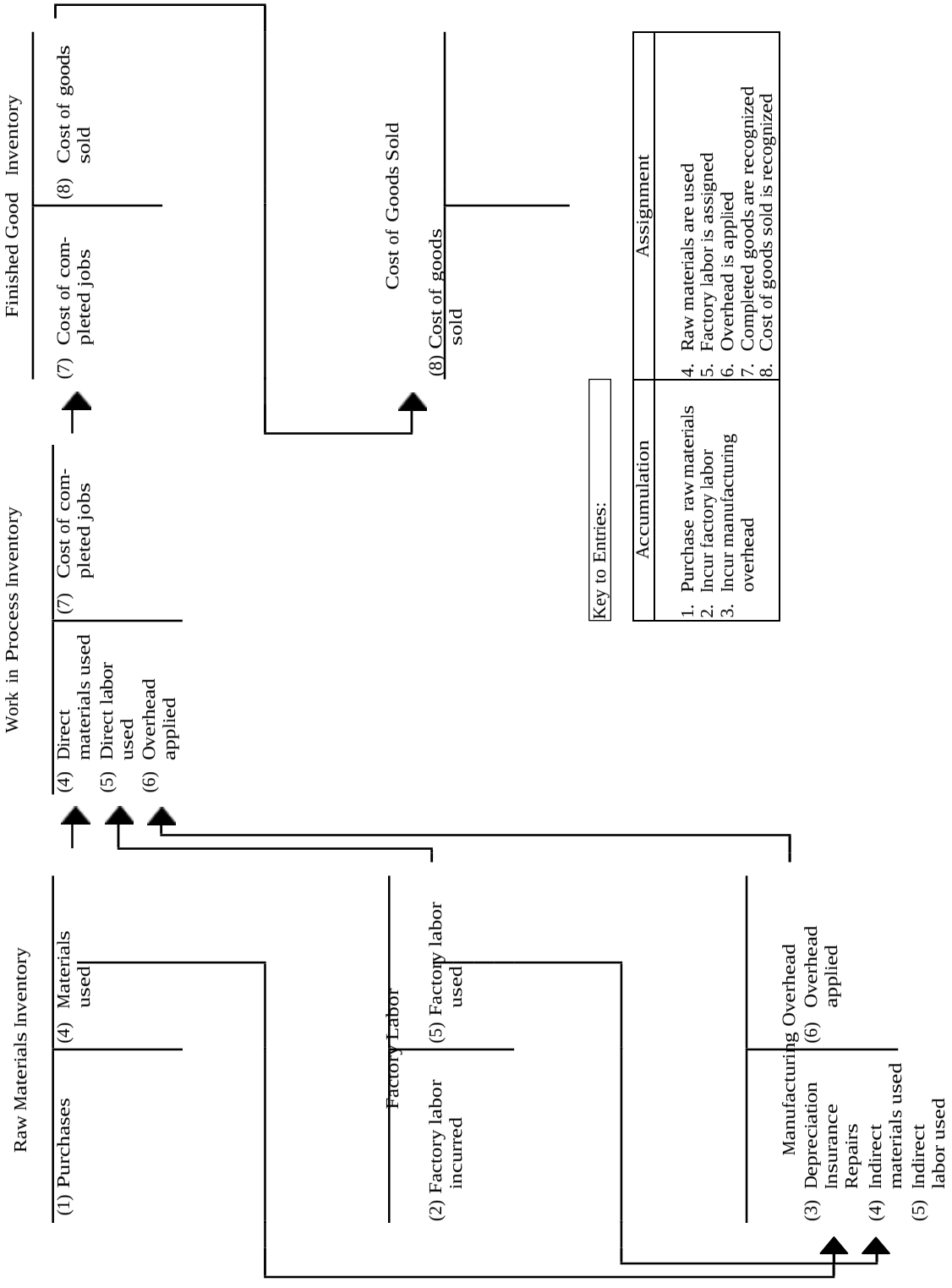
16. Jane is incorrect. There is a difference in computing total manufacturing costs. In job order costing, manufacturing overhead applied is used, whereas in Chapter 1, actual manufacturing overhead is used.

17. Underapplied overhead means that the overhead assigned to work in process is less than the overhead incurred. Overapplied overhead means that the overhead assigned to work in process is greater than the overhead incurred. Manufacturing Overhead will have a debit balance when overhead is underapplied and a credit balance when overhead is overapplied.

18. Under- or overapplied overhead is not closed to Income Summary. The balance in Manufacturing Overhead is eliminated through an adjusting entry. Under- or overapplied overhead generally is considered to be an adjustment of Cost of Goods Sold.

SOLUTIONS TO BRIEF EXERCISES

BRIEF EXERCISE 2-1



BRIEF EXERCISE 2-2

Jan. 31	Raw Materials Inventory	4,000	
	Accounts Payable		4,000
31	Factory Labor	6,000	
	Factory Wages Payable		5,200
	Employer Payroll Taxes Payable		800
31	Manufacturing Overhead	2,000	
	Utilities Payable		2,000

BRIEF EXERCISE 2-3

Jan. 31	Work in Process Inventory	2,800	
	Manufacturing Overhead	600	
	Raw Materials Inventory		3,400

BRIEF EXERCISE 2-4

Jan. 31	Work in Process Inventory	5,200	
	Manufacturing Overhead	800	
	Factory Labor		6,000

BRIEF EXERCISE 2-5

Job 1		
Date	Direct Materials	Direct Labor
1/31	900	
1/31		2,200

Job 2		
Date	Direct Materials	Direct Labor
1/31	1,200	
1/31		1,600

Job 3		
Date	Direct Materials	Direct Labor
1/31	700	
1/31		1,400

BRIEF EXERCISE 2-6

Overhead rate per direct labor cost is 180%, or ($900,000 ÷ $500,000).
Overhead rate per direct labor hour is $18, or ($900,000 ÷ 50,000 DLH).
Overhead rate per machine hour is $9, or ($900,000 ÷ 100,000 MH).

BRIEF EXERCISE 2-7

Jan. 31	Work in Process Inventory	28,000	
	Manufacturing Overhead		
	($40,000 X 70%).....		28,000
Feb. 28	Work in Process Inventory	21,000	
	Manufacturing Overhead		
	($30,000 X 70%).....		21,000
Mar. 31	Work in Process Inventory	35,000	
	Manufacturing Overhead		
	($50,000 X 70%).....		35,000

BRIEF EXERCISE 2-8

Mar. 31	Finished Goods Inventory	50,000	
	Work in Process Inventory.....		50,000
31	Cash	35,000	
	Sales Revenue		35,000
31	Cost of Goods Sold.....	20,000	
	Finished Goods Inventory.....		20,000

BRIEF EXERCISE 2-9

Service Contracts in Process	28,000	
Operating Overhead.....	8,000	
Service Salaries and Wages		36,000
Service Contracts in Process		
($28,000 X .25)	7,000	
Operating Overhead		7,000

BRIEF EXERCISE 2-10

Shimeca Company

Dec. 31	Cost of Goods Sold	1,200	
	Manufacturing Overhead		1,200

Garcia Company

Dec. 31	Manufacturing Overhead	900	
	Cost of Goods Sold		900

SOLUTIONS FOR DO IT! REVIEW EXERCISES

DO IT! 2-1

(a)	Raw Materials Inventory	18,000	
	Accounts Payable		18,000
	(Purchases of raw materials on account)		
(b)	Factory Labor	40,000	
	Factory Wages Payable		31,000
	Employer Payroll Taxes Payable		9,000
	(To record factory labor costs)		
(c)	Manufacturing Overhead	15,300	
	Accumulated Depreciation—Buildings		9,500
	Utilities Payable		3,100
	Prepaid Property Taxes		2,700
	(To record overhead costs)		

DO IT! 2-2

The three summary entries are:

Work in Process Inventory ($7,200 + $9,000)	16,200	
Raw Materials Inventory.....		16,200
(To assign materials to jobs)		
Work Process Inventory ($4,000 + $8,000)	12,000	
Factory Labor.....		12,000
(To assign labor to jobs)		
Work in Process Inventory ($5,200 + $9,800)	15,000	
Manufacturing Overhead		15,000
(To assign overhead to jobs)		

DO IT! 2-3

The predetermined overhead for Washburn Company is:

$200,000 ÷ 2,500 hours = $80.00

The amount of overhead assigned to number 551 would be:

90 hours × $80.00 = $7,200

The entry to record the assignment of overhead to job number 551 on January 15th is:

January 15	Work in Process Inventory.....	7,200	
	Manufacturing Overhead		7,200
	(To assign overhead to jobs)		

2-10

DO IT! 2-4

Finished Goods Inventory	120,000	
Work in Process Inventory.....		120,000
(To record completion of Job 310, costing $70,000 and Job 312, costing $50,000)		
Accounts Receivable	90,000	
Sales Revenue		90,000
(To record sale of Job 312)		
Cost of Goods Sold.....	50,000	
Finished Goods Inventory.....		50,000
(To record cost of goods sold for Job 312)		

DO IT! 2-5

Manufacturing overhead applied = 130% X $85,000 = $110,500
Underapplied manufacturing overhead = $115,000 – $110,500 = $4,500

SOLUTIONS TO EXERCISES

EXERCISE 2-1

(a)	Factory Labor		90,000	
	Factory Wages Payable			76,000
	Employer Payroll Taxes Payable			8,000
	Employer Fringe Benefits Payable			6,000
(b)	Work in Process Inventory ($90,000 X 85%)		76,500	
	Manufacturing Overhead		13,500	
	Factory Labor			90,000

EXERCISE 2-2

(a)	May 31	Work in Process Inventory	10,400	
		Manufacturing Overhead	800	
		Raw Materials Inventory		11,200
	31	Work in Process Inventory	12,500	
		Manufacturing Overhead	1,200	
		Factory Labor		13,700
	31	Work in Process Inventory ($12,500 X 60%)	7,500	
		Manufacturing Overhead		7,500
	31	Finished Goods Inventory	7,540	
		Work in Process Inventory ($2,000 + $2,500 + $1,900 + $1,140*)		7,540

*$1,900 X 60%

(b)

Work in Process Inventory

May	1	Balance	3,500	May 31	7,540
	31		10,400		
	31		12,500		
	31		7,500		
May	31	Balance	26,360		

2-12

EXERCISE 2-2 (Continued)

Job Cost Sheets

Job No.	Beginning Work in Process	Direct Material	Direct Labor	Manufacturing* Overhead	Total
430	$1,500	$3,500	$ 3,000	$1,800	$ 9,800
431	0	4,400	7,600	4,560	16,560
	$1,500	$7,900	$10,600	$6,360	$26,360

*Direct labor X .60

EXERCISE 2-3

(a) 1. $15,200, or ($5,000 + $6,000 + $4,200).

2. Last year 70%, or ($4,200 ÷ $6,000); this year 80% (either $6,400 ÷ $8,000 or $3,200 ÷ $4,000).

(b)	Jan. 31	Work in Process Inventory	8,000	
		Raw Materials Inventory		8,000
	31	Work in Process Inventory	12,000	
		Factory Labor		12,000
	31	Work in Process Inventory	9,600	
		Manufacturing Overhead.....		9,600
	31	Finished Goods Inventory	44,800	
		Work in Process Inventory.....		44,800

EXERCISE 2-4

(a) + $50,000 + $42,500 = $145,650
(a) = $53,150

$145,650 + (b) = $201,500
(b) = $55,850

$201,500 – (c) = $192,300
(c) = $9,200

EXERCISE 2-4 (Continued)

[Note: The instructions indicate that manufacturing overhead is applied on the basis of direct labor cost, and the rate is the same in all cases. From Case A, a student should note the overhead rate to be 85%, or ($42,500 ÷ $50,000).]

(d) = .85 X $140,000
(d) = $119,000

$83,000 + $140,000 + $119,000 = (e)
(e) = $342,000

$342,000 + $15,500 = (f)
(f) = $357,500

$357,500 – $11,800 = (g)
(g) = $345,700

[Note: (h) and (i) are solved together.]

(i) = .85(h)
$63,150 + (h) + .85(h) = $213,000
1.85(h) = $149,850
(h) = $81,000
(i) = $68,850

(j) = $213,000 + $18,000
(j) = $231,000

$231,000 – (k) = $222,000
(k) = $9,000

EXERCISE 2-5

(a) $2.40 per machine hour ($300,000 ÷ 125,000 MH).

(b) ($322,000) – ($2.40 x 130,000 Machine Hours)
$322,000 – $312,000 = $10,000 underapplied

(c) Cost of Goods Sold 10,000
Manufacturing Overhead 10,000

2-14

EXERCISE 2-6

(a) (1) The source documents are:

Direct materials—Materials requisition slips.
Direct labor—Time tickets.
Manufacturing overhead—Predetermined overhead rate.

(2) The predetermined overhead rate is 125% of direct labor cost. For example, on July 15, the computation is $550 ÷ $440 = 125%. The same result is obtained on July 22 and 31.

(3) The total cost is:

Direct materials	$4,700
Direct labor	1,360
Manufacturing overhead	1,700
	$7,760

The unit cost is $3.10 ($7,760 ÷ 2,500).

(b)	July 31	Finished Goods Inventory	7,760	
		Work in Process Inventory		7,760

EXERCISE 2-7

1.		Raw Materials Inventory	46,300	
		Accounts Payable		46,300
2.		Work in Process Inventory	29,200	
		Manufacturing Overhead	6,800	
		Raw Materials Inventory		36,000
3.		Factory Labor	59,900	
		Factory Wages Payable		51,000
		Employer Payroll Taxes Payable		8,900
4.		Work in Process Inventory	54,000	
		Manufacturing Overhead	5,900	
		Factory Labor		59,900

2-15

EXERCISE 2-7 (Continued)

5.	Manufacturing Overhead	80,500	
	Accounts Payable		80,500
6.	Depreciation Expense	8,100	
	Accumulated Depreciation—Building		8,100
7.	Work in Process Inventory ($54,000 X 150%)	81,000	
	Manufacturing Overhead		81,000
8.	Finished Goods Inventory	88,000	
	Work in Process Inventory		88,000
9.	Accounts Receivable	103,000	
	Sales Revenue		103,000
	Cost of Goods Sold	75,000	
	Finished Goods Inventory		75,000

EXERCISE 2-8

1.	Raw Materials Inventory	192,000	
	Accounts Payable		192,000
	Factory Labor	87,300	
	Factory Wages Payable		87,300
2.	Work in Process Inventory	153,530	
	Manufacturing Overhead	4,470	
	Raw Materials Inventory		158,000
	Work in Process Inventory	80,000	
	Manufacturing Overhead	7,300	
	Factory Labor		87,300
3.	Manufacturing Overhead	49,500	
	Accounts Payable		49,500

EXERCISE 2-8 (Continued)

4.	Manufacturing Overhead	14,550	
	Accumulated Depreciation—Equipment		14,550
5.	Depreciation Expense	14,300	
	Accumulated Depreciation—Building		14,300
6.	Work in Process Inventory	72,000	
	Manufacturing Overhead (90% X $80,000)		72,000
7.	Finished Goods Inventory	240,930	
	Work in Process Inventory		240,930

Computation of cost of jobs finished:

Job	Direct Materials	Direct Labor	Manufacturing Overhead	Total
A20	$35,240	$18,000	$16,200	$ 69,440
A21	42,920	22,000	19,800	84,720
A23	39,270	25,000	22,500	86,770
				$240,930

EXERCISE 2-9

(a)

LOPEZ COMPANY
Cost of Goods Manufactured Schedule
For the Month Ended May 31, 2017

Work in process, May 1		$ 14,700
Direct materials used	$62,400	
Direct labor	50,000	
Manufacturing overhead applied	40,000	
Total manufacturing costs		152,400
Total cost of work in process		167,100
Less: Work in process, May 31		15,900
Cost of goods manufactured		$151,200

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EXERCISE 2-9 (Continued)

(b)

LOPEZ COMPANY
(Partial) Income Statement
For the Month Ended May 31, 2017

Sales revenue		$215,000
Cost of goods sold		
Finished goods, May 1	$ 12,600	
Cost of goods manufactured	151,200	
Cost of goods available for sale	163,800	
Less: Finished goods, May 31	9,500	
Cost of goods sold		154,300
Gross profit		$60,700

(c)

LOPEZ COMPANY
(Partial) Balance sheet
May 31, 2017

Current assets:		
Finished goods inventory	$ 9,500	
Work in process inventory	15,900	
Raw materials inventory	7,100	$32,500

EXERCISE 2-10

(a) Work in Process Inventory

April 30	$ 9,300	(#10, $5,200 + #11, $4,100)
May 31	$18,600	(#11, $8,000 + #13, $4,700 + #14, $5,900)
June 30	$ 9,500	(#14, $5,900 + $3,600)

(b) Finished Goods Inventory

April 30	$ 1,200	(#12)
May 31	$ 9,600	(#10)
June 30	$19,200	(#11, $10,000 + #13, $9,200)

(c) Gross Profit

Month	Job Number	Sales	Cost of Goods Sold	Gross Profit
May	12	$ 1,500	$ 1,200	$ 300
June	10	12,000	9,600	2,400
July	11/13	24,000	19,200	4,800

2-18

EXERCISE 2-11

(a)

1.	Supplies	1,800	
	Accounts Payable		1,800
2.	Service Contracts in Process.....	720	
	Operating Overhead	480	
	Supplies		1,200
3.	Service Contracts in Process.....	56,000	
	Operating Overhead	14,000	
	Service Salaries and Wages.....		70,000
4.	Operating Overhead	40,000	
	Cash		40,000
5.	Service Contracts in Process ($56,000 X 90%)	50,400	
	Operating Overhead.....		50,400
6.	Cost of Completed Service Contracts	75,000	
	Service Contracts in Process...		75,000

(b)

Service Contracts in Process

2.	720	75,000	(6)
3.	56,000		
5.	50,400		
	32,120		

EXERCISE 2-12

(a)	Lynn	Brian	Mike
Direct materials	$ 600	$ 400	$ 200
Auditor labor costs	5,400	6,600	3,375
Applied overhead	3,600	4,400	2,250
Total cost	$9,600	$11,400	$5,825

(b) The Lynn job is the only incomplete job, therefore, $9,600.

(c)	
Actual overhead	$11,000 (DR)
Applied overhead	10,250 (CR)
Balance	$ 750 (DR)

EXERCISE 2-13

(a) Predetermined overhead rate = Estimated overhead ÷ Estimated decorator hours
= $960,000 ÷ 40,000 decorator hours
= $24 per decorator hour

(b) Service Contracts in Process (40,500 hrs X $24) 972,000
Operating Overhead..... 972,000

(c)	
Actual overhead	$982,800
Applied overhead	972,000
Balance	$10,800 underapplied

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SOLUTIONS TO PROBLEMS

PROBLEM 2-1A

(a) $840,000 ÷ $700,000 direct labor costs = 120% of direct labor costs

(b) See solution to part (e) for job cost sheets

(c)	Raw Materials Inventory	90,000	
	Accounts Payable		90,000
	Factory Labor	70,000	
	Factory Wages Payable		54,000
	Employer Payroll Taxes Payable		16,000
	Manufacturing Overhead	65,000	
	Accounts Payable		16,000
	Accumulated Depreciation—Equipment		12,000
	Raw Materials Inventory		17,000
	Factory Labor		20,000
(d)	Work in Process Inventory	79,000	
	Raw Materials Inventory ($10,000 + $39,000 + $30,000)		79,000
	Work in Process Inventory	50,000	
	Factory Labor ($5,000 + $25,000 + $20,000)		50,000
	Work in Process Inventory	60,000	
	Manufacturing Overhead ($50,000 X 120% of direct labor costs)		60,000

See solution to part (e) for postings to job cost sheets.

PROBLEM 2-1A (Continued)

(b) &(e) Job Cost Sheets

Job No. 50

Date	Direct Materials	Direct Labor	Manufacturing Overhead
Beg.	$20,000	$12,000	$16,000
Jan.	10,000	5,000	6,000*
	$30,000	$17,000	$22,000

Cost of completed job	
Direct materials	$30,000
Direct labor	17,000
Manufacturing overhead	22,000
Total cost	$69,000

*$5,000 X 120%

Job No. 51

Date	Direct Materials	Direct Labor	Manufacturing Overhead
Jan.	$39,000	$25,000	$30,000**
	$39,000	$25,000	$30,000

Cost of completed job	
Direct materials	$39,000
Direct labor	25,000
Manufacturing overhead	30,000
Total cost	$94,000

**$25,000 X 120%

Job No. 52

Date	Direct Materials	Direct Labor	Manufacturing Overhead
Jan.	$30,000	$20,000	$24,000***

***$20,000 X 120%

	Finished Goods Inventory	163,000	
	Work in Process Inventory ($69,000 + $94,000)		163,000
(f)	Accounts Receivable	280,000	
	Sales Revenue ($122,000 + $158,000)		280,000
	Cost of Goods Sold	159,000	
	Finished Goods Inventory ($90,000 + $69,000)		159,000

(g)

Finished Goods Inventory

Beginning balance	90,000	159,000	Cost of jobs 49 and 50 sold
Cost of completed jobs 50 and 51	163,000		
Ending balance	94,000		

The balance in this account consists of the cost of completed Job No. 51 which has not yet been sold.

(h) Manufacturing Overhead

Actual	Applied
65,000	60,000
5,000	

The balance in the Manufacturing Overhead account is underapplied.

PROBLEM 2-2A

(a)

Work in Process Inventory

1/1	Balance (1)	128,400	Completed work (5) (c)	386,200
	Direct materials (2)	131,000		
	Direct labor (3)	139,000		
	Manufacturing overhead (4)	166,800		
12/31	Balance	179,000		

(1)

Job 7640	$ 77,800
Job 7641	50,600
	$128,400

(2)

Job 7640	$ 30,000
Job 7641	43,000
Job 7642	58,000
	$131,000

(3)

Job 7640	$ 36,000
Job 7641	48,000
Job 7642	55,000
	$139,000

(4)

Job 7640	$ 43,200
Job 7641	57,600
Job 7642	66,000
	$166,800

(5) (a) Job 7640

Beginning balance	$ 77,800
Direct materials	30,000
Direct labor	36,000
Manufacturing overhead	43,200
	$187,000

(b) Job 7641

Beginning balance	$ 50,600
Direct materials	43,000
Direct labor	48,000
Manufacturing overhead	57,600
	$199,200

(c) Total cost of completed work

Job 7640	$187,000
Job 7641	199,200
	$386,200

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PROBLEM 2-2A (Continued)

Work in process balance.....		$179,000
Unfinished job No. 7642		$179,000 (a)

(a) Current year's cost

Direct materials.....	$ 58,000
Direct labor	55,000
Manufacturing overhead	66,000
	$179,000

(b) Actual overhead costs

Incurred on account.....	$120,000
Indirect materials	14,000
Indirect labor	18,000
Depreciation	8,000
	$160,000

Applied overhead costs

Job 7640.....	$ 43,200
Job 7641.....	57,600
Job 7642.....	66,000
	$166,800

Actual overhead.....	$160,000
Applied overhead.....	166,800
Overapplied overhead	$ 6,800

Manufacturing Overhead	6,800	
Cost of Goods Sold.....		6,800

(c)

Sales revenue (given).....		$530,000
Cost of goods sold		
Add: Job 7638	$ 87,000	
Job 7639	92,000	
Job 7641	199,200	
	378,200	
Less: Overapplied overhead.....	6,800	371,400
Gross profit		$158,600

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PROBLEM 2-3A

(a)

(1)	Raw Materials Inventory	4,900	
	Accounts Payable		4,900
	Factory Labor	4,800	
	Cash		4,800
	Manufacturing Overhead	1,300	
	Accumulated Depreciation—Equipment		900
	Accounts Payable		400
(2)	Work in Process Inventory	4,900	
	Manufacturing Overhead	1,500	
	Raw Materials Inventory		6,400
	Work in Process Inventory	3,600	
	Manufacturing Overhead	1,200	
	Factory Labor		4,800
	Work in Process Inventory ($3,600 X 1.25)	4,500	
	Manufacturing Overhead		4,500
(3)	Finished Goods Inventory	14,740	
	Work in Process Inventory		14,740

Job	Direct Materials	Direct Labor	Manufacturing Overhead*	Total Costs
Rogers	$1,700	$1,560	$1,950	$ 5,210
Stevens	1,300	900	1,125	3,325
Linton	2,200	1,780	2,225	6,205
				$14,740

*125% X direct labor amount

Cash	18,900	
Sales revenue		18,900
Cost of Goods Sold	14,740	
Finished Goods Inventory		14,740

(b)

Work in Process Inventory					
6/1	Balance	5,540	June	Completed work	14,740
	Direct materials	4,900			
	Direct labor	3,600			
	Overhead applied	4,500			
6/30	Balance	3,800			

(c) Work in Process Inventory..... $3,800

Job: Koss (Direct materials $2,000 + Direct labor $800 + Manufacturing overhead $1,000) $3,800

(d)

CASE INC.
Cost of Goods Manufactured Schedule
For the Month Ended June 30, 2017

Work in process, June 1.....		$ 5,540
Direct materials used	$4,900	
Direct labor.....	3,600	
Manufacturing overhead applied.....	4,500	
Total manufacturing costs		13,000
Total cost of work in process		18,540
Less: Work in process, June 30		3,800
Cost of goods manufactured		$14,740

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PROBLEM 2-4A

(a) Department D: $1,200,000 ÷ $1,500,000 = 80% of direct labor cost.
Department E: $1,500,000 ÷ 125,000 = $12.00 per direct labor hour.
Department K: $900,000 ÷ 120,000 = $7.50 per machine hour.

(b)

	Department		
Manufacturing Costs	D	E	K
Direct materials	$140,000	$126,000	$ 78,000
Direct labor	120,000	110,000	37,500
Overhead applied	96,000*	132,000**	78,000***
Total	$356,000	$368,000	$193,500

*$120,000 X 80%
**11,000 X $12.00
***10,400 X $7.50

(c)

	Department		
Manufacturing Overhead	D	E	K
Incurred	$99,000	$124,000	$79,000
Applied	96,000	132,000	78,000
Under (over) applied	$3,000	$ (8,000)	$ 1,000

PROBLEM 2-5A

(a) $7,600 ($16,850 + $7,975 – $17,225).

(b) $36,000 [$9,750 + $15,000 + (75% X $15,000)]. (Given in other data).

(c) $13,950 ($16,850 – $2,900).

(d) $6,300 ($8,400 X 75%).

(e) $12,200 [Given in other data—$3,800 + $4,800 + (75% X $4,800)].

(f) $52,450 ($36,000 + $13,950 + $8,400 + $6,300 – $12,200).

(g) $5,000 (Given in other data).

(h) $52,450 (See (f) above).

(i) $53,450 ($5,000 + $52,450 – $4,000).

(j) $4,000 (Given in other data).

(k) $12,025 (Equal to factory labor incurred).

(l) $3,625 ($12,025 – $8,400).

(m) $6,300 ($7,770* – $1,470) or (Same as (d)).

*$2,900 + $3,625 + $1,245

Cost for one kayak:

Direct Materials		
Polyethylene powder	54 pounds @ $1.50 per pound	$ 81
Finishing kit	1 kit @ $170	170
Direct Labor		
More skilled	2 hours @ $15 per hour	30
Less skilled	3 hours @ $12 per hour	36
Manufacturing overhead		
150% of direct labor costs	150% * $66	99
Total cost for one kayak		$ 416
Cost for order of 20 kayaks		
$416 per kayak * 20 kayaks		$8,320

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BYP 2-1 DECISION-MAKING ACROSS THE ORGANIZATION

(a) The manufacturing cost element that is responsible for the fluctuating unit costs is manufacturing overhead. Manufacturing overhead is being included as incurred rather than being applied on a predetermined basis. Direct materials and direct labor are not the cause as they have the same unit cost per batch in each quarter.

(b) The solution is to apply overhead using a predetermined overhead rate based on a relevant basis of production activity. Based on actual overhead incurred and using batches of product TC-1 as the activity base, the overhead rate is $16,000 per batch [($105,000 + $153,000 + $97,000 + $125,000) ÷ 30]. Another approach would be to use direct labor cost as the relevant basis to apply overhead on a predetermined basis. For example, a rate of 133 1/3% of direct labor cost ($480,000 ÷ $360,000) could be used. Either approach will provide the same result.

(c) The quarterly results using a predetermined overhead rate based on batches produced are as follows:

	Quarter			
Costs	1	2	3	4
Direct materials	$100,000	$220,000	$ 80,000	$200,000
Direct labor	60,000	132,000	48,000	120,000
Manufacturing overhead Applied ($16,000 X batches)	80,000	176,000	64,000	160,000
Total (a)	$240,000	$528,000	$192,000	$480,000
Production in batches (b)	5	11	4	10
Unit cost (per batch) ÷ (b)	$48,000	$48,000	$48,000	$48,000 (a)

(Note: The unit cost of a batch remains the same in each quarter. Both sales and production should be pleased with this solution to fluctuating unit costs.)

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1. (a) Work in Process Inventory 25,000
Raw Materials Inventory..... 25,000

(b) If not corrected, the balance sheet is affected. Cash is understated and Raw Materials Inventory is overstated.

2. (a) Sales Bonus Expense..... 12,000
Cash 12,000

(b) Both the income statement and the balance sheet are affected. In the income statement, Sales Bonus Expense is understated, Income Tax Expense is overstated, and net income is overstated. The error causes the underapplied overhead to be overstated or the overapplied overhead to be understated. This affects Cost of Goods Sold, since the over- or underapplied balance is closed out to Cost of Goods Sold. The error in Cost of Goods Sold also has an effect on Retained Earnings. Also, Retained Earnings is overstated because of the overstatement of net income, and Income Taxes Payable is overstated.

3. (a) Factory Labor 120,000
Factory Wages Payable..... 102,000
Employer Payroll Taxes Payable..... 18,000

(b) If not corrected, both the income statement and the balance sheet are affected. On the income statement, Cost of Goods Sold is understated and Wages Expense is overstated. On the balance sheet, Cash, Factory Wages Payable, and Employer Payroll Taxes Payable are understated.

4. (a) Manufacturing Overhead..... 3,000
Raw Materials Inventory 3,000

(b) Both the income statement and balance sheet are affected. If units that were in process during the month have been sold, then in the income statement Cost of Goods Sold is overstated, Income Tax Expense is understated, and net income is understated. This causes the Retained Earnings and Income Taxes Payable in the balance sheet to be understated. Also the error causes underapplied overhead to be understated or overapplied overhead to be overstated. This affects Cost of Goods Sold, since the over- or underapplied balance is closed out to Cost of Goods Sold. The error in Cost of Good Sold also has an affect on Retained Earnings.

(a) Candidates for the CMA or CFM Certificate must complete two continuous years of professional experience in management accounting or financial management. This requirement may be completed prior to or within seven years of passing the examination.

(b) CMAs, CFMs, and candidates who have completed the CMA and/or the CFM examination but have not yet met the experience requirement, are required to maintain their proficiency in the fields of management accounting and financial management. This includes knowledge of new concepts and techniques as well as their application in the management accounting and financial management professions. The objective is to maintain the professional competence of the individual and to enhance one's ability to perform job-related requirements. Persons who have retired need not meet continuing education requirements. The continuing requirement is 30 hours per year and at least 2 of those hours must be ethics-related.

A broad range of subjects may be included in the programs for which hours of credit will be given. The subjects should be related to the topics covered on the CMA/CFM examination and/or to an individual's job responsibilities. Illustrative of the subjects that may qualify are: all aspects of accounting, financial management, business applications of mathematics and statistics, computer science, economics, management, production, marketing, business law, and organizational behavior.

Williams Company
Date

Nancy Kopay
123 Cedar Lane
Altoona, Kansas 66651

Dear Ms. Kopay:

Thank you for your prompt payment! I am very glad that you found the cost information helpful.

Thank you also for your questions about our overhead costs. We do try to provide our customers with as much information as possible, but we cannot give detailed information on overhead costs. The cost of providing such information is prohibitive.

You asked why we do not use actual overhead costs when we bill our customers. We estimate overhead costs, rather than use actual costs, for several reasons. One of the most important reasons for you is that we could not prepare bills in a timely manner if we had to use actual overhead. We would have to wait until we were billed for such things as electricity and telephone service. A second reason is that some costs we include in overhead are only payable once or twice a year, such as insurance and taxes. When we use an estimated rate, we are able to allow for those costs. A third reason is that some costs are fixed, which means that they stay the same in dollar amount from month to month. This category includes items such as rent. If we billed you based on our actual costs, you would be billed a higher amount if your work was done during a slow time (because we would have fewer jobs to spread the costs over). An estimated overhead rate allows us to level out these costs.

BYP 2-4 (Continued)

I hope this answers some of your questions. I'm glad you are interested in our company and that you took the time to write. I am sending a copy of our annual report under separate cover. It contains some details on the information you asked about.

Thanks again for your letter and for having Williams make your new

cabinets! Sincerely,

Student

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BYP 2-5	ETHICS CASE

(a) The stakeholders in this situation are:

- Alice Reiley, controller for LRF Printing.
- The president of LRF Printing.
- The customers of LRF Printing.
- The competitors of LRF Printing.

(b) Padding cost-plus contracts is both unethical and illegal. Alice is faced with an ethical dilemma. She will be in trouble with the president if she doesn't follow his directive, and she will be committing an unethical act if she does follow his instructions.

(c) Alice should continue to accurately account for cost-plus contracts and, if challenged by the president, she should say that she is doing her very best to charge each and every legitimate cost to the cost-plus contracts. Let the president perform the unethical act if he continues to persist in padding costs.

(a) Your chances of success in small business are increased if you have the following characteristics: You are a self-starter, you get along with many different kinds of people, you are good at making decisions, you have physical and emotional stamina, you are well organized, you have a strong desire to succeed and you will receive family support during the start up phase.

(b) The top ten reasons why businesses fail as cited in the books Small Business Management by Michael Ames, and The Do it Yourself BusinessBook by Gustav Berle are:

1. Lack of experience
2. Insufficient capital (money)
3. Poor location
4. Poor inventory management
5. Over-investment in fixed assets
6. Poor credit arrangements
7. Personal use of business funds
8. Unexpected growth
9. Competition
10. Low sales

BYP 2-7 CONSIDERING YOUR COSTS AND BENEFITS

Discussion guide: The situation presented is a difficult one because you are presently receiving some help for free. It would seem that the best strategy is to price your services based on what it would cost you to do the landscape business without any free help. In the long run, it is going to be impossible to continue unless you can cover these costs. In addition, if you underprice your services today, your customers may expect your prices will remain as low in the future. That probably cannot happen, given that your costs will increase substantially after the first two years. However, we should note that it is not unusual to start a small business with some assets available to you. Then, as your business grows, you acquire additional assets to meet your needs. After all, you may need a low price to get started, and as you gain experience you will be able to charge more or become more efficient.

So what to do? Let's address your old truck first. You should treat the truck as an asset owned by your business. Put it on your books at its fair value, and depreciate it over a reasonable life. This will result in an overhead charge. You need to cover the cost of that truck, as you will have to buy another one some day. The land, barn, and your mother's services are a little more difficult. If you rented the land and barn and if you paid an assistant, all of these costs would be charged to overhead. (The assistant would be indirect labor.) You are currently getting all these services for free. This is a good situation now, and you may need this situation early in your business to help you get started. But you should recognize that even if you run your business profitably for the first two years, you may have problems beginning in the third year. Thus, it would seem prudent to establish a budget based on both scenarios for the first two years. If you can charge based on your expected costs in the future, do so. If that is not realistic, because you need to establish yourself and get more experience, then charge less. But be sure from the start to cover a reasonable amount of your costs, or the business does not make sense for you financially.