

CHAPTER 16 (FIN MAN); CHAPTER 2 (MAN) JOB ORDER COSTING

DISCUSSION QUESTIONS

1.
 - a. Job order cost system and process cost system.
 - b. The job order cost system provides a separate record of each quantity of product that passes through the factory.
 - c. Process cost systems accumulate costs for each department or process within a factory.
2. Job order costing is used by firms that sell custom goods and services to customers. The job order system is frequently associated with firms that will produce a product or service specifically to a customer order.
3. Work in Process
4.
 - a. Purchase invoice or receiving report
 - b. Materials requisition
5. A job cost sheet is the subsidiary ledger to the work in process control account. The cost of materials, labor, and overhead are listed on each separate job cost sheet for each job. A summary of all the job cost sheets during an accounting period is the basis for journal entries to the control accounts.
6. The clock card is a means of recording the hours spent by employees in the factory. The time ticket is a means of recording the time the employee spends on a specific job.
7. The predetermined overhead rate is computed using estimated amounts at the beginning of the period. This is because managers need timely information on the product costs of each job. If a company waited until all overhead costs were known at the end of the period, the allocated factory overhead would be accurate, but not timely. Only through timely reporting can managers adjust manufacturing methods or product pricing.
8.
 - a. The predetermined factory overhead rate is determined by dividing the estimated total factory overhead costs for the forthcoming year by an estimated activity base, one that reflects the consumption or use of factory overhead costs.
 - b. Direct labor cost, direct labor hours, and machine hours.
9.
 - a.
 - (1) If the amount of factory overhead applied is greater than the actual factory overhead incurred, factory overhead is overapplied.
 - (2) If the amount of actual factory overhead is greater than the amount applied, factory overhead incurred is underapplied.
 - b. Underapplied
 - c. Deferred credit

DISCUSSION QUESTIONS (Continued)

10. Job order cost accumulation would be most appropriate for professional service firms that provide extended, project-type services for clients. Examples would be architectural, consulting, advertising, or legal services. Job cost sheets would accumulate all direct costs of servicing the client. Such costs would include labor, materials, travel, and subcontracted services. In addition, overhead would be applied using a predetermined overhead rate. The costs accumulated by the job cost sheet would be treated as work in process (a current asset) until the service is completed. Once completed, the cost would be transferred to the cost of services on the income statement.

BASIC EXERCISES**BE 16-1 (FIN MAN); BE 2-1 (MAN)**

May	7	Materials	80,000	
		Accounts Payable		80,000
		\$80,000 = 10,000 × \$8.		
May	31	Work in Process*	67,400	
		Materials		67,400

* Job 200	\$60,000	= 7,500 × \$8
Job 305	<u>7,400</u>	= 1,480 × \$5
Total	<u>\$67,400</u>	

BE 16-2 (FIN MAN); BE 2-2 (MAN)

Work in Process*	142,000	
Wages Payable		142,000

* Job 200	\$ 70,000	= 2,500 hours × \$28
Job 305	<u>72,000</u>	= 3,000 hours × \$24
Total	<u>\$142,000</u>	

BE 16-3 (FIN MAN); BE 2-3 (MAN)

Factory Overhead	29,200	
Materials		8,800
Wages Payable		6,600
Utilities Payable		4,800
Accumulated Depreciation—Factory		9,000

BE 16-4 (FIN MAN); BE 2-4 (MAN)

a. \$7.75 per direct labor hour = \$620,000 ÷ 80,000 direct labor hours

b. Job 200 \$19,375 = 2,500 hours × \$7.75 per hour
 Job 305 23,250 = 3,000 hours × \$7.75 per hour
\$42,625

c.

Work in Process	42,625	
Factory Overhead		42,625

BE 16–5 (FIN MAN); BE 2–5 (MAN)

a.	<u>Job 200</u>	<u>Job 305</u>
Direct materials	\$ 60,000	\$ 7,400
Direct labor	70,000	72,000
Factory overhead.....	<u>19,375</u>	<u>23,250</u>
Total costs	<u>\$149,375</u>	<u>\$102,650</u>

- b. Job 200 \$62.50 = \$149,375 ÷ 2,390 units
 Job 305 \$50.00 = \$102,650 ÷ 2,053 units

BE 16–6 (FIN MAN); BE 2–6 (MAN)

$$\$3,085,000 = \$310,000 + (185,000 \times \$15.00^*)$$

* Cost per unit of goods produced during the year = \$15.00 = \$3,000,000 ÷ 200,000 units

EXERCISES**Ex. 16–1 (FIN MAN); Ex. 2–1 (MAN)**

- a. Materials requisitioned for use (both direct and indirect)
- b. Factory labor used (both direct and indirect)
- c. Application of factory overhead costs to jobs
- d. Jobs completed
- e. Goods sold

Ex. 16–2 (FIN MAN); Ex. 2–2 (MAN)

a. <u>Cost of goods sold:</u>		
Sales.....	\$12,375,000	
Less gross profit	<u>(5,200,000)</u>	
Cost of goods sold		<u>\$ 7,175,000</u>
b. <u>Direct materials cost:</u>		
Materials purchased.....		\$4,125,000
Less: Indirect materials.....	\$ 180,000	
Materials inventory	<u>290,000</u>	<u>(470,000)</u>
Direct materials cost		<u>\$3,655,000</u>
c. <u>Direct labor cost:</u>		
Total manufacturing costs for the period		\$ 7,880,000
Less: Direct materials cost	\$3,655,000	
Factory overhead*	<u>1,400,000</u>	<u>(5,055,000)</u>
Direct labor cost		<u>\$ 2,825,000</u>

* \$410,000 + \$180,000 + \$810,000

Ex. 16-3 (FIN MAN); Ex. 2-3 (MAN)

a.

RECEIVED			ISSUED			BALANCE			
Receiving Report Number	Quantity	Unit Price	Materials Requisition Number	Quantity	Amount	Date	Quantity	Unit Price	Amount
						May 1	285	\$30.00	\$8,550
40	130	\$32				May 4	285	\$30.00	8,550
							130	\$32.00	4,160
			91	365	\$11,110 [*]	May 10	50	\$32.00	1,600
44	110	38				May 21	50	\$32.00	1,600
							110	\$38.00	4,180
			97	100	3,500 ^{**}	May 27	60	\$38.00	2,280

* May 10 issuance	285 at \$30.00	\$ 8,550
	80 at \$32.00	2,560
		<u>\$11,110</u>

** May 27 issuance	50 at \$32.00	\$ 1,600
	50 at \$38.00	1,900
		<u>\$ 3,500</u>

b. Ending inventory balance:

60 at \$38.00.....	\$2,280
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c.

Work in Process (\$11,110 + \$3,500)	14,610	
Materials		14,610

d. Comparing quantities on hand as reported in the materials ledger with predetermined order points enables management to order materials before a lack of materials causes idle time. Also, the subsidiary ledger can include columns for recording quantities ordered so that management can have easy access to information about materials on order.

Ex. 16-4 (FIN MAN); Ex. 2-4 (MAN)

Work in Process	2,195,000	
Factory Overhead	150,000	
Materials		2,345,000

Ex. 16-5 (FIN MAN); Ex. 2-5 (MAN)

a.	Materials*	1,770,000	
	 Accounts Payable		1,770,000

* \$820,000 + \$315,000 + \$555,000 + \$80,000

b.	Work in Process*	1,664,000	
	 Factory Overhead	83,600	
	 Materials		1,747,600

* \$374,700 + \$736,400 + \$552,900

c.		Polyester			
		 Filling			
			Lumber	Glue	
	Balance, April 1	\$ 58,300	\$ 30,000	\$ 58,800	\$ 9,950
	April purchases	820,000	315,000	555,000	80,000
	April requisitions	(810,000)	(320,000)	(534,000)	(83,600)
	Balance, April 30.....	<u>\$ 68,300</u>	<u>\$ 25,000</u>	<u>\$ 79,800</u>	<u>\$ 6,350</u>

Ex. 16-6 (FIN MAN); Ex. 2-6 (MAN)

Work in Process	85,755	
Factory Overhead	8,220	
Wages Payable		93,975

Ex. 16–7 (FIN MAN); Ex. 2–7 (MAN)

a.	Work in Process	3,676	
	Factory Overhead	164	
	Wages Payable		3,840

Supporting calculations:

	Labor Costs (Hourly Rate × Hours)					
	Hourly Rate	Job 301	Job 302	Job 303	Direct Labor (sum of job costs)	Indirect Labor
Tom Couro.....	\$32	\$320	\$480	\$416	\$1,216	\$ 64
David Clancy	36	432	432	504	1,368	72
Jose Cano.....	28	308	364	420	1,092	28
					<u>\$3,676</u>	<u>\$164</u>

- b. The direct labor costs for the completed jobs would become part of the finished goods inventory. The direct labor costs for Job 303 would remain part of the work in process inventory.

Ex. 16–8 (FIN MAN); Ex. 2–8 (MAN)

a.	Work in Process	47,792	
	Factory Overhead	12,500	
	Wages Payable		60,292

b.	Work in Process	37,904	
	Factory Overhead		37,904

$$\$47,792 \div \$29 \text{ per hour} = 1,648 \text{ hours}$$

$$1,648 \text{ hours} \times \$23 \text{ per hour} = \$37,904$$

Ex. 16–9 (FIN MAN); Ex. 2–9 (MAN)

- a. Factory 1: \$14.80 per machine hour ($\$18,500,000 \div 1,250,000$ machine hours)
- b. Factory 2: \$55.00 per direct labor hour ($\$44,000,000 \div 800,000$ direct labor hours)
- c. Factory 1:

Work in Process	1,554,000	
Factory Overhead		1,554,000
($\$14.80 \times 105,000$).		

Factory 2:

Work in Process	3,547,500	
Factory Overhead		3,547,500
($\$55.00 \times 64,500$).		

- d. Factory 1—\$38,200 credit (overapplied) ($\$1,515,800 - \$1,554,000$)
- Factory 2—\$58,800 debit (underapplied) ($\$3,606,300 - \$3,547,500$)

Ex. 16–10 (FIN MAN); Ex. 2–10 (MAN)

The estimated shop overhead is determined as follows:

Shop and repair equipment depreciation	\$ 62,500
Shop supervisor salaries	240,000
Shop property taxes	36,940
Shop supplies	<u>10,000</u>
Total shop overhead	<u>\$349,440</u>

The engine parts and shop labor are direct to the jobs and are not included in the shop overhead rate. The advertising and administrative expenses are selling and administrative expenses that are not included in the shop overhead but are treated as period expenses.

The estimated activity base is determined by dividing the shop direct labor cost by the direct labor rate, as follows:

$$\frac{\$1,872,000}{\$37.50 \text{ per hour}} = 49,920 \text{ hours}$$

The predetermined shop overhead rate is:

$$\frac{\$349,440}{49,920 \text{ hours}} = \$7.00 \text{ per direct labor hour}$$

Ex. 16–11 (FIN MAN); Ex. 2–11 (MAN)

a. Estimated annual operating room overhead: **\$812,000**

Estimated operating room activity base, number of operating room hours:

Hours per day.....	8
Days per week.....	x7
Weeks per year (net of maintenance weeks)	<u>x 50</u>
Estimated annual operating room hours	<u>2,800</u>

Predetermined surgical overhead rate:

$$\frac{\$812,000}{2,800 \text{ hours}} = \$290 \text{ per hour}$$

b. Bill Harris's procedure:

Number of surgical room hours	5
Predetermined surgical room overhead rate	<u>x\$290</u>
Procedure overhead	<u>\$1,450</u>

c. Actual hours used in January	240
Predetermined surgical room overhead rate	<u>x \$290</u>
Surgical room overhead applied, January	\$69,600
Actual surgical room overhead incurred, January	<u>67,250</u>
Overapplied surgical room overhead (credit balance).....	<u>\$ 2,350</u>

Ex. 16–12 (FIN MAN); Ex. 2–12 (MAN)

a.	Finished Goods*	560,240	
	Work in Process		560,240

* \$182,500 + \$78,300 + \$232,190 + \$67,250

b.	Work in process inventory, January 1		\$ 85,800
	Cost of direct materials used in production.....	\$115,000	
	Direct labor	140,000	
	Factory overhead	<u>296,200</u>	
	Total manufacturing costs incurred		<u>551,200</u>
	Total manufacturing costs.....		\$ 637,000
	Jobs finished during January		<u>(560,240)</u>
	Work in process inventory, January 31		<u>\$ 76,760</u>

Ex. 16–13 (FIN MAN); Ex. 2–13 (MAN)

a.	Work in Process	55,500	
	Factory Overhead	4,500	
	Materials		60,000

b.	Work in Process	106,800	
	Factory Overhead	8,200	
	Wages Payable		115,000

c.	Work in Process	26,700	
	Factory Overhead		26,700*

Predetermined overhead rate:
 Job 301: $\$7,750 \div \$31,000 = 25\%$ or
 Job 302: $\$10,550 \div \$42,200 = 25\%$

* Direct labor cost \times Predetermined factory overhead rate:
 $\$106,800 \times 25\% = \$26,700$

d.	Finished Goods*	122,750	
	Work in Process		122,750

* \$51,250 + \$71,500

Ex. 16–14 (FIN MAN); Ex. 2–14 (MAN)

a.

Rushmore Biking Inc. Income Statement For the Month Ended February 28		
Revenues		\$ 910,000
Cost of goods sold		(550,000)
Gross profit		\$ 360,000
Selling and administrative expenses:		
Selling expenses	\$185,000	
Administrative expenses	90,000	
Total selling and administrative expenses		(275,000)
Operating income		\$ 85,000

b. Materials inventory:

Purchased materials	\$ 480,000
Less: Materials used in production	(434,500)
Materials inventory, February 28	<u>\$ 45,500</u>

Work in process inventory:

Materials used in production	\$ 434,500
Direct labor	125,000
Factory overhead (\$125,000 × 40%)	50,000
Total manufacturing costs incurred	<u>\$ 609,500</u>
Less: Transferred to finished goods	(578,000)
Work in process inventory, February 28	<u>\$ 31,500</u>

Finished goods inventory:

Transferred to finished goods.....	\$ 578,000
Less: Cost of goods sold	(550,000)
Finished goods inventory, February 28.....	<u>\$ 28,000</u>

Ex. 16–15 (FIN MAN); Ex. 2–15 (MAN)

a.	July	3	WorkinProcess (175 hrs.x \$150)	26,250	
			SalariesPayable		26,250
		10	WorkinProcess	12,500	
			Cash		12,500
		14	WorkinProcess(260hrs.x\$185)	48,100	
			SalariesPayable		48,100
		18	WorkinProcess	30,000	
			Consultant Fees Payable		30,000
		27	WorkinProcess(435 hrs.x \$62)	26,970	
			Office Overhead		26,970
		31	Office Overhead	28,500	
			Cash		28,500
		31	OfficeOverhead	4,000	
			Supplies		4,000
		31	Salaries Payable	74,350	
			Cash		74,350
		31	Accounts Receivable	172,500	
			FeesEarned		172,500
		31	Cost of Services	143,820	
			Work inProcess*		143,820

* \$26,250 + \$12,500 + \$48,100 + \$30,000 + \$26,970

b.	Officeoverhead incurred (\$28,500 + \$4,000)	\$ 32,500
	Officeoverhead applied	<u>(26,970)</u>
	Underapplied overhead	<u>\$ 5,530</u>
c.	Fees earned	\$ 172,500
	Cost of services*	<u>(149,350)</u>
	Gross profit	<u>\$ 23,150</u>

* \$143,820 + \$5,530. Assumes the over- or underapplied office overhead is closed to cost of services monthly.

Note to Instructors: The consultant fees and travel costs can be directly assigned to the case and thus are not treated as office overhead. Costs such as secretarial and administrative salaries and supplies would be part of office overhead incurred.

Ex. 16–16 (FIN MAN); Ex. 2–16 (MAN)

a.	Work in Process	1,068,000	
	Salaries Payable		1,068,000
b.	Work in Process	2,130,000	
	Accounts Payable		2,130,000
c.	Work in Process (65% × \$2,130,000)	1,384,500	
	Agency Overhead		1,384,500
d.	Cost of Services	2,827,750	
	Work in Process		2,827,750

Cost of completed jobs, \$2,827,750:

	Vault Bank	Take Off Airlines
August 1 balance	\$ 270,000	\$80,000
August costs:		
Direct labor	190,000	85,000
Media	710,000	625,000
Overhead	<u>461,500*</u>	<u>406,250**</u>
Total costs.....	<u>\$1,631,500</u>	<u>\$1,196,250</u>

* 65% × \$710,000

** 65% × \$625,000

PROBLEMS

Prob. 16–1A (FIN MAN); Prob. 2–1A (MAN)

a.	Materials	315,500	
	Accounts Payable		315,500
b.	Work in Process	281,950	
	Factory Overhead	8,150	
	Materials		290,100
c.	Work in Process	455,300	
	Factory Overhead	34,200	
	Wages Payable		489,500
d.	Factory Overhead	600,000	
	Selling Expenses	150,000	
	Administrative Expenses	100,000	
	Accounts Payable		850,000
e.	Factory Overhead	18,000	
	Selling Expenses	6,000	
	Administrative Expenses	5,000	
	Prepaid Expenses		29,000
f.	Depreciation Expense—Office Building	30,000	
	Depreciation Expense—Office Equipment	7,500	
	Factory Overhead	60,000	
	Accum. Depr.—Buildings and Equipment		97,500
g.	Work in Process	711,660	
	Factory Overhead		711,660
h.	Finished Goods	1,425,000	
	Work in Process		1,425,000
i.	Cost of Goods Sold	1,380,000	
	Finished Goods		1,380,000

Prob. 16–2A (FIN MAN); Prob. 2–2A (MAN)

1. a.	Materials	45,000	
	Accounts Payable		45,000
b.	Work in Process	41,595	
	Factory Overhead	6,200	
	Materials		16,200
	Wages Payable		31,595
c.	Factory Overhead	1,800	
	Accounts Payable		1,800
d.	Factory Overhead	2,500	
	Accumulated Depreciation—Machinery and Equipment		2,500
e.	Work in Process	9,000	
	Factory Overhead (300 hours × \$30)		9,000
f.	Finished Goods	38,755	
	Work in Process		38,755

Computation of cost of jobs finished:

Job	Direct Materials	Direct Labor	Factory Overhead	Total
No. 301	\$1,850	\$2,500	\$ 900	\$ 5,250
No. 302	3,150	7,220	1,800	12,170
No. 303	2,200	5,350	1,230	8,780
No. 305	4,230	6,225	2,100	12,555
Total				<u>\$38,755</u>

g.	Accounts Receivable	38,050	
	Sales		38,050
	Cost of Goods Sold	26,200	
	Finished Goods		26,200

Computation of cost of jobs sold:

Job	Total
No. 301	\$ 5,250
No. 302	12,170
No. 303	8,780
Total	<u>\$26,200</u>

Prob. 16–2A (FIN MAN); Prob. 2–2A (MAN) (Concluded)

2.		Work in Process		Finished Goods	
(b)	41,595	(f)	38,755	(f)	38,755
(e)	<u>9,000</u>				(g) 26,200
Bal.	11,840			Bal.	<u>12,555</u>

3. Schedule of unfinished jobs:

Job	Direct Materials	Direct Labor	Factory Overhead	Total
No. 304	\$1,800	\$2,400	\$1,890	\$ 6,090
No. 306	1,770	2,900	1,080	<u>5,750</u>
Balance of Work in Process, March 31				<u>\$11,840</u>

4. Schedule of completed jobs:

Job	Direct Materials	Direct Labor	Factory Overhead	Total
Finished Goods, March 31 (Job 305).....	\$4,230	\$6,225	\$2,100	<u>\$12,555</u>

Prob. 16–3A (FIN MAN); Prob. 2–3A (MAN)

1. and 2.

JOB COST SHEET							
Customer		<u>Jackson Consulting</u>			Date		<u>October 1</u>
					Date wanted		<u>October 10</u>
					Date completed		<u>October 10</u>
					Job. No.		
ESTIMATE							
Direct Materials			Direct Labor			Summary	
		Amount			Amount		
200 meters at \$35		7,000	16 hours at \$20		320	Direct materials	7,000
						Direct labor	320
						Factory overhead	240
Total		7,000	Total		320	Total cost	7,560
ACTUAL							
Direct Materials			Direct Labor			Summary	
Mat.Re q. No.	Description	Amount	TimeTicketNo	Description	Amount	Item	Amount
112	140 meters at \$35	4,900	H10	10 hours at \$20	200	Direct materials	7,280
114	68 meters at \$35	2,380	H11	10 hours at \$20	200	Direct labor	400
						Factory overhead	300
Total		7,280	Total		400	Total cost	7,980
Comments:							
The direct materials cost exceeded the estimate by \$280 because 8 meters of materials were spoiled. The direct labor cost exceeded the estimate by \$80 because an additional 4 hours of labor were used by an inexperienced employee. The factory overhead cost exceeded the estimate because an additional \$60 of factory overhead was allocated because of the increase in direct labor.							

Prob. 16–4A (FIN MAN); Prob. 2–4A (MAN)

1. Supporting calculations:

Job. No.	Quantity	June 1 Work in Process	Direct Materials	Direct Labor	Factory Overhead	Total Cost	Unit Cost	Units Sold	Cost of Goods Sold
No. 201	550	\$16,500	\$ 55,000	\$ 41,250	\$ 57,750	\$ 170,500	\$310.00	440	\$136,400
No. 202	1,100	44,000	93,500	71,500	100,100	309,100	281.00	880	247,280
No. 203	550		38,500	22,000	30,800	91,300		0	0
No. 204	660		82,500	69,300	97,020	248,820	377.00	570	214,890
No. 205	480		60,000	48,000	67,200	175,200	365.00	420	153,300
No. 206	380		22,000	12,400	17,360	51,760		0	0
Total	3,720	\$60,500	\$351,500	\$264,450	\$370,230	\$1,046,680			\$751,870

- a. \$395,500. Materials applied to production in June + indirect materials. (\$351,500 + \$44,000)
- b. \$60,500. From table above and problem.
- c. \$351,500. From table above.
- d. \$264,450. From table above.
- e. \$370,230. (\$264,450 × 1.4) and from table above.
- f. \$903,620. (\$170,500 + \$309,100 + \$248,820 + \$175,200)
- g. \$751,870. From table above.
- h. \$65,550. Wages incurred less direct labor applied to production in June. (\$330,000 – \$264,450)

Prob. 16–4A (FIN MAN); Prob. 2–4A (MAN) (Concluded)**2. June 30 balances:**

Materials	\$ 17,000	(\$82,500 + \$330,000 – \$395,500)
Work in Process*.....	143,060	(\$91,300 + \$51,760, Job 203 & Job 206)
Finished Goods**	151,750	(\$903,620 – \$751,870)
Factory Overhead.....	9,820	Dr. underapplied (\$33,000 + \$65,550 + \$44,000 + \$237,500 – \$370,230)

* $\$60,500 + \$351,500 + \$264,450 + \$370,230 - \$903,620 = \$143,060$

Job. No.	Units in Inventory	Unit Cost	Total Cost
No. 201	110	\$310.00	\$ 34,100
No. 202	220	281.00	61,820
No. 204	90	377.00	33,930
No. 205	60	365.00	21,900
Total			<u>\$151,750</u>

Prob. 16–5A (FIN MAN); Prob. 2–5A (MAN)

Ginocera Inc.			
Income Statement			
For the Year Ended December 31, 20Y8			
Sales			\$ 17,920,000
Cost of goods sold			(10,864,000)
Gross profit			\$ 7,056,000
Selling and administrative expenses:			
Selling expenses:			
Infomercial campaign	\$2,000,000		
Promotional materials	3,600,000		
Shipping expenses	224,000		
Total selling expenses		\$5,824,000	
Administrative expenses:			
Legal expenses		800,000	
Total selling and administrative expenses			(6,624,000)
Operating income			\$432,000

Supporting calculations:

Sales: 1,120,000 units × \$16 = \$17,920,000

Cost of goods sold: 1,120,000 units × \$9.70 = \$10,864,000

Manufacturing cost per unit:**Direct materials:**

Hardened steel blanks	\$4.00	
Wood (for handle)	1.50	
Packaging.....	<u>0.50</u>	
Total direct materials.....		\$6.00
Direct labor.....		0.50
Factory overhead*		<u>3.20</u>
Total manufacturing cost per knife.....		<u>\$9.70</u>

* \$800 ÷ 250 knives per hour

Promotional materials: 60,000 stores × \$60 = \$3,600,000

Shipping expenses: 1,120,000 units × \$0.20 = \$224,000

2. **Finished Goods balance, December 31, 20Y8:**
 (1,200,000 units – 1,120,000 units) × \$9.70 = \$776,000

Work in Process, December 31, 20Y8:
 25,000 units × (\$6.00 + \$3.20) = \$230,000

The materials, stamping, and factory overhead have already been applied to the 25,000 units. Only the direct assembly labor has yet to be applied for these units.

Prob. 16–1B (FIN MAN); Prob. 2–1B (MAN)

a.	Materials	770,000	
	Accounts Payable		770,000
b.	Work in Process	604,200	
	Factory Overhead	75,800	
	Materials		680,000
c.	Work in Process	574,000	
	Factory Overhead	182,000	
	Wages Payable		756,000
d.	Factory Overhead	245,000	
	Selling Expenses	171,500	
	Administrative Expenses	110,600	
	Accounts Payable		527,100
e.	Factory Overhead	24,500	
	Selling Expenses	28,420	
	Administrative Expenses	16,660	
	Prepaid Expenses		69,580
f.	Factory Overhead	49,500	
	Depreciation Expense—Office Equipment	61,800	
	Depreciation Expense—Office Building	14,900	
	Accumulated Depreciation—Buildings and Equipment		126,200
g.	Work in Process	568,500	
	Factory Overhead		568,500
h.	Finished Goods	1,500,000	
	Work in Process		1,500,000
i.	Cost of Goods Sold	1,375,000	
	Finished Goods		1,375,000

Prob. 16–2B (FIN MAN); Prob. 2–2B (MAN)

1. a.	Materials	147,000	
	Accounts Payable		147,000
b.	Work in Process	262,490	
	Factory Overhead	29,160	
	Materials		139,110
	Wages Payable		152,540
c.	Factory Overhead	6,000	
	Accounts Payable		6,000
d.	Factory Overhead	4,100	
	Accumulated Depreciation—Machinery and Equipment		
			4,100
e.	Work in Process	40,480	
	Factory Overhead (1,012 hours × \$40)		40,480
f.	Finished Goods	175,090	
	Work in Process		175,090

Computation of cost of jobs finished:

Job	Direct Materials	Direct Labor	Factory Overhead	Total
No. 101.....	\$19,320	\$19,500	\$6,160	\$ 44,980
No. 102.....	23,100	28,140	6,400	57,640
No. 103.....	13,440	14,000	5,040	32,480
No. 105.....	18,050	15,540	6,400	39,990
Total.....				<u>\$175,090</u>

g.	Accounts Receivable	189,100	
	Sales*		189,100

* \$62,900 + \$80,700 + \$45,500

	Cost of Goods Sold	142,610	
	Finished Goods		142,610

Computation of cost of jobs sold:

Job	Total
No. 101.....	\$ 44,980
No. 102.....	57,640
No. 105.....	39,990
Total.....	<u>\$142,610</u>

Prob. 16–2B (FIN MAN); Prob. 2–2B (MAN) (Concluded)

2. Work in Process		Finished Goods	
(b) 262,490	(f) 175,090	(f) 175,090	(g) 142,610
(e) 40,480			
Bal. 127,880		Bal. 32,480	

3. Schedule of unfinished jobs:

Job	Direct Materials	Direct Labor	Factory Overhead	Total
No. 104	\$38,200	\$36,500	\$9,520	\$ 84,220
No. 106	18,000	18,700	6,960	<u>43,660</u>
Balance of Work in Process, April 30				<u>\$127,880</u>

4. Schedule of completed jobs:

Job	Direct Materials	Direct Labor	Factory Overhead	Total
Finished Goods, April 30 (Job 103)	\$13,440	\$14,000	\$5,040	<u>\$32,480</u>

Prob. 16–3B (FIN MAN); Prob. 2–3B (MAN)

1. and 2.

JOB COST SHEET							
Customer <u>Lunden Consulting</u>			Date <u>May9</u>		Date wanted <u>May15</u>		
			Date completed <u>May15</u>		Job. No.		
ESTIMATE							
Direct Materials			Direct Labor			Summary	
		Amount			Amount		
400 meters at \$32		12,800	30 hours at \$20		600	Direct materials	12,800
						Direct labor	600
						Factory overhead	480
Total		12,800	Total		600	Total cost	13,880
ACTUAL							
Direct Materials			Direct Labor			Summary	
Mat.Re q. No.	Description	Amount	TimeTicketNo	Description	Amount	Item	Amount
132	360 meters at \$32	11,520	H9	18 hours at \$19	342	Direct materials	13,120
134	50 meters at \$32	1,600	H10	18 hours at \$19	342	Direct labor	684
						Factory overhead	547
Total		13,120	Total		684	Total cost	14,351
Comments:							
The direct materials cost exceeded the estimate by \$320 because 10 meters of materials were spoiled. The direct labor cost exceeded the estimate by \$84 because an additional 6 hours of labor were used by inexperienced employees who worked for \$1 less per hour. The factory overhead cost exceeded the estimate because an additional \$67 of factory overhead was allocated because of the increase in direct labor.							

Prob. 16–4B (FIN MAN); Prob. 2–4B (MAN)

1. Supporting calculations:

Job. No.	Quantity	May 1Work inProcess	DirectMate rials	DirectLabo r	FactoryOv erhead	TotalCost	UnitCost	UnitsSol d	Cost ofGoodsS old
No. 101	330	\$26,400	\$ 82,500	\$ 59,400	\$ 29,700	\$ 198,000	\$600.00	264	\$158,400
No. 102	380	46,000	105,400	72,600	36,300	260,300	685.00	360	246,600
No. 103	500		132,000	110,000	55,000	297,000		0	0
No. 104	400		66,000	39,600	19,800	125,400	313.50	384	120,384
No. 105	660		118,800	66,000	33,000	217,800	330.00	530	174,900
No. 106	330		66,000	30,800	15,400	112,200		0	0
Total	2,600	\$72,400	\$570,700	\$378,400	\$189,200	\$1,210,700			\$700,284

- a. \$586,100. Materials applied to production in May + indirect materials.
(\$570,700 + \$15,400)
- b. \$72,400. From table above and problem.
- c. \$570,700. From table above.
- d. \$378,400. From table above.
- e. \$189,200. (\$378,400 × 0.50) and from table above.
- f. \$801,500. (\$198,000 + \$260,300 + \$125,400 + \$217,800)
- g. \$700,284. From table above.
- h. \$17,600. Wages incurred less direct labor applied to production in May.
(\$396,000 – \$378,400)

Prob. 16–4B (FIN MAN); Prob. 2–4B (MAN) (Concluded)**2. May 31 balances:**

Materials	\$ 19,500	(\$105,600 + \$500,000 – \$586,100)
Work in Process*	409,200	(\$297,000 + \$112,200, Job 103 & Job 106)
Finished Goods**	101,216	(\$801,500 – \$700,284)
Factory Overhead	(7,300)	Cr. overapplied (\$26,400 + \$17,600+ \$15,400 + \$122,500 – \$189,200)

* $\$72,400 + \$570,700 + \$378,400 + \$189,200 - \$801,500 = \$409,200$

Job. No.	Units in Inventory	Unit Cost	Total Cost
No. 101	66	\$600.00	\$ 39,600
No. 102	20	685.00	13,700
No. 104	16	313.50	5,016
No. 105	130	330.00	42,900
Total			<u>\$101,216</u>

Prob. 16–5B (FIN MAN); Prob. 2–5B (MAN)

Technology Accessories Inc. Income Statement For the Year Ended December 31, 20Y3		
Sales		\$ 18,400,000
Cost of goods sold		(11,914,000)
Gross profit		\$ 6,486,000
Selling expenses:		
Salespersons commissions	\$3,680,000	
Advertising design	750,000	
Advertising expenses	1,400,000	
Total selling expenses		(5,830,000)
Operating income		\$ 656,000

Supporting calculations:

Sales: 460,000 units × \$40 = \$18,400,000

Cost of goods sold: 460,000 units × \$25.90 = \$11,914,000

Manufacturing cost per unit:

Direct materials:

Leather	\$10.00	
Velvet (for interior)	5.00	
Packaging	<u>0.40</u>	
Total direct materials		\$15.40
Direct labor		0.50
Factory overhead cost*		<u>10.00</u>
Total manufacturing cost per unit		<u>\$25.90</u>

* \$1,250 ÷ 125 units per hour

Salespersons commissions: \$18,400,000 × 20% = \$3,680,000

2. Finished Goods balance, December 31, 20Y3:

(500,000 units – 460,000 units) × \$25.90 = \$1,036,000

Work in Process, December 31, 20Y3:

22,000 units × (\$15.40 + \$10.00) = \$558,800

The materials, stitching, and factory overhead have already been applied to the 22,000 units. Only the direct assembly labor has yet to be applied for these units.

MAKE A DECISION**MAD 16–1 (FIN MAN); MAD 2–1 (MAN)**

- a. Divide the total direct labor cost by the count to determine the direct labor cost per unit for each job:

	Total Direct Labor Cost	Count	Direct Labor Cost per Sports Coat
Job 107	\$ 63.00	10	\$6.30
Job 125	98.00	14	7.00
Job 160	123.20	16	7.70
Job 192	51.20	8	6.40

- b. The direct labor cost per sports coat increased over the first three jobs, then declined with the last job. The increase for the first three jobs is not related to a change in the direct labor rate, which was the same for all three jobs. Thus, the increase in labor cost must be related to an increase in labor time to make the coats. This is confirmed in (c).
- c. The direct labor hours per sports coat is determined by dividing the total direct labor hours by the count as follows:

	Direct Labor Hours	Count	Direct Labor Hours per Sports Coat
Job 107	4.50	10	0.45
Job 125	7.00	14	0.50
Job 160	8.80	16	0.55
Job 192	3.20	8	0.40

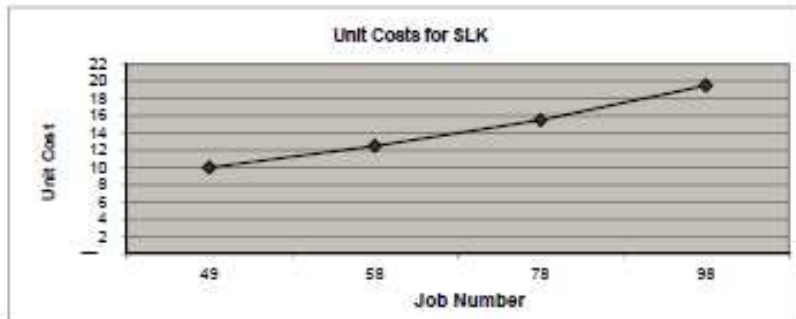
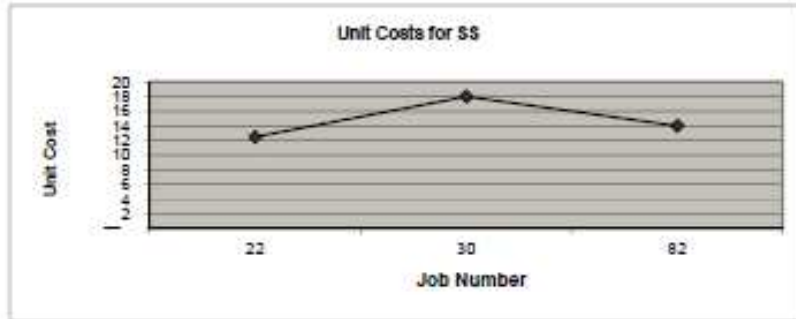
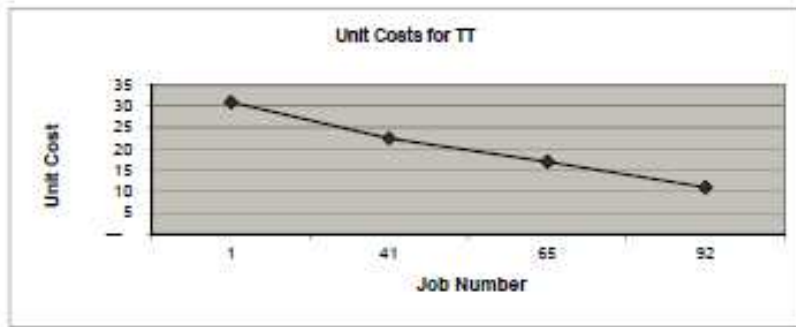
The direct labor hours per sports coat have increased over the first three jobs, which has led to the increased direct labor cost per coat noted in (b). Management would want to investigate why the direct labor hours per coat are increasing.

- d. The direct labor rate for Job 192 increased from \$14 to \$16. This may be due to a raise in pay or the use of a more skilled and higher-paid employee. Regardless, the result was a significant drop in the direct labor hours per sports coat, down to 0.40 hour, which is the best of all the jobs. The net result of the higher efficiency, combined with the higher direct labor cost, was a direct labor cost per sports coat that was only ten cents higher than Job 107 and a significant improvement over Job 160.

MAD 16-2 (FIN MAN); MAD 2-2 (MAN)

a.

Date	Job. No.	Quantity	Product	Amount	Unit Cost
Jan. 2	1	520	TT	\$16,120	\$31.00
Jan. 15	22	1,610	SS	20,125	12.50
Feb. 3	30	1,420	SS	25,560	18.00
Mar. 7	41	670	TT	15,075	22.50
Mar. 24	49	2,210	SLK	22,100	10.00
May 19	58	2,550	SLK	31,875	12.50
June 12	65	620	TT	10,540	17.00
Aug. 18	78	3,110	SLK	48,205	15.50
Sept. 2	82	1,210	SS	16,940	14.00
Nov. 14	92	750	TT	8,250	11.00
Dec. 12	98	2,700	SLK	52,650	19.50



MAD 16–2 (FIN MAN); MAD 2–2 (MAN) (Concluded)

As can be seen, the unit costs behave differently for each product. SLK has increasing unit costs during the year, SS is steady, and TT has decreasing unit costs during the year.

- b. Management should want to determine why SLK costs are increasing and why TT costs are decreasing. This information can be determined from the job cost sheets for each job. By comparing the cost sheets from job to job (for a particular product), management can isolate the cause of the cost changes. The cost sheets will show how materials, labor, and overhead are consumed across the production process for each job. This information can isolate the problem or opportunity areas.

MAD 16–3 (FIN MAN); MAD 2–3 (MAN)

- a. The first item to note is that the cost did not go up due to any increases in the cost of labor or materials. Rather, the cost of the plaques increased because Job 105 used more labor and materials per unit than did Job 101. Specifically, Job 101 required exactly the same number of backboards and brass plates as the number of actual plaques shipped. However, Job 105 required four more backboards and brass plates than the number actually shipped (34 versus 30). This is illustrated as follows:

Job 101:**Materials****Walnut plaques:**

Actual units used	40 units
Expected units needed to produce 40 plaques	<u>40 units</u>
Difference	0 units

Brass plates:

Actual units used	40 units
Expected units needed to produce 40 plaques	<u>40 units</u>
Difference	0 units

Labor**Engraving:**

Actual labor hours used	20 hours
Expected labor hours to produce 40 plaques (40 units × 30 min. per unit) ÷ 60 min. per hour	<u>20 hours</u>
Difference	0 hours

Assembly:

Actual labor hours used	10 hours
Expected labor hours to produce 40 plaques (40 units × 15 min. per unit) ÷ 60 min. per hour	<u>10 hours</u>
Difference	0 hours

MAD 16–3 (FIN MAN); MAD 2–3 (MAN) (Concluded)**Job 105:****Materials****Walnutplaques:**

Actual units used	34 units
Expected units needed to produce 30 plaques	<u>30 units</u>
Difference	4 units

Brassplates:

Actual units used	34 units
Expected units needed to produce 30 plaques	<u>30 units</u>
Difference	4 units

Labor**Engraving:**

Actual laborhours used	17 hours
Expected laborhours to produce 30 plaques (30 units × 30 min. per unit) ÷ 60 min. per hour	<u>15 hours</u>
Difference	2 hours

Assembly:

Actual laborhours used	8.5 hours
Expected laborhours to produce 30 plaques (30 units × 15 min. per unit) ÷ 60 min. per hour	<u>7.5 hours</u>
Difference	1.0 hour

Job 105's 25.5 laborhours are 3.0 more (25.5 hrs. – 22.5 hrs.) than should have been expected for a job of 30 plaques [(30 × 45 min.) ÷ 60 min. = 22.5 hrs.]. As a result, the additional hours of labor cost, applied factory overhead, and direct materials cost cause the unit cost of Job 105 to increase.

- b. Apparently, the engraving and assembly work is becoming sloppy. Job 105 required 34 engraved brass plates in order to get 30 with acceptable quality. It is likely that the engraver is not being careful in correctly spelling the names. The names should be supplied to the engraver, using large typewritten fonts, so that it is easy to read the names. The engraver should be instructed to be careful in engraving the names. The assembly operation also needs some improvement. It took 34 assembly operations to properly assemble 30 plaques. It may be that the plates are assembled off-register (crooked) to the backboard. This could be improved by using a fixture to properly align the plate to the backboard. Alternatively, it's possible misengraved plaques were assembled to backboards and needed to be disassembled, reengraved, and reassembled to new backboards.

MAD 16–4 (FIN MAN); MAD 2–4 (MAN)

a.

A	B	C	D	E	F
Job. No.	Date	Style	Count	Total DirectMaterial Cost	Material Costper Unit [Col. E ÷ Col. D]
Job 102	Jan. 20	Dining tables	20	\$ 2,000	\$100.00
Job 106	Jan. 20	Coffee tables	100	5,000	50.00
Job 107	Jan. 20	Chairs	50	1,250	25.00
Job 203	Apr. 21	Dining tables	20	2,020	101.00
Job 205	Apr. 21	Coffee tables	100	4,950	49.50
Job 206	Apr. 21	Chairs	52	1,295	24.90
Job 289	July 20	Dining tables	20	2,688	134.40
Job 294	July 20	Coffee tables	140	8,484	60.60
Job 295	July 20	Chairs	60	1,872	31.20
Job 389	Oct. 18	Dining tables	22	3,102	141.00
Job 391	Oct. 18	Coffee tables	160	9,600	60.00
Job 392	Oct. 18	Chairs	80	2,400	30.00
Job 570	Dec. 11	Dining tables	25	3,690	147.60
Job 573	Dec. 11	Coffee tables	180	11,016	61.20
Job 574	Dec. 11	Chairs	90	2,700	30.00

b.

	Jan.	Apr.	July	Oct.	Dec.
Dining tables	100%	101.0%	134.4%	141.0%	147.6%
Coffee tables	100%	99.0%	121.2%	120.0%	122.4%
Chairs	100%	99.6%	124.8%	120.0%	120.0%

Dining tables:

Jan.	\$100 ÷ \$100
Apr.	\$101 ÷ \$100
July	\$134.4 ÷ \$100
Oct.	\$141 ÷ \$100
Dec.	\$147.6 ÷ \$100

Coffee tables:

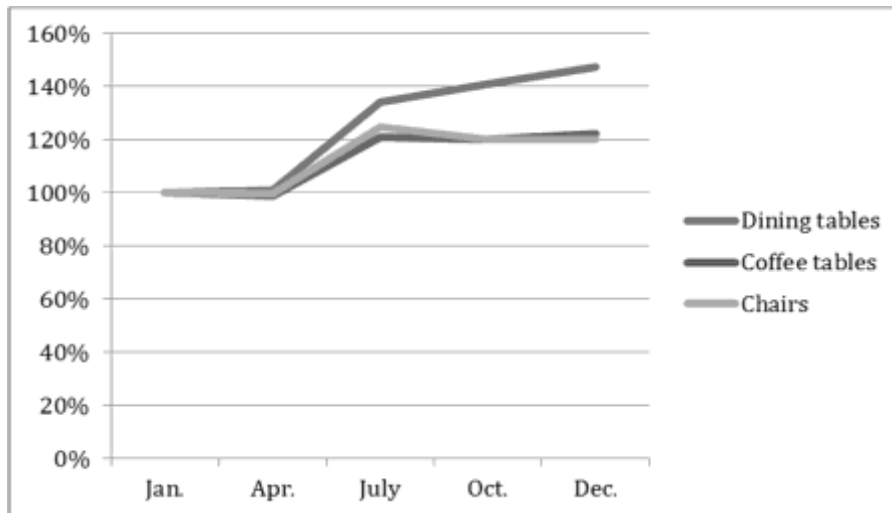
Jan.	\$50 ÷ \$50
Apr.	\$49.5 ÷ \$50
July	\$60.6 ÷ \$50
Oct.	\$60 ÷ \$50
Dec.	\$61.2 ÷ \$50

Chairs:

Jan.	\$25 ÷ \$25
Apr.	\$24.9 ÷ \$25
July	\$31.2 ÷ \$25
Oct.	\$30 ÷ \$25
Dec.	\$30 ÷ \$25

MAD 16-4 (FIN MAN); MAD 2-4 (MAN) (Continued)

c.



- d. The cost of all styles went up in July relative to the previous months because of the change in the cost of the lumber from \$5 per boardfoot to \$6 per boardfoot. This may have been unavoidable and merely a function of market conditions for oak lumber. Regardless, the cause of the price increase should be investigated.

However, the material cost per unit for dining tables deviated to the high side relative to the other two styles, beyond the increased cost of lumber. This must be the result of using more lumber per unit in October and December, than during January and April. The case indicates that the dining tables require more skilled workers because they are more difficult to manufacture. We see that the volume for chairs and coffee tables seemed to have dramatically increased from July to the end of the year. It is possible that this increased demand may have created labor-scheduling problems, and less experienced employees were scheduled to the dining table jobs. This might explain the increased material consumption per unit for dining tables during the remainder of the year. This hypothesis should be investigated further.

Note to Instructors: While not asked in the case specifically, the material consumption pattern for dining tables is as follows:

Dining Tables

Job. No.	Date	Total Board		Material
		Feet	Units	Consumption per Unit (in boardfeet)*
Job 102	Jan. 20	400	20	20.0
Job 203	Apr. 21	404	20	20.2
Job 289	July 20	448	20	22.4
Job 389	Oct. 18	517	22	23.5
Job 570	Dec. 11	615	25	24.6

*The material consumption is the total board feet divided by the number of units in the job.

MAD 16–4 (FIN MAN); MAD 2–4 (MAN) (Concluded)

For comparison, the othertwo styles are as follows:

Coffee Tables

Job. No.	Date	Total Board Feet	Units	Material Consumption per Unit (inboardfeet)*
Job 106	Jan. 20	1,000	100	10.0
Job 205	Apr. 21	990	100	9.9
Job 294	July 20	1,414	140	10.1
Job 391	Oct. 18	1,600	160	10.0
Job 573	Dec. 11	1,836	180	10.2

Chairs

Job. No.	Date	Total Board Feet	Units	Material Consumption per Unit (in boardfeet)*
Job 107	Jan. 20	250	50	5.00
Job 206	Apr. 21	259	52	4.98
Job 295	July 20	312	60	5.20
Job 392	Oct. 18	400	80	5.00
Job 574	Dec. 11	450	90	5.00

*The material consumption is the total board feet dividedby the number of units in the job.

TAKE IT FURTHER**TIF 16–1 (FIN MAN); TIF 2–1 (MAN)**

No. Tandy's plan is unethical. A job order cost accounting system accumulates and records product costs by jobs. The resulting total and unit product costs can be compared to similar jobs, compared over time, or compared to expected costs. In this way, a job order cost system can be used by managers for cost evaluation and control. By transferring costs from corporate jobs to government jobs, Tandy's plan would falsify the job cost information for the individual jobs. This is highly unethical and deteriorates the usefulness of job cost information for management decision making. Tandy's plan is also illegal, as it falsely inflates the purchase price for the government jobs. This plan is a very bad idea.

TIF 16–2 (FIN MAN); TIF 2–2 (MAN)**a. Direct labor cost:**

Total actual (applied) overhead, Years 1–5.....	\$4,200,000
Total direct labor cost, Years 1–5.....	<u>21,000,000</u>
Predetermined overhead rate (\$4,200,000 ÷ \$21,000,000)	20% of direct labor cost

Machine cost:

Total actual (applied) overhead, Years 1–5.....	\$4,200,000
Total machine hours, Years 1–5	<u>500,000</u> hours
Predetermined overhead rate (\$4,200,000 ÷ 500,000 hours).....	\$8.40 per machine hour

TIF 16–2 (FIN MAN); TIF 2–2 (MAN) (Continued)

b.

	Year 5		Year 4		Year 3	
	Direct Labor Cost	Machine Hours	Direct Labor Cost	Machine Hours	Direct Labor Cost	Machine Hours
Actual overhead	\$790,000	\$790,000	\$870,000	\$870,000	\$935,000	\$935,000
Applied overhead	777,000	781,200	882,000	873,600	924,000	932,400
(Over-) underapplied overhead	\$ 13,000	\$ 8,800	\$ (12,000)	\$ (3,600)	\$ 11,000	\$ 2,600

	Year 2		Year 1	
	Direct Labor Cost	Machine Hours	Direct Labor Cost	Machine Hours
Actual overhead	\$845,000	\$845,000	\$760,000	\$760,000
Applied overhead	840,000	843,360	777,000	769,440
(Over-) underapplied overhead	\$ 5,000	\$ 1,640	\$ (17,000)	\$ (9,440)

TIF 16–2 (FIN MAN); TIF 2–2 (MAN) (Concluded)

- c. The best predetermined overhead rate is machine hours. Although the total overhead applied for each rate developed in part (a) is the same over the entire five-year period (as a result of the method by which the predetermined overhead rates were developed), the predetermined overhead rate based on machine hours yields the least fluctuations in the amounts of over- or underapplied overhead considered on a year-by-year basis. With the rate based on machine hours, the over- or underapplied overhead ranges from \$9,440 overapplied to \$8,800 underapplied. This fluctuation in the over- or underapplied overhead compares favorably with the fluctuation resulting from using the current overhead base of direct labor cost (\$17,000 overapplied to \$13,000 underapplied during the past five years).

TIF 16–3 (FIN MAN); TIF 2–3 (MAN)

Memo

To: Carol Creedence

From: A+ Student

Re: Product CCR Job Cost

The graph of job costs for Product CCR indicates two significant trends in job cost. First, there appears to be a strong and consistent “Friday effect.” Unit cost increases significantly on Fridays, then falls on Monday. Each Friday effect is also larger than the previous week. There also appears to be a steady increase in the unit cost over time, with the unit cost increasing significantly over the reported time period.

The Friday effect could be caused by a reduction in the efficiency of the workforce on Fridays, as it is the last day of the workweek. If this is the case and the trend is not product related, then it should also appear throughout the plant. To test this explanation, management should collect job cost data for other products in the plant. If the trend appears in other products as well, it is a strong indicator that the Friday effect is related to the workforce. Additional analysis should also sort the job cost data by shift and employee. It’s possible that the effect is stronger on one shift than on another, or that just a few employees are responsible for the effect. Sorting by shift and employee will help isolate the source of the Friday effect.

The increasing trend in job costs is potentially more complicated. This could be caused by any number of factors, including increased raw materials cost, decreased quality of raw materials, or decreased labor efficiency. To evaluate these potential explanations, management should collect additional data on the cost per unit of direct materials, quantity of materials used, labor and machine hours used, and overhead applied. These data will provide critical insight into the factors driving up job cost.

TIF 16–4 (FIN MAN); TIF 2–4 (MAN)

- a. The unit costs are influenced by both the price and quantity of inputs. On the price side, the cost of steel has dropped from \$1,200 to \$1,100 per ton. This is apparently the result of the purchasing manager's decision to reduce the cost of raw materials by going to a new vendor. No other input prices change. Some of the input quantities changed for the worse. Specifically, the following:

	Input Quantity per Unit	
	Job 206	Job 228
Steel input	2.10 tons ¹	2.60 tons ²
Foundry labor	8.00 hours ³	10.00 hours ⁴
Welding labor	11.00 hours ⁵	14.00 hours ⁶

¹ 105 tons ÷ 50 units

² 195 tons ÷ 75 units

³ 400 hours ÷ 50 units

⁴ 750 hours ÷ 75 units

⁵ 550 hours ÷ 50 units

⁶ 1,050 hours ÷ 75 units

These numbers were determined by dividing the total input quantities by the number of units produced to discover the inputs per unit. The inputs for the components were unchanged between the two jobs.

- b. A possible reason for this deterioration in performance is related to the purchasing manager's decision to change vendors in order to secure a lower price per ton. The new vendor is apparently delivering a lower-quality steel product to the company. As a result, the foundry operation is spending more time forming the steel parts. Moreover, the increased steel tons per unit is likely to be caused by scrapping some of the formed parts. The scrapped parts would need to be replaced with additional steel inputs, which would have the effect of increasing the number of tons required to make a unit of product. The welding operators are also apparently having difficulty welding the lower-quality steel parts. As a result, longer welding time is required to assemble a completed unit.

Overall, management has learned that the drive for a lower raw materials price was a poor decision. The overall net result was higher costs from the additional waste caused by lower-quality steel.

TIF 16–5 (FIN MAN); TIF 2–5 (MAN)

- a. **Todd should record the debits for factory wages as a debit to Work in Process. The factory wages are product costs that must be accumulated in the cost of producing the product. Eventually, these wage costs will become part of the finished goods inventory and the cost of goods sold when the gift items are sold. Likewise, the depreciation should be recorded as a debit to Factory Overhead. The overhead is then applied to production work in process. Like the wages, the depreciation will also eventually become part of the finished goods inventory and the cost of goods sold when the gift items are sold. Thus, both the wages and depreciation will end up on the income statement as part of the cost of goods sold, not as individual expenses. The reason is because the accountant wants to match revenues and costs. Costs that are accumulated in the manufacture of products do not become expenses until the items are sold. Until that time, the costs are capitalized as inventory. If these costs were expensed immediately, the period's income for the firm would be understated to the extent there were any increases in the work in process or finished goods inventories.**
- b. **Jeff would not be concerned about expensing administrative wages and depreciation immediately because the benefits received from these costs are not product costs. Instead, these costs benefit a period of time. Thus, these costs should be expensed during the period.**

CERTIFIED MANAGEMENT ACCOUNTANT (CMA[®]) EXAMINATION QUESTIONS (ADAPTED)

1. b. Baldwin's annual budgeted overhead is \$600,000, computed as follows:
- Overhead cost per unit: $\$4.30 - (\$1,000 \div 1,000) - (\$1,500 \div 1,000) = \1.80
 Overhead hours per unit: $450 \div 1,000 = 0.45$ hr.
 Overhead budget per unit: $\$1.80 \div 0.45 = \4.00
 Total overhead budget: $150,000 \times \$4.00 = \$600,000$
2. b. Total overhead applied to Job 231 is \$303, computed as follows:
- Tooling overhead per hour: $\$8,625 \div 460$ hours = \$18.75
 Fabricating overhead per hour: $\$16,120 \div 620$ hours = \$26.00
 Job 231 overhead: $(\$18.75 \times 12) + (\$26.00 \times 3) = \$303.00$
3. c. The unit costs for Job ICU2 would consist of direct materials, direct labor, and applied overhead per unit.
- Applied Overhead = Overhead Rate \times Number of Machine Hours
 = $\$25 \times 800$ machine hours
 = \$20,000
- Cost of Goods Sold per Unit = (Direct Materials Costs + Direct Labor Costs + Applied Overhead) \div Number of Units
 = $(\$13,700 + \$4,800 + \$20,000) \div 7,000$ units
 = $\$38,500 \div 7,000$ units
 = \$5.50 per unit
4. d. The overhead applied to a job incurring 20 direct labor hours would be \$140, computed as follows:
- Direct labor hours: $\$50,000$ total labor costs \div \$5 per hour = 10,000 hours
 Overhead rate: $\$70,000$ total factory overhead \div 10,000 direct labor hours = \$7 per direct labor hour
 Overhead applied to a job incurring 20 direct labor hours: $\$7 \times 20$ direct labor hours = \$140