

JOB ORDER COSTING

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Cost Accounting

- Refers to recording, classifying, and reporting all costs aspects of company performance during a particular period of time.
- System that records, summarizes, analyzes, and interprets the details of the cost of materials, labor, and overhead necessary to produce and sell an article or a product.

Basic Classifications of Costs:

- ✓ **PRODUCT**
 - **DIRECT MATERIALS** – applies to sold (CGS) and unsold (ASSET)
 - **DIRECT LABOR** – applies to sold (CGS) and unsold (ASSET)
 - **MANUFACTURING OVERHEAD** – applies to sold (CGS) and unsold (ASSET)
 - Indirect Labor
 - Indirect Materials
 - Rent of factory
 - Depreciation of manufacturing equipment
- ✓ **PERIOD**
 - **DISTRIBUTION/SELLING COSTS** – applies to sold only
 - Freight out
 - Gasoline and oil
 - Delivery Truck repairs
 - Delivery workers' salaries
 - Advertising
 - Salesperson's salaries
 - Samples
 - **ADMINISTRATIVE COSTS** – applies to sold only
 - Office Supplies
 - Rent of office
 - Depreciation of non-manufacturing equipment

FOR PRODUCT COSTS:

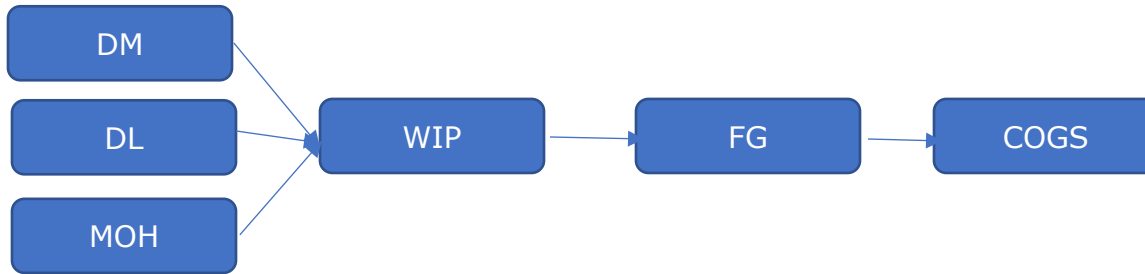
- ✓ **DIRECT COST**
 - **DIRECT MATERIALS (DM)**
 - **DIRECT LABOR (DL)**
- ✓ **INDIRECT COST**
 - **MANUFACTURING OVERHEAD (MOH)**

PRIME COST = DMU + DL

CONVERSION COST = DL + MOH

PRODUCT COST OR TOTAL MANUFACTURING COST = DMU + DL + MOH

BASIC COST FLOW



COST ACCUMULATION SYSTEMS

- ✓ JOB ORDER
 - Products that are manufactured within a department or cost center are **heterogenous** or **dissimilar**. They are **manufactured individually** or in **distinct lots or batches**; and each job **requires different amounts of materials, labor, and overhead**.
 - Accumulates costs applicable to each specified job order or lot of similar goods manufactured on a specific order for stock or for a customer.
 - Job is assigned a number and a form called **job cost sheet** is set-up
 - When completed, job cost sheet shows total costs for the completed job.
 - Job cost per unit may be then obtained by dividing the total cost of the job by the number of units completed.
- ✓ PROCESS COSTING
 - Accumulates costs without attempting to allocate them during the accounting period to specific units of goods being manufactured.
 - At the end of the period, average cost per unit is determined by dividing the total number of units produced into the total cost accumulated.
- ✓ HYBRID/OPERATION COSTING/BLENDED METHOD
 - Combination of Job order and process costing
 - In some manufacturing companies, different units have significantly different materials cost but undergo identical conversion in large quantities. In these cases, direct materials are accumulated using Job Order Costing and conversion costs are accumulated using process costing.
- ✓ Backflush Costing
 - Introduced due to the Just-in-Time (JIT) Philosophy in Production

PRODUCT COST ACCUMULATION SYSTEM

	<u>ACTUAL COSTING SYSTEM</u>	<u>NORMAL COSTING SYSTEM</u>	<u>STANDARD COSTING SYSTEM</u>
Direct Materials	Actual	Actual	Standard
Direct Labor	Actual	Actual	Standard
Manufacturing Overhead	Actual	Applied	Standard

INVENTORY ACCOUNTS

- ✓ SERVICE BUSINESS
 - None
- ✓ RETAILER
 - Merchandise Inventory
- ✓ MANUFACTURER
 - Raw Materials Inventory
 - Work in Process Inventory
 - Finished Goods Inventory

INVENTORY ACCOUNT COMPONENTS

RAW MATERIALS INVENTORY

Beginning Balance	Materials issued to production
Cost of Raw Materials purchased during the period	
ENDING BALANCE	

WORK IN PROCESS INVENTORY

Beginning Balance	Cost of goods manufactured
DIRECT Raw Materials issued to production	
Direct Labor incurred	
Manufacturing Overhead	
ENDING BALANCE	

FINISHED GOODS INVENTORY

Beginning Balance	Cost of goods sold
Cost of goods manufactured	
ENDING BALANCE	

JOURNAL ENTRIES:

1) Purchase of raw materials

Raw Materials Inventory	X	
Cash/Accounts Payable/Notes Payable		X

2) Issuance of Direct Materials to Production

Work in Process Inventory	X	
Raw Materials Inventory		X

3) Issuance of Indirect Materials to Production

Manufacturing Overhead	X	
Raw Materials Inventory		X

4) Incurrence of factory labor costs

Factory Payroll	X	
Various Accounts		X

5) Application of labor costs

Work in Process Inventory (For Direct Labor)	X	
Manufacturing Overhead (For Indirect Labor)	X	
Factory Payroll		X

Item 4 and 5 can be merged as follows:

Work in Process Inventory (For Direct Labor)	X	
Manufacturing Overhead (For Indirect Labor)	X	
Various Accounts		X

6) Incurrence of other manufacturing overhead

Manufacturing Overhead	X	
Various Accounts		X

7) Application of Manufacturing Overhead (*to be discussed further in the next part of this handout*)

Work in Process Inventory	X	
Manufacturing Overhead		X

8) Completion of production		
Finished Goods Inventory	X	
Work in Process Inventory		X
9) Sale of goods		
Cash/Accounts Receivable/Notes Receivable	X	
Sales		X
10) Identified cost of units sold		
Cost of Goods sold	X	
Finished Goods Inventory		X

STATEMENT OF COST OF GOODS MANUFACTURED AND SOLD

Raw Materials Inventory, Beginning		PX
Add (Less): Net Purchases	PX	
Purchases	X	
Freight-in	X	
Purchase Discounts	(X)	
Purchase returns and allowances	(X)	X
Raw Materials available for use		X
Less:		
Raw Materials, end	X	
Indirect Materials	X	(X)
Direct Materials Used		X
Add:		
Direct Labor	X	
Factory Overhead	X	X
TOTAL MANUFACTURING COST		X
Add: Work in Process Inventory, Beginning		X
TOTAL COST OF GOODS PUT INTO PROCESS		X
Less: Work in Process, End		(X)
COST OF GOODS MANUFACTURED		X
Add: Finished Goods Inventory, Beginning		X
TOTAL COST OF GOODS AVAILABLE FOR SALE		X
Less: Finished Goods Inventory, End		(X)
COST OF GOODS SOLD		<u>PX</u>

RAW MATERIALS

- ✓ Those materials used in the manufacturing process that become a **significant** part of the finished product are called **DIRECT MATERIALS**
- ✓ Those materials that are used in small amounts in the manufacturing process or that cannot be easily be traced to specific products are called **indirect materials** and **charged as part of actual overhead**.

LABOR

- ✓ Employees who worked directly with the raw materials in converting them to finished goods represent **direct labor**.
- ✓ The wages of **factory** personnel who do not work directly on raw materials are called **indirect labor** and **charged as part of actual overhead**

Wages versus Salaries:

- Wages are payments on an hourly, daily, or piecework basis.
- Salaries are fixed payments for managerial services.

Formulas:

$$\text{Gross Earnings} = \text{Regular Wage}^{\wedge} + \text{Overtime Premium}^{\wedge\wedge}$$

$^{\wedge}$ Regular Wage = Total hours worked (including overtime hours) x Regular Hourly Rate

$^{\wedge\wedge}$ Overtime Premium = Overtime hours worked x extra hourly compensation for overtime

FAQ: Where to charge the Overtime Premium?

Answer: If the job is taken as a **rush order** with the knowledge that overtime will be necessary, it is debited to the **Work in Process Inventory**. If the job is a **regular order** which cannot be completed in the regular working hours, it is charged to the **actual manufacturing overhead**.

Other additional compensation chargeable to Factory Overhead

1. Overtime premium (it depends. Refer to the above discussion)
2. Shift premium or differential
3. Bonus. Theoretically, bonus is a direct cost of production. However, because the purpose of cost accumulation is the establishment of a standard unit cost, bonuses are charged to factory overhead.
4. Vacation and holiday pay
5. Pensions
6. Fringe costs
7. Incentive Plans

MANUFACTURING OVERHEAD

ACTUAL MANUFACTURING OVERHEAD

- ✓ Costs actually incurred in the factory other than direct materials and direct labor.
- ✓ All manufacturing overhead actually incurred are debited to the Manufacturing Overhead Control Account.

APPLIED MANUFACTURING OVERHEAD

- ✓ Companies assign manufacturing overhead to Work in Process and to specific jobs on an estimated basis through the use of a *predetermined overhead rate*.
- ✓ Using a predetermined overhead rate enables a cost to be determined for a job immediately.
- ✓ The predetermined overhead rate is based on the relationship between budgeted manufacturing overhead and budgeted production activity level, expressed in terms of a common activity base.
 - The activity may be stated in terms of **direct labor costs, direct labor hours, machine hours**, or any other measure that will provide an equitable basis for applying overhead costs to jobs.
 - The predetermined overhead rate is established at the beginning of the year.
- ✓ Formula:

$$\text{PREDETERMINED OVERHEAD RATE} = \frac{\text{BUDGETED MANUFACTURING OVERHEAD}}{\text{BUDGETED PRODUCTION ACTIVITY LEVEL}}$$

- ✓ The computed predetermined overhead rate is then applied to the actual production activity level in order to arrive at the APPLIED OVERHEAD.
- ✓ The actual production activity level must be based on the same base used in determining the predetermined overhead rate.
- ✓ Formula:

$$\text{APPLIED OVERHEAD} = \text{ACTUAL PRODUCTION ACTIVITY LEVEL} \times \text{PREDETERMINED OVERHEAD RATE}$$

JOURNAL ENTRIES ON MANUFACTURING OVERHEAD

- 1) Incurrence of other manufacturing overhead
- | | | |
|------------------------|---|---|
| Manufacturing Overhead | X | |
| Various Accounts | | X |
- 2) Application of Manufacturing Overhead
- | | | |
|---------------------------|---|---|
| Work in Process Inventory | X | |
| Manufacturing Overhead | | X |

MANUFACTURING OVERHEAD ACCOUNT

ACTUAL MANUFACTURING OVERHEAD	APPLIED MANUFACTURING OVERHEAD
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RULES TO REMEMBER:

- 1) If ACTUAL > APPLIED = **UNDERAPPLIED** OVERHEAD -> **UNFAVORABLE** VARIANCE
2) If ACTUAL < APPLIED = **OVERAPPLIED** OVERHEAD -> **FAVORABLE** VARIANCE

DISPOSITION OF OVERHEAD VARIANCES

- ✓ If insignificant – close the variance to Cost of Goods Sold
- ✓ If significant – close the variance among the ending balances of the following:
 - Work in Process
 - Finished Goods
 - Cost of Goods Sold

BREAKDOWN OF OVERHEAD VARIANCE:

1. Spending Variance
2. Capacity Variance

ACCOUNTING FOR SCRAP, SPOILAGE, AND DEFECTS

Scrap Materials

- ✓ Unavoidable during production
- ✓ refer to filings or excessive trimmings of materials;
- ✓ defective materials that cannot be returned to vendor or not suitable for manufacturing operations; or
- ✓ broken parts as a result of an employee error or machine breakdowns that causes the product in a poor-quality condition.
- ✓ Scrap Sales may be accounted for as follows:
 - Additional Revenue (If immaterial)
 - Reduction of Cost of Goods Sold
 - Reduction of Factory Overhead Control (if silent)
 - Reduction in the Cost of Materials traceable to the particular job.
- ✓ If the scrap has a salvage value, it should be collected and placed in the storage and available for sale to scrap dealers or anyone who is willing to buy.
- ✓ If the scrap is the result of filings, excessive trimmings, or materials residue, and the cost of scrap cannot be determined, then the scrap, notwithstanding that they cannot be eliminated in the production, a record of quality of scrap should be maintained. The purpose is to keep track and periodically analyze and determine if some of the waste is due to inefficient use of materials, and if not eliminated, at least minimized.
- ✓ Waste, as distinguished against scrap, is the amount of raw materials left over from a production process or production cycle for which there is no further use. Waste is not usually salable at any price and must be discarded.

- ✓ Journal entries will vary depending on whether the scrap is recognized at the time of sale or production.

Journal entries for the sale of scrap materials:

Recognizing Scrap Materials at the time of Sale:

Case 1: If value of scrap is low or immaterial

Cash/Accounts Receivable	X	
Scrap Revenue		X

Case 2: If scrap is attributable to a specific job

Cash/Accounts Receivable	X	
Work in Process Inventory		X

Case 3: If scrap is common to all jobs

Cash/Accounts Receivable	X	
Manufacturing Overhead		X

Recognizing Scrap Materials at the time of Production

Case 1: If scrap is attributable to a specific job

Scrap Inventory	X	
Work in Process Inventory		X

Case 2: If scrap is attributable to all jobs

Scrap Inventory	X	
Manufacturing Overhead		X

If the scrap is sold (for both Case 1 and 2 above)

Cash/Accounts Receivable	X	
Scrap Inventory		X

Other scenarios

If the scrap is sold at the amount more than or less than its recorded value:

Cash/Accounts Receivable	X	
Work in Process Inventory/Manufacturing Overhead (Bfg)	X	
Scrap Inventory		X
Work in Process Inventory/Manufacturing Overhead (Bfg)		X

If the scrap is reused as direct materials rather than sold as a scrap:

Materials Inventory	X	
Work in Process Inventory/Manufacturing Overhead		X
<i>To record return of scrap to storeroom</i>		

Work in Process Inventory	X	
Materials Inventory		X
<i>To record reuse of scrap</i>		

Spoilage or Spoiled Goods

- ✓ either partially or fully completed units, for reason of being spoiled, they cannot be corrected because it is not technically possible to correct them, or it is not economical to correct them. Spoilage may either be:
 - Charged to Particular Job - due to exacting specifications or customer-imposed standards.
 - Charged to All Production / Factory Overhead - due to internal failure brought about by an employee error or worn-out machinery.
- ✓ Journal entries will depend on whether the spoilage is due to customer specifications or due to internal failure.
- ✓ If the **spoilage is due to the customer specification**, the **per unit cost** will tend to be **different** as compared to its per unit cost had there been no spoiled goods recognized.
- ✓ If the **spoilage is due to internal failure**, **per unit cost** will **not change**.
- ✓ If **spoilage loss is charged to all production**, the cost of goods would be the full unit cost which **includes any normal spoilage allowance**. It is through this allowance that the cost of spoiled goods is "spread" over the entire production.
- ✓ If spoilage loss is **charged to specific job**, spoilage is a function of specific job requirements rather than general factory condition. Then, the overhead rate should exclude any normal spoilage allowance.

SUMMARY

	<u>Charged to All Production</u>	<u>Charged to Specific Job</u>
Per Unit Cost	Remains the same	Different
Normal spoilage allowance	INCLUDED	EXCLUDED

Journal Entries

	<u>Charged to All Production</u>	<u>Charged to Specific Job</u>
To record estimated disposal value of spoiled goods	Spoiled Goods Inventory x Manufacturing Overhead Control (Bfg) x Work in Process Inventory x	Spoiled Goods Inventory x Work in Process Inventory x
To record sale of spoiled goods	Cash/Accounts Receivable x Spoiled Goods Inventory x	Cash/Accounts Receivable x Spoiled Goods Inventory x
Alternatively, first two transactions can be merged	Cash/Accounts Receivable x Manufacturing Overhead Control (Bfg) x Work in Process Inventory x	Cash/Accounts Receivable x Work in Process Inventory x

Rework

- ✓ the process of correcting defective units in order to bring them into salable condition. Rework may either be:
 - Charged to Particular Job - due to exacting specifications or customer-imposed standards.
 - Charged to All Production / Factory Overhead - due to internal failure brought about by an employee error or worn-out machinery.
- ✓ Journal entries will depend as to whether the defect is due to customer specification or internal failure.
- ✓ If the rework is **due to customer specification, per unit cost** tends to be **different** as compared to its per unit cost had there been no defect identified.
- ✓ If the rework is due to **internal failure, per unit cost** will **not change**.
- ✓ If the rework is **due to a customer specification**, the rework costs shall be charged to the job cost sheet of that job, and therefore, debited to the **Work-in Process Inventory**.
- ✓ If the rework is **due to internal failure**, rework costs cannot be charged to the specific job but instead charged to **Manufacturing Overhead**.

SUMMARY

	<u>Charged to All Production</u>	<u>Charged to Specific Job</u>
Per Unit Cost	Remains the same	Different
Allowance for any defect	INCLUDED	EXCLUDED

Journal Entries

	<u>Charged to All Production</u>		<u>Charged to Specific Job</u>	
To record additional cost of rework	Manufacturing Overhead Control	x	Work in Process Inventory	x
	Materials	x	Materials	x
	Factory Payroll	x	Factory Payroll	x
	Applied Manufacturing Overhead	x	Applied Manufacturing Overhead	x

-END OF LECTURE-

ILLUSTRATIVE PROBLEMS

I – Actual and Normal Costing

For fiscal year 2021, Matz Solution it would incur total overhead costs of P1,200,000 and work 40,000 machine hours. During January 2021, the company works exclusively on one job, Job #458. It incurred January costs as follows:

Direct materials usage	P 121,000
Direct labor (1,400 hours)	30,800
Manufacturing overhead:	
Rent	P 11,200
Utilities	15,200
Insurance	32,100
Labor	15,500
Depreciation	23,700
Maintenance	<u>10,800</u>
Total OH	<u>108,500</u>
Total Manufacturing Costs	<u>P 260,300</u>

Machine hours worked in January: 3,400.

1. Assuming the company uses an **actual cost system**, compute the January costs assigned to Job#458.
A. P253,800 C. P260,300
B. P251,800 D. P265,000
2. Assuming the company uses a **normal cost system**, compute the January costs assigned to Job#458.
A. P253,800 C. P260,300
B. P251,800 D. P265,000

II – Disposition of Over-under applied Overhead Account

The records of XYZ Co. revealed the following data for 2021:

Work in Process	P 73,150
Finished Goods	115,000
Cost of Goods Sold	133,650
Direct Labor	111,600
Direct Material	84,200

1. Refer to XYZ Co. Assume, for this question only, actual overhead is P98,700 and applied overhead is P93,250. Manufacturing Overhead is
 - a. Overapplied by P12,900.
 - b. underapplied by P18,350.
 - c. overapplied by P5,450.
 - d. underapplied by P5,450.
2. Refer to XYZ Co. Assume that XYZ has underapplied overhead of P37,200 for 2019 and that this amount is material. What journal entry is needed to close the Overhead account? (Round decimals to nearest whole percent.)
 - a. Debit Work in Process P8,456; Finished Goods P13,294; Cost of Goods Sold P15,450 and credit Overhead P37,200
 - b. Debit Overhead P37,200 and credit Work in Process P8,456; Finished Goods P13,294; Cost of Goods Sold P15,450
 - c. Debit Work in Process P37,200 and credit Overhead P37,200
 - d. Debit Cost of Goods Sold P37,200 and credit Overhead P37,200
3. Refer to XYZ Co. Assume that XYZ has underapplied overhead of P10,000 for 2019 and that this amount is immaterial. What is the balance in Cost of Goods Sold after the underapplied overhead is closed?
 - a. P133,650 c. P143,650
 - b. P123,650 d. P137,803
4. Refer to XYZ Co. Assume that XYZ has overapplied overhead of P25,000 for 2019 and that this amount is material. What is the balance in Cost of Goods Sold after the overapplied overhead is closed?
 - a. P123,267 c. P158,650

b. P144,033

d. P108,650

III – Manufacturing Cost Computations

The following account balances and other information for Barfield Company pertain to November operations:

	Account Balances	
	November 1	November 30
Finished goods	P 70,000	P 60,000
Work in process	50,000	?
Raw materials inventory	10,000	25,000
Accounts payable	?	15,000
Accrued payroll	10,000	20,000
Accumulated depreciation – factory equipment	80,000	90,000

Other information:

- The company's Raw Materials Inventory account contains both direct and indirect materials, materials purchased on account during November, P105,000. Direct materials issued to production cost P80,000.
- Barfield Company applies factory overhead at a predetermined rate of P3 per direct labor hour.
- During November, direct labor employees worked 25,000 hours at a rate of P4 per hour.
- Jobs 385, 386, and 387 were still in process at the end of November. A total of P5,000 of direct materials has been charged to these three jobs. To date, 5,000 direct labor hours have been worked on these jobs.
- The accrued payroll account is used for factory employees only. Assuming no payroll deductions, payment to factory employees during the month totaled P140,000.
- Factory overhead was underapplied by P5,000.
- Payments on account totaled P125,000.

Required: Determine the following -

- Direct materials charged to operations
- Indirect materials
- Factory overhead applied during the month
- Ending inventory of work in process
- Cost of goods manufactured
- Cost of goods sold before over-under applied
- Indirect labor
- Miscellaneous factory overhead
- Accounts payable, November 1

IV

Fusion Company has the following data on April 30, 2021:

April manufacturing overhead	P30,101.80
Decrease in ending inventories:	
Materials	2,430.00
Goods in process	590.00
Increase in ending inventory:	
Finished goods	1,320.40

The manufacturing overhead amounts to 50% of the direct labor and the direct labor and manufacturing overhead combined equal 50% of the total costs of manufacturing. All materials are purchased FOB shipping point. What is the costs of goods manufactured?

- | | |
|----------------|----------------|
| A. P180,610.80 | C. P182,300.80 |
| B. P181,200.80 | D. P183,200.80 |

V – Normal Costing

Normal operating capacity of Warren, Inc. is 150,000 machine hours per month, the level used to compute the predetermined factory overhead application rate. At this level of activity, fixed factory overhead is estimated to be P300,000, and variable factory overhead is estimated to be P150,000. During March, actual production required 140,000 machine hours, and the actual factory overhead totaled P435,000.

Required:

1. Determine the fixed portion of the fixed factory overhead application rate.
2. Determine the variable portion of the factory overhead application rate.
3. Is factory overhead for March over- or underapplied and by how much?
4. How much is the spending variance, and is it favorable or unfavorable?
5. How much is the idle capacity variance, and is it favorable or unfavorable?

VI – Accounting for Scrap

The KCO Metal Fabricators, Inc. accumulates a fairly large quantities of metal shavings and trimmings from the products their produce. At least, once a month, the scrap metal is sold to a local jobber for further processing. This month's scrap sales on account total P10,000.

Required: Give the appropriate entry to record the sale of the scrap for each of the following alternatives:

1. The scrap sales are viewed as additional revenue.
2. The scrap sales are viewed as a reduction of the cost of goods sold during the month.
3. The scrap sales are viewed as a reduction of factory overhead control.
4. The scrap sales are traceable to individual jobs and are recorded as a reduction of cost of the materials on the jobs.

VII – Accounting for Spoilage or Spoiled Goods

Harper Company's Job 501 for the manufacture of 2,200 units, which was completed during August at the unit costs presented below:

Direct materials	P 20
Direct labor	18
Factory overhead (includes an allowance of P1 for spoiled work)	<u>18</u>
	<u>P 56</u>

Final inspection of Job 501 disclosed 200 spoiled units which were sold to a local jobber for P6,000.

1. Assume that spoilage loss is charged to all production or due to internal failure during August. What would be the unit cost of the product produced on Job 501?

A. P53.00	C. P56.00
B. P55.00	D. P58.60
2. Assume that the spoilage loss is attributable to the exacting specifications of Job 501 (or production run) and is charged to specific job. What would be the unit cost of the product produced on Job 501?

A. P53.00	C. P57.50
B. P55.00	D. P58.60

VIII – Accounting for Defective Goods (Rework)

During March, Loryvi Company incurred the following costs on Job 109 for the manufacture of 200 motors:

Original cost accumulation:

Direct materials	P 660
Direct labor	800
Factory overhead (150% of direct labor)	<u>1,200</u>
Total costs	<u>P 2,660</u>

Direct costs of reworking 10 motors:

Direct materials	P 100
Direct labor	<u>160</u>
Total costs	<u>P 260</u>

1. The rework costs were attributable to internal failure (to all production) or charged to factory overhead, what is the cost per finished unit of Job 109?

A. P15.80	C. P14.00
B. P14.60	D. P13.30

2. The rework costs were attributable to the exacting specifications of Job 109 (or production run) and the full rework costs were charged to this specific job. What is the cost per finished unit of Job 109?
- | | |
|-----------|-----------|
| A. P15.80 | C. P14.00 |
| B. P14.60 | D. P13.30 |

-END OF HANDOUT 01-