- Predetermined Overhead rate
- Separating mixed cost
- Flexible budgets
- Cost estimation

I. Theories

1. For analysis purposes, the high-low method usually produces a(n)
   A. reasonable estimate.
   B. precise estimate.
   C. overstated estimate.
   D. understated estimate.

2. The high-low method is criticized because it
   A. is not a graphical method.
   B. is a mathematical method.
   C. ignores much of the available data by concentrating on only the extreme points.
   D. does not provide reasonable estimates.

3. The high-low method may give unsatisfactory results if
   A. the data points all fall on a line.
   B. volume of activity is heavy.
   C. the points are not representative.
   D. volume of activity is light.

4. Weaknesses of the high-low method include all of the following except
   A. Only two observations are used to develop the cost function.
   B. The high and low activity levels may not be representative.
   C. the method does not detect if the cost behavior is nonlinear.
   D. the mathematical calculations are relatively complex.

5. The cost estimation method that gives the most mathematically precise cost prediction equation is
   A. the high-low method
   B. the contribution margin method
   C. the scatter-diagram method
   D. regression analysis

6. Regression analysis is better than the high-low method of cost estimation because regression analysis:
   A. is more mathematical.
   B. uses all the data points, not just two.
   C. fits its data into a mathematical equation.
   D. takes more time to do.

7. In regression analysis, what does the variable "X" stand for in the model Y = a + bX + e?
   A. The amount of the dependent variable, the cost to be estimated.
   B. The regression error, which is the distance between the regression line and the data point.
   C. The value for the independent variable, the cost driver for the cost to be estimated; there may be one or more cost drivers.
   D. The unit variable cost, also called the coefficient of the independent variable.

8. A cost-predicting equation determined through regression analysis
   A. always gives close predictions.

B. will not work any better than one obtained using the high-low method.
C. can be used only for costs that vary with sales of production.
D. could be severely affected by outliers.

9. The closeness of the relationship between the cost and the activity is called
   A. correlation
   B. regression analysis
   C. spurious
   D. manufacturing overhead

10. Advantages of the method of least squares over the high-low method include all of the following except
    A. a statistical method is used to mathematically derive the cost function
    B. only two points are used to develop the cost function
    C. the squared differences between actual observations and the line (cost function) are minimized
    D. all the observations have an effect on the cost function

11. The process of assigning overhead costs to the jobs that are worked on is commonly called:
    A. service department cost allocation.
    B. overhead cost distribution.
    C. overhead application.
    D. transfer costing.
    E. overhead cost apportionment.

12. Which of the following is the correct method to calculate a predetermined overhead rate?
    A. Budgeted total manufacturing cost ÷ budgeted amount of cost driver.
    B. Budgeted overhead cost ÷ budgeted amount of cost driver.
    C. Budgeted amount of cost driver ÷ budgeted overhead cost.
    D. Actual overhead cost ÷ budgeted amount of cost driver.
    E. Actual overhead cost ÷ actual amount of cost driver.

13. Metro Corporation uses a predetermined overhead rate of $20 per machine hour. In deriving this figure, the company's accountant used:
    A. a denominator of budgeted machine hours for the current accounting period.
    B. a denominator of actual machine hours for the current accounting period.
    C. a denominator of actual machine hours for the previous accounting period.
    D. a numerator of budgeted machine hours for the current accounting period.
    E. a numerator of actual machine hours for the current accounting period.

14. The left side of the Manufacturing Overhead account is used to accumulate:
    A. actual manufacturing overhead costs incurred throughout the accounting period.
    B. overhead applied to Work-in-Process Inventory.
    C. underapplied overhead.
    D. predetermined overhead.
    E. overapplied overhead.

15. Throughout the accounting period, the credit side of the Manufacturing Overhead account is used to accumulate:
    A. actual manufacturing overhead costs.

B. overhead applied to Work-in-Process Inventory.
C. overapplied overhead.
D. underapplied overhead.
E. predetermined overhead.

16. An accountant recently debited Work-in-Process Inventory and credited Manufacturing Overhead. The accountant was:
A. applying a predetermined overhead amount to production.
B. recognizing receipt of the factory utilities bill.
C. recording a year-end adjustment for an insignificant amount of underapplied overhead.
D. recognizing actual overhead incurred during the period.
E. recognizing the completion of production.

17. Sanger Corporation debited Cost of Goods Sold and credited Manufacturing Overhead at year-end. On the basis of this information, one can conclude that:
A. budgeted overhead exceeded actual overhead.
B. budgeted overhead exceeded applied overhead.
C. budgeted overhead was less than applied overhead.
D. actual overhead exceeded applied overhead.
E. actual overhead was less than applied overhead.

18. Howard Manufacturing's overhead at year-end was underapplied by $5,800, a small amount given the firm's size. The year-end journal entry to record this amount would include:
A. a debit to Cost of Goods Sold.
B. a debit to Manufacturing Overhead.
C. a debit to Work-in-Process Inventory.
D. a credit to Cost of Goods Sold.
E. a credit to Work-in-Process Inventory.

19. Fog Company, which uses labor hours to apply overhead to manufacturing, may have increased amounts of underapplied overhead at month-end if:
A. suppliers of direct materials have an across-the-board price increase.
B. an accountant failed to record the period's charges for plant maintenance and security.
C. employees are hit hard with a widespread outbreak of the flu.
D. direct laborers are granted a wage increase.
E. outlays for advertising expenditures are increased.

20. The estimates used to calculate the predetermined overhead rate will virtually always:
A. prove to be correct.
B. result in a year-end balance of zero in the Manufacturing Overhead account.
C. result in overapplied overhead that is closed to Cost of Goods Sold if it is immaterial in amount.
D. result in underapplied overhead that is closed to Cost of Goods Sold if it is immaterial in amount.
E. result in either underapplied or overapplied overhead that is closed to Cost of Goods Sold if it is immaterial in amount.

21. Under- or overapplied manufacturing overhead at year-end is most commonly:

A. charged or credited to Work-in-Process Inventory.
B. charged or credited to Cost of Goods Sold.
C. charged or credited to a special loss account.
D. prorated among Work-in-Process Inventory, Finished-Goods Inventory, and Cost of Goods Sold.
E. ignored because there is no effect on the Cash account.

22. When underapplied or overapplied manufacturing overhead is prorated, amounts can be assigned to which of the following accounts?
A. Raw-Material Inventory, Manufacturing Overhead, and Direct Labor.
B. Cost of Goods Sold, Work-in-Process Inventory, and Finished-Goods Inventory.
C. Work-in-Process Inventory, Raw-Material Inventory, and Cost of Goods Sold.
D. Raw-Material Inventory, Finished-Goods Inventory, and Cost of Goods Sold.
E. Raw-Material Inventory, Work-in-Process Inventory, and Finished-Goods Inventory

23. Which of the following statement(s) is (are) correct regarding overhead application?

I. Actual overhead rates result in more accurate but less timely information.
II. Predetermined overhead rates result in less accurate but more timely information.
III. Predetermined overhead rates tend to smooth product costs over time.

A. III only.
B. I and II.
C. I and III.
D. II and III.
E. I, II, and III.

24. The term "normal costing" refers to the use of:
A. job-costing systems.
B. computerized accounting systems.
C. targeted overhead rates.
D. predetermined overhead rates.
E. actual overhead rates.

25. Which of the following statements about the use of direct labor as a cost driver is <u>false</u>?
A. Direct labor is the most commonly used cost driver when calculating a predetermined overhead rate.
B. Direct labor is gaining in importance in many manufacturing applications with respect to being a significant cost driver.
C. Direct labor is an inappropriate cost driver to use if a company is highly automated.
D. If direct labor is a good cost driver, increases in direct labor are matched with increases in manufacturing overhead.
E. Companies can use either direct labor cost or direct labor hours as a cost driver.

26. If the amount of effort and attention to products varies substantially throughout a firm's various manufacturing operations, the firm might consider the use of:
A. a plant-wide overhead rate.
B. departmental overhead rates.

C. actual overhead rates instead of predetermined overhead rates.
D. direct labor hours to determine the overhead rate.
E. machine hours to determine the overhead rate.

27. At the Nassau Advertising Agency, partner and staff compensation cost is a key driver of agency overhead. In light of this fact, which of the following is the correct expression to determine the amount of overhead applied to a particular client job?
A. (Budgeted overhead ÷ budgeted compensation) x budgeted compensation cost on the job.
B. (Budgeted overhead ÷ budgeted compensation) x actual compensation cost on the job.
C. (Budgeted compensation ÷ budgeted overhead) x budgeted compensation cost on the job.
D. (Budgeted compensation ÷ budgeted overhead) x actual compensation cost on the job.
E. None of the above, because service providers do not apply overhead to jobs.

28. In comparison with firms that use plantwide overhead rates and departmental overhead rates, companies that have adopted activity-based costing will typically use:
A. more cost pools and more cost drivers.
B. more cost pools and fewer cost drivers.
C. fewer cost pools and more cost drivers.
D. fewer cost pools and fewer cost drivers.
E. only one cost pool and one cost driver.

29. The cost estimation method that gives the most mathematically precise cost prediction equation is
a. the high-low method.
b. the scatter-diagram method.
c. the contribution margin method.
d. regression analysis.

30. Which cost is most likely to be mixed for a manufacturer?
a. Raw materials.
b. Direct labor.
c. Manufacturing overhead.
d. Insurance.

31. A mixed cost
a. increases in steps as volume increases.
b. contains a fixed component and a variable component.
c. varies with more than one measure of volume.
d. cannot be accurately predicted.

32. A cost-predicting equation determined through regression analysis
a. always gives close predictions.
b. will not work any better than one obtained using the high-low method.
c. can be used only for costs that vary with sales or production.
d. could be severely affected by outliers.

33. A seasonal business that sets selling prices at 20% above average cost for the preceding month will
    a. be better off if it closed down during the off-season.
    b. charge higher prices in the off-season than in the busy season.
    c. always charge higher prices than its competitors.
    d. make a consistent return on sales of 20%.

34. Since overhead costs are indirect costs,
    a. they require some process of allocation.
    b. they can be easily traced to production.
    c. a predetermined overhead rate is not advantageous.
    d. they cannot be allocated.

35. Cost allocation is the assignment of _____ costs to one or more products using a reasonable basis.

	direct	indirect
a.	yes	yes
b.	yes	no
c.	no	no
d.	no	yes

36. An actual cost system differs from a normal cost system in that an actual cost system
    a. assigns overhead as it occurs during the manufacturing cycle.
    b. assigns overhead at the end of the manufacturing process.
    c. does not assign overhead at all.
    d. does not use an Overhead Control account.

37. In a normal cost system, which of the following is used?

	Actual direct materials	Actual direct labor	Actual overhead
a.	yes	no	yes
b.	yes	yes	yes
c.	yes	yes	no
d.	no	yes	no

38. Predetermined overhead rates are computed based on

	estimated overhead costs	estimated level of activity
a.	yes	yes
b.	yes	no
c.	no	yes
d.	no	no

39. One reason annual overhead application rates are used is
    a. because of seasonal variability of overhead costs.
    b. to help budget overhead costs.

c. to minimize the overhead cost assigned to products.
d. to maximize the overhead cost assigned to products.

40. Which of the following is **not** a reason to use predetermined overhead rates?
    a. to overcome the problems of assigning overhead to diverse types of products
    b. to compensate for fluctuations in monthly overhead costs
    c. to provide a means for assigning overhead during the period rather than at the end of the period
    d. to smooth out the amount of overhead cost assigned to products when monthly production activity differs

41. When a manufacturing company has a highly automated manufacturing plant producing many different products, which of the following is the more appropriate basis of applying manufacturing overhead costs to work in process?
    a. direct labor hours
    b. direct labor dollars
    c. machine hours
    d. cost of materials used

42. A mixed cost has which of the following components?

	Variable component	Fixed component
a.	yes	no
b.	yes	yes
c.	no	no
d.	no	yes

43. In the formula y = a + bX, y represents
    a. fixed costs.
    b. total cost.
    c. variable costs.
    d. mixed costs.

44. In the formula y = a + bX, a represents
    a. mixed cost.
    b. variable cost.
    c. total cost.
    d. fixed cost.

45. In relationship to changes in activity, variable overhead changes

	in total	per unit
a.	no	no
b.	no	yes
c.	yes	yes
d.	yes	no

46. In relationship to changes in activity, fixed overhead changes

	in total	per unit
a.	yes	yes
b.	no	no
c.	no	yes
d.	yes	no

47. If the level of activity increases,
    a. variable cost per unit and total fixed costs increase.
    b. fixed cost per unit and total variable cost increase.
    c. total cost will increase and fixed cost per unit will decrease.
    d. variable cost per unit and total cost increase.

48. Weaknesses of the high-low method include all of the following **except**
    a. only two observations are used to develop the cost function.
    b. the high and low activity levels may not be representative.
    c. the method does not detect if the cost behavior is nonlinear.
    d. the mathematical calculations are relatively complex.

49. If there is no "a" value in a linear cost equation, this is an indication that the cost is
    a. fixed.
    b. mixed.
    c. variable.
    d. either fixed or mixed.

50. An outlier is
    a. something that happens outside the organization that does not affect production.
    b. always used in analyzing a mixed cost.
    c. something that happens inside the organization that does not affect production.
    d. never used in analyzing a mixed cost.

51. Applied overhead consists of which of the following?
    a. actual activity times predetermined overhead rate
    b. estimated activity times predetermined overhead rate
    c. actual activity times actual overhead rate
    d. estimated activity times actual overhead rate

52. If a company used two overhead accounts, the one that would receive the most debits would be
    a. actual overhead.
    b. applied overhead.
    c. both would receive an equal number of debits.
    d. impossible to determine without additional information.

53. If underapplied overhead is considered to be **immaterial**, it is closed to which of the following accounts?

Work in Process	Finished Goods	Cost of Goods Sold

a.	yes	yes	yes
b.	no	yes	yes
c.	yes	no	no
d.	no	no	yes

54. All other things being equal, if actual cost per unit is greater than budgeted cost per unit, variable overhead will be
a. overapplied.
b. the same as fixed overhead.
c. underapplied.
d. applied to Finished Goods.

55. Overapplied overhead will result if
a. the plant is operated at less than expected capacity.
b. overhead costs incurred were greater than estimated overhead costs.
c. overhead costs incurred were less than overhead costs charged to production.
d. overhead costs incurred were greater than overhead charged to production.

56. Actual overhead exceeds applied overhead and the amount is **immaterial**. Which of the following will be **true?** Upon closing,

	Overhead is	Cost of Goods Sold will
a.	underapplied	increase
b.	overapplied	decrease
c.	overapplied	increase
d.	underapplied	decrease

57. If actual overhead is less than applied overhead, which of the following will be **true**? Upon closing,

	Overhead is	Cost of Goods Sold is
a.	underapplied	credited
b.	underapplied	debited
c.	overapplied	debited
d.	overapplied	credited

58. The estimated maximum potential activity for a specified time is:
a. theoretical capacity
b. practical capacity
c. normal capacity
d. expected capacity

59. The measure of activity that allows for routine variations in manufacturing activity is:
a. theoretical capacity
b. practical capacity
c. normal capacity
d. expected capacity

60. The measure of production that considers historical and estimated future production levels and cyclical fluctuations is referred to as:
a. theoretical capacity
b. practical capacity
c. normal capacity
d. expected capacity

61. A short-run measure of activity that represents a firm's anticipated activity level for an upcoming period based upon expected demand is referred to as:
    a. theoretical capacity
    b. practical capacity
    c. normal capacity
    d. expected capacity

62. An item or event that has a cause-effect relationship with the incurrence of a variable cost is called a
    a. mixed cost.
    b. predictor.
    c. direct cost.
    d. cost driver.

True or False
Write T if the statement is true otherwise, Write F.

1. In an actual cost system, factory overhead is assigned directly to products and services.
2. In a normal cost system, factory overhead is assigned directly to products and services.
3. In a normal cost system, factory overhead is assigned to an overhead control account and then allocated to products and services.
4. In an actual cost system, factory overhead is assigned to an overhead control account and then allocated to products and services.
5. A debit to the factory overhead account represents actual overhead costs.
6. A debit to the factory overhead account represents applied overhead costs.
7. A credit to the factory overhead account represents actual overhead costs.
8. A credit to the factory overhead account represents applied overhead costs.
9. If actual overhead exceeds applied overhead, factory overhead is said to be overapplied.
10. If actual overhead exceeds applied overhead, factory overhead is said to be underapplied.
11. If overapplied factory overhead is immaterial, the account is closed by a credit to Cost of Goods Sold.
12. If overapplied factory overhead is material, the account is closed by a credit to Cost of Goods Sold.
13. If overapplied factory overhead is immaterial, the account is closed by a debit to Cost of Goods Sold.
14. If underapplied factory overhead is immaterial, the account is closed by a debit to Cost of Goods Sold.
15. If underapplied factory overhead is immaterial, the account is closed by a credit to Cost of Goods Sold.
16. If underapplied factory overhead is material, it is prorated among Work in Process Inventory, Finished Goods Inventory, and Cost of Goods Sold.
17. The estimated maximum potential activity for a specified time is known as theoretical capacity.
18. Practical capacity does not adjust for routine downtime in a production process.
19. Normal capacity considers present and future production levels and cyclical fluctuations.
20. Expected capacity is a long-run measure of activity.
21. Practical capacity is the capacity that can be achieved during normal working hours.
22. The regression equation $y = a + bX$ assumes that the function is curvilinear in nature.
23. The regression equation $y = a + bX$ assumes that the function is linear in nature.
24. The slope of a regression line is determined by dividing the change in activity level by the change in total cost.
25. The slope of a regression line is determined by dividing the change in total cost by the change in activity level.

26. The high-low method excludes outliers from the calculation of the slope of a regression line.
27. When using the high-low method, fixed costs are computed before the variable component is computed.
28. When using the high-low method, the variable component is computed before the fixed component is.
29. A flexible budget is a planning document that presents expected variable and fixed overhead costs at different activity levels.
30. Plantwide overhead rates provide a more accurate computation of factory overhead than departmental overhead rates
31. Plantwide overhead rates provide a less accurate computation of factory overhead than departmental overhead rates

Problems

Problem I

Birmingham Machine Works had the following data regarding monthly power costs:

Month	Machine hours	Power cost
Jun	300	P680
Jul	600	720
Aug	400	695
Sept.	200	640

1. *Assume that management expects 500 machine hours in October. Using the high-low method, calculate October's power cost using machine hours as the basis for prediction.*

Problem II

2. Walton Corporation wishes to develop a single predetermined overhead rate. The company's expected annual fixed overhead is P340,000 and its variable overhead cost per machine hour is P 2. The company's relevant range is from 200,000 to 600,000 machine hours. Walton expects to operate at 425,000 machine hours for the coming year. The plant's theoretical capacity is 850,000. The predetermined overhead rate per machine hour should be?

Problem III

Burke Corporation has the following data for use of its machinery

Month	Usage	Cost
Jun	600	P750
Jul	650	775
Aug	420	550
Sept	500	650
Oct	450	570

3. *Using the high-low method, compute the variable cost element.*
4. *Using the high-low method, compute the fixed cost element (to the nearest whole peso).*

Problem IV

The records of Zenith Corporation revealed the following data for the current year.

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

5. *Assume that Zenith has underapplied overhead of P37,200 and that this amount is material, what is the balance of finished goods after closing the underapplied overhead?*
6. *Refer to #5, how much of the underapplied overhead is attributable to work in process account?*
7. *Assume that Zenith has underapplied overhead of P 10,000 and that this amount is immaterial. What is the balance in Cost of Goods Sold after the underapplied overhead is closed?*
8. *Refer to #7, what is the balance of finished goods after the underapplied overhead is closed?*
9. *Assume that Zenith has overapplied overhead of P25,000 and that this amount is material. What is the balance in Cost of Goods Sold after the overapplied overhead is closed?*
10. *Refer to #9, how much of the overapplied overhead is attributable to finished goods?*

Problem V

Hume Corporation has the following data for the current year:

Direct Labor	P220,000
Direct Material	137,800
Actual Overhead	320,000
Applied Overhead	395,000
Raw Material	51,394
Work in Process	101,926
Finished Goods	111,192
Cost of Goods Sold	250,182

Any amount of under (over-)applied overhead is considered material. Sales revenue for the current year amounted to P 390,000.

11. *What is the amount of under- or overapplied overhead? (indicate wheter under- or overapplied)*
12. *What is the balance of work in process after disposing the under- or overapplied overhead?*
13. *What is the adjusted gross profit for the current year?*

Problem VI

Leon Corporation has the following data relating to its power usage for the first six months of the current year.

Month	Usage	(Kw)Cost
Jan.	500	P450
Feb.	550	455
Mar.	475	395

Apr.	425	310
May	450	380
June	725	484

Assume usage is within the relevant range of activity.

14. *Using the high-low method, compute the cost formula.*
15. *Leon Corporation estimates its power usage for July at 660 watts. Compute the total power cost for July.*

Problem VII

Action Trainers provides a personalized training program that is popular with many companies. The number of programs offered over the last five months, and the costs of offering these programs are as follows:

	Programs Offered	Costs Incurred
Jan	55	P15,400
Feb	45	14,050
Mar	60	18,000
April	50	14,700
May	75	19,000

16. *Using the least-squares regression method, compute the cost formula.*
17. *Compute the total cost for May if the number of programs offered for May is 59.*

Problem VIII

18. Nite Corporation has developed the following flexible budget formula for annual indirect labor costs:
    Total Cost = P480,000 + P5.00 per machine hour

    Operating budgets for the current month are based upon 20,000 machine hours of planned machine time. Indirect labor costs included in this planning budget are?

Problem IX

Barney Company applies manufacturing overhead by using a predetermined rate of 200% of direct labor cost. The data that follow pertain to job no. 764:

Direct material cost	P55,000
Direct labor cost	40,000

19. *If Barney adds a 40% markup on total cost to generate a profit, how much is the gross profit on job no. 764?*

Problem X

20. Media, Inc., an advertising agency, applies overhead to jobs on the basis of direct professional labor hours. Overhead was estimated to be P150,000, direct professional labor hours were estimated to be 15,000, and direct professional labor cost was projected to be P225,000. During the year, Media incurred actual overhead costs of P146,000, actual direct

professional labor hours of 14,500, and actual direct labor cost of P222,000. By year-end, the firm's overhead was over or underapplied by?

Problem XI

21. Maher, Inc., applies manufacturing overhead at the rate of P60 per machine hour. Budgeted machine hours for the current period were anticipated to be 80,000; however, a lengthy strike resulted in actual machine hours being worked of only 65,000. Budgeted and actual manufacturing overhead figures for the year were P4,800,000 and P4,180,000, respectively. On the basis of this information, the company's year-end overhead was under- or overapplied by?

Problem XII

Carlson charges manufacturing overhead to products by using a predetermined application rate, computed on the basis of labor hours. The following data pertain to the current year:

Budgeted manufacturing overhead: P1,600,000
Actual manufacturing overhead: P1,632,000
Budgeted labor hours: 50,000
Actual labor hours: 48,000

22. *Overhead is over- or underapplied by how much?*

Problem XIII

Brickman Corporation, which began operations on January 1 of the current year, reported the following information:

Estimated manufacturing overhead	P600,000
Actual manufacturing overhead	639,000
Estimated direct labor cost	480,000
Actual direct labor cost	500,000
Total debits in the Work-in-Process account	1,880,000
Total credits in the Finished-Goods account	920,000

Brickman applies manufacturing overhead to jobs on the basis of direct labor cost and adds a 60% markup to the cost of completed production when finished goods are sold. On December 31, job no. 18 was the only job that remained in production. That job had direct-material and direct-labor charges of P16,500 and P36,000, respectively.

23. *Determine the company's predetermined overhead rate.*
24. *Determine the amount of under- or overapplied overhead.*
25. *Compute the amount of direct materials used in production.*
26. *Calculate the balance the company would report as ending work-in-process inventory.*

Problem XIV

Athens Corporation applies manufacturing overhead to products on the basis of machine hours. The company's accountant estimated that overhead and machine hours would total P800,000 and 50,000, respectively, for 2001. Actual costs incurred follow.

Direct material used	P250,000
Direct labor	300,000
Manufacturing overhead	816,000

The manufacturing overhead figure presented above excludes P27,000 of sales commissions incurred by the firm. An examination of job-cost records revealed that 18 jobs were sold during the year at a total cost of P2,960,000. These goods were sold to customers for P3,720,000. Actual machine hours worked totaled 51,500, and Athens adjusts under- or overapplied overhead at year-end to Cost of Goods Sold.

27. *Determine the company's predetermined overhead application rate.*
28. *Determine the amount of under- or overapplied overhead at year-end.*
29. *Compute the company's actual gross margin.*

Problem XV

Packard Products uses a job-costing system for its units, which pass from the Machining Department, to the Assembly Department, to finished-goods inventory. The Machining Department is heavily automated; in contrast, the Assembly Department performs a number of manual-assembly activities. The following information relates to the Machining Department for the year just ended:

Budgeted manufacturing overhead	P8,000,000
Actual manufacturing overhead	7,975,000
Budgeted machine hours	500,000
Actual machine hours	510,000

The Machining Department data that follow pertain to job no. 243, the only job in production at year-end.

Direct materials	P64,800
Direct labor cost	35,200
Machine hours	450

30. *Assuming the use of normal costing, calculate the predetermined overhead rate that is used in the Machining Department.*
31. *Compute the cost of the Machining Department's year-end work-in-process inventory.*
32. *Determine whether overhead was under- or overapplied during the year in the Machining Department.*
33. *How much overhead would have been charged to the Machining Department's Work-in-Process account during the year?*

Problem XVI

Kent Products uses a predetermined overhead application rate of P18 per labor hour. A review of the company's accounting records revealed budgeted manufacturing overhead for the period of P621,000, applied manufacturing overhead of P590,400, and overapplied overhead of P11,900.

Determine:

34. *Kent's actual labor hours*

35. Kent's budgeted labor hours.
36. Kent's actual manufacturing overhead.

Problem XVII

A review of the records of Milgrim, Inc., a new company, disclosed the following year-end information:

- *Manufacturing Overhead account:* Contained debits of P872,000, which included P20,000 of sales commissions.
- *Work-in-Process Inventory account:* Contained charges for overhead of P875,000.
- *Cost-of-Goods-Sold account:* Contained a year-end debit balance of P3,680,000. This amount was computed prior to any year-end adjustment for under- or overapplied overhead.

Milgrim applies manufacturing overhead to production by using a predetermined rate of P 20 per machine hour. Budgeted overhead for the period was anticipated to be P900,000.

37. Determine the actual manufacturing overhead for the year.
38. Determine the amount of manufacturing overhead applied to production.
39. Is overhead under- or overapplied? By how much?
40. Compute the adjusted cost-of-goods-sold figure that should be disclosed on the company's income statement.
41. How many machine hours did Milgrim actually work during the year?
42. Compute budgeted machine hours for the year.

Problem XVIII

Fine & Associates is an interior decorating firm in Tucson. The following costs were incurred in a project to redecorate the mayor's offices:

Direct material	P 29,000
Direct professional labor	42,000

The firm's budget for the year included the following estimates:

Budgeted overhead	P800,000
Budgeted direct professional labor	640,000

Overhead is applied to contracts by using a predetermined overhead rate that is based on direct professional labor cost. Actual professional labor during the year was P655,000 and actual overhead was P793,000.

43. Determine the total cost to redecorate the mayor's offices.
44. Calculate the under- or overapplied overhead for the year.

Problem XIX

Genner Company earned P125,000 on sales of P750,000. It earned P225,000 on sales of P1,000,000.

45. Find the variable costs as a percentage of sales.
46. Find the total fixed costs.

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"Failure is the opportunity to begin again more intelligently."
~ Henry Ford
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ANSWER KEY		
Multiple Choice		
1. A	22. B	43. B
2. C	23. E	44. D
3. C	24. D	45. D
4. D	25. B	46. C
5. D	26. B	47. C
6. B	27. B	48. D
7. C	28. E	49. C
8. D	29. D	50. D
9. A	30. C	51. A
10. B	31. B	52. A
11. C	32. D	53. D
12. B	33. B	54. C
13. A	34. A	55. C
14. A	35. D	56. A
15. B	36. B	57. D
16. A	37. C	58. A
17. D	38. A	59. B
18. A	39. A	60. C
19. C	40. A	61. D
20. E	41. C	62. D
21. B	42. B	
True-False		
1. T	12. F	23. T
2. F	13. F	24. F
3. T	14. T	25. T
4. F	15. F	26. F
5. T	16. T	27. F
6. F	17. T	28. T
7. F	18. F	29. T
8. T	19. T	30. F
9. F	20. F	31. T
10. T	21. T	
11. T	22. F	
Problems		
1. 700	17. 16,583.58	33. 8,160,000.
2. 2.80	18. 140,000	34. 32,800 hours
3. 0.98	19. 70,000	35. 34,500 hours
4. 138	20. 1,000 underapplied.	36. 578,500
5. 128,294	21. underapplied by 280,000.	37. 852,000
6. 8,456	22. Underapplied by 96,000.	38. 875,000
7. 143,650	23. 125% of direct labor cost	39. overapplied by 23,000
8. 115,000	24. 14,000 underapplied	40. 3,657,000
9. 123,267	25. 755,000	41. 43,750

10. 8,934	26. 97,500	42. 45,000 hours
11. 75,000 overapplied	27. 16 per machine hour	43. 123,500
12. 85,426	28. 8,000 overapplied	44. 25,750 overapplied
13. 180,318	29. 768,000	45. 60%
14. 63.50 + 0.58x	30. 16 per machine hour	46. 175,000
15. 446.30	31. 107,200	
16. 6,152.97 + 176.79x	32. overapplied by 185,000	