

Chapter 11: Flexible Budgeting and the Management of Overhead and Support Activity Costs

MULTIPLE CHOICE QUESTIONS

1. A static budget:
 - A. is based totally on prior year's costs.
 - B. is based on one anticipated activity level.
 - C. is based on a range of activity.
 - D. is preferred over a flexible budget in the evaluation of performance.
 - E. presents a clear measure of performance when planned activity differs from actual activity.

Answer: B LO: 1 Type: RC

2. Flexible budgets reflect a company's anticipated costs based on variations in:
 - A. activity levels.
 - B. inflation rates.
 - C. managers.
 - D. anticipated capital acquisitions.
 - E. standards.

Answer: A LO: 1 Type: RC

3. A flexible budget:
 - A. parallels a static budget with respect to format and advantages of use.
 - B. is preferred over a static budget in the evaluation of performance.
 - C. gives management flexibility in terms of meeting budget goals.
 - D. can be used to compare actual and budgeted costs at various levels of activity.
 - E. is characterized by choices "B" and "D" above.

Answer: E LO: 1 Type: RC

4. Interstate Merchandising anticipated selling 29,000 units of a major product and paying sales commissions of \$6 per unit. Actual sales and sales commissions totaled 31,500 units and \$182,700, respectively. If the company used a static budget for performance evaluations, Interstate would report a cost variance of:
 - A. \$6,300U.
 - B. \$6,300F.
 - C. \$8,700U.
 - D. \$8,700F.
 - E. some other amount not listed above.

Answer: C LO: 1 Type: A

5. Main Street Merchandising anticipated selling 24,000 units of a major product and paying sales commissions of \$5 per unit. Actual sales and sales commissions totaled 23,600 units and \$120,360, respectively. If the company used a flexible budget for performance evaluations, Main Street would report a cost variance of:
- \$360U.
 - \$360F.
 - \$2,360U.
 - \$2,360F.
 - some other amount not listed above.

Answer: C LO: 1 Type: A

6. Badger Bakeries anticipated making 17,000 fancy cakes during a recent period, requiring 14,000 hours of process time. Each hour of process time was expected to cost the firm \$11. Actual activity for the period was higher than anticipated: 18,000 cakes and 15,200 hours. If each hour of process time actually cost Badger \$12, what process-time variance would be disclosed on a performance report that incorporated static budgets and flexible budgets?

	<u>Static</u>	<u>Flexible</u>
A.	\$15,200U	\$15,200U
B.	\$15,200U	\$28,400U
C.	\$28,400U	\$15,200U
D.	\$28,400U	\$28,400U
E.	None of the above	

Answer: C LO: 1 Type: A

7. Lantern Corporation recently prepared a manufacturing cost budget for an output of 50,000 units, as follows:

Direct materials	\$100,000
Direct labor	50,000
Variable overhead	75,000
Fixed overhead	100,000

Actual units produced amounted to 60,000. Actual costs incurred were: direct materials, \$110,000; direct labor, \$60,000; variable overhead, \$100,000; and fixed overhead, \$97,000. If Lantern evaluated performance by the use of a flexible budget, a performance report would reveal a total variance of:

- \$3,000 favorable.
- \$23,000 favorable.
- \$27,000 unfavorable.
- \$42,000 unfavorable.
- none of the above amounts.

Answer: A LO: 1, 2 Type: A

8. Zin, Inc., is planning its cash needs for an upcoming period when 85,000 machine hours are expected to be worked. Activity may drop as low as 78,000 hours if some overdue equipment maintenance procedures are performed; on the other hand, activity could jump to 94,000 hours if one of Zin's major competitors likely goes bankrupt. A flexible cash budget to determine cash needs would best be based on:
- 78,000 hours.
 - 85,000 hours.
 - 94,000 hours.
 - 78,000 hours and 94,000 hours.
 - 78,000 hours, 85,000 hours, and 94,000 hours.

Answer: E LO: 2 Type: N

9. Young Corporation has a high probability of operating at 40,000 activity hours during the upcoming period, and lower probabilities of operating at 30,000 hours and 50,000 hours. The company's flexible budget revealed the following:

	<u>30,000 Hours</u>	<u>40,000 Hours</u>	<u>50,000 Hours</u>
Variable costs	\$135,000	\$180,000	\$225,000
Fixed costs	720,000	720,000	720,000

Young's flexible-budget formula, where Y is defined as total cost and AH represents activity hours, is:

- $Y = \$4.50AH + \$24AH$.
- $Y = \$4.50AH + \$720,000$.
- $Y = \$22.50AH$.
- $Y = \$180,000 + \$18AH$.
- $Y = \$945,000$.

Answer: B LO: 2 Type: A

10. Gourmet Restaurants has the following flexible-budget formula:

$$Y = \$13PH + \$450,000 \text{ where PH is defined as process hours}$$

Which of the following statements is (are) true?

- Gourmet has \$450,000 of fixed costs.
- Each additional hour of process time is expected to cost Gourmet \$13.
- Y would equal the amount shown as "total cost" in the firm's flexible budget.
- Choices "A" and "B" are true.
- Choices "A," "B," and "C" are true.

Answer: E LO: 2 Type: N

11. Delicious Treats (DT) anticipated that 84,000 process hours would be worked during an upcoming accounting period when, in fact, 92,000 hours were actually worked. One of the company's cost functions is expressed as follows:

$$Y = \$16PH + \$640,000 \text{ where PH is defined as process hours}$$

What budgeted dollar amount would appear in DT's static budget and flexible budget for the preceding cost function?

	<u>Static</u>	<u>Flexible</u>
A.	\$1,984,000	\$1,984,000
B.	\$1,984,000	\$2,112,000
C.	\$2,112,000	\$1,984,000
D.	\$2,112,000	\$2,112,000
E.	None of the above.	

Answer: B LO: 2 Type: A, N

12. Which of the following mathematical expressions is found in a typical flexible-budget formula for overhead?
- Total activity units + budgeted fixed overhead cost per unit.
 - Budgeted variable overhead cost per unit + budgeted fixed overhead cost.
 - (Budgeted variable overhead cost per unit x total activity units) + budgeted fixed overhead costs.
 - (Budgeted fixed overhead cost per unit x total activity units) + (budgeted variable overhead cost per unit x total activity units).
 - None of the above.

Answer: C LO: 2 Type: RC

13. A flexible budget for 15,000 hours revealed variable manufacturing overhead of \$90,000 and fixed manufacturing overhead of \$120,000. The budget for 25,000 hours would reveal total overhead costs of:
- \$210,000.
 - \$270,000.
 - \$290,000.
 - \$350,000.
 - some other amount.

Answer: B LO: 2 Type: A

14. A flexible budget is appropriate for a(n):

	<u>Direct Labor</u> <u>Budget</u>	<u>Marketing</u> <u>Budget</u>	<u>Administrative</u> <u>Expense Budget</u>
A.	No	No	No
B.	No	Yes	Yes
C.	Yes	No	Yes
D.	Yes	Yes	Yes
E.	No	No	Yes

Answer: D LO: 2 Type: N

15. A flexible budget is appropriate for a:

	Sales Commission	Direct Material	Variable Overhead
	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>
A.	Yes	No	Yes
B.	Yes	Yes	Yes
C.	No	Yes	No
D.	No	No	No
E.	No	Yes	Yes

Answer: B LO: 2 Type: N

16. The manufacturing overhead applied to Work-in-Process Inventory by a company that uses standard costing would be computed as:
- A. actual hours x a predetermined (standard) overhead rate.
 - B. standard hours x a predetermined (standard) overhead rate.
 - C. actual hours x an actual overhead rate.
 - D. standard hours x an actual overhead rate.
 - E. \$0, as these firms do not apply overhead to work in process.

Answer: B LO: 3 Type: RC

17. With respect to overhead, what is the difference between normal costing and standard costing?
- A. Use of a predetermined overhead rate.
 - B. Use of standard hours versus actual hours.
 - C. Use of a standard rate versus an actual rate.
 - D. The choice of an activity measure.
 - E. There is no difference.

Answer: B LO: 3 Type: RC

18. The activity measure selected for use in a variable- and fixed-overhead flexible budget:
- A. should be stated in sales dollars.
 - B. should be approved by the company's president.
 - C. should vary in a similar behavior pattern to the way that variable overhead varies.
 - D. should remain fixed.
 - E. should produce the most attractive results for the individual who will use the budget in managerial applications.

Answer: C LO: 4 Type: RC

19. Which of the following should have the strongest cause and effect relationship with overhead costs?
- A. Cost followers.
 - B. Non-value-added costs.
 - C. Cost drivers.
 - D. Value-added costs.
 - E. Units of output.

Answer: C LO: 4 Type: RC

20. Which of the following is not an overhead variance?
- A. Variable-overhead spending variance.
 - B. Variable-overhead volume variance.
 - C. Variable-overhead efficiency variance.
 - D. Fixed-overhead budget variance.
 - E. Fixed-overhead volume variance.

Answer: B LO: 5 Type: RC

21. Which of the following is not an overhead variance?
- A. Variable-overhead spending variance.
 - B. Variable-overhead efficiency variance.
 - C. Fixed-overhead efficiency variance.
 - D. Fixed-overhead budget variance.
 - E. Fixed-overhead volume variance.

Answer: C LO: 5 Type: RC

22. Which of the following is used in the computation of the variable-overhead spending variance?

	<u>Actual Variable Overhead Cost</u>	<u>Budgeted Variable Overhead Based on Actual Hours</u>	<u>Standard Variable Overhead Applied</u>
A.	No	Yes	No
B.	No	No	No
C.	Yes	No	Yes
D.	Yes	Yes	No
E.	Yes	Yes	Yes

Answer: D LO: 5 Type: RC

23. Which of the following elements are needed in a straightforward calculation of the variable-overhead spending variance?
- A. Variable overhead incurred during the period.
 - B. Budgeted variable overhead based on actual hours worked.
 - C. Standard variable overhead applied to production.
 - D. Elements "A" and "B" above.
 - E. Elements "A" and "C" above.

Answer: D LO: 5 Type: RC

24. Assume that machine hours is the cost driver for overhead. The difference between the actual variable overhead incurred and the applied variable overhead is the:
- A. volume variance.
 - B. net overhead variance.
 - C. efficiency variance.
 - D. sum of the spending and efficiency variances.
 - E. spending variance.

Answer: D LO: 5 Type: RC

25. What will cause the variable-overhead efficiency variance?
- A. Efficient or inefficient use of a specific component of variable overhead (e.g., electricity).
 - B. Full or partial utilization of major equipment resources.
 - C. Production of units in excess of the number of units sold.
 - D. Efficient or inefficient use of the cost driver (e.g., machine hours) for variable overhead.
 - E. Changes in the salary cost of production supervisors.

Answer: D LO: 5 Type: N

26. Smithville uses labor hours to apply variable overhead to production. If the company's workers were very inefficient during the period, which of the following statements would be true about the variable-overhead efficiency variance?
- A. The variance would be favorable.
 - B. The variance would be unfavorable.
 - C. The nature of the variance (favorable or unfavorable) would be unknown based on the facts presented.
 - D. The variance would be the same amount as the labor efficiency variance.
 - E. None of the above.

Answer: B LO: 5 Type: N

27. The difference between the total actual factory overhead and the total factory overhead applied to production is the:
- A. sum of the spending, efficiency, budget, and volume variances.
 - B. controllable variance.
 - C. efficiency variance.
 - D. spending variance.
 - E. volume variance.

Answer: A LO: 5 Type: RC

28. Which of the following variances would be useful to help control overhead spending?

	<u>Variable-Overhead Spending Variance</u>	<u>Fixed-Overhead Budget Variance</u>	<u>Fixed-Overhead Volume Variance</u>
A.	Yes	Yes	Yes
B.	Yes	Yes	No
C.	Yes	No	No
D.	Yes	No	Yes
E.	No	Yes	No

Answer: B LO: 5 Type: N

29. The budget variance arises from a comparison of:

- A. budgeted fixed overhead expenditures with budgeted fixed overhead costs.
- B. actual fixed overhead costs with budgeted fixed overhead costs.
- C. actual variable overhead expenditures with budgeted variable overhead costs.
- D. variable overhead costs with budgeted fixed overhead costs.
- E. static-budget amounts with flexible-budget amounts.

Answer: B LO: 5 Type: RC

30. Which of the following is used in the computation of the fixed overhead budget variance?

	<u>Actual Fixed Overhead</u>	<u>Budgeted Fixed Overhead</u>	<u>Fixed Overhead Applied to Production</u>
A.	Yes	Yes	Yes
B.	Yes	Yes	No
C.	Yes	No	Yes
D.	Yes	No	No
E.	No	Yes	Yes

Answer: B LO: 5 Type: RC

31. The difference between budgeted fixed manufacturing overhead and the fixed overhead applied to production is the:

- A. sum of the spending and efficiency variances.
- B. controllable variance.
- C. efficiency variance.
- D. spending variance.
- E. volume variance.

Answer: E LO: 5 Type: RC

32. A fixed-overhead volume variance would normally arise when:

- A. actual hours of activity coincide with actual units of production.
- B. budgeted fixed overhead is overapplied to production.
- C. there is a fixed-overhead budget variance.
- D. actual fixed overhead exceeds budgeted fixed overhead.
- E. there is a variable-overhead efficiency variance.

Answer: B LO: 5 Type: RC

33. Which variance is commonly associated with measuring the cost of under- or over-utilization of plant capacity?
- A. The variable-overhead spending variance.
 - B. The variable-overhead efficiency variance.
 - C. The fixed-overhead budget variance.
 - D. The fixed-overhead volume variance.
 - E. The total fixed-overhead variance.

Answer: D LO: 5 Type: RC

34. Rowe Corporation reported the following variances for the period just ended:

Variable-overhead spending variance: \$50,000U
Variable-overhead efficiency variance: \$28,000U
Fixed-overhead budget variance: \$70,000U
Fixed-overhead volume variance: \$30,000U

If Rowe desires to analyze variances that arose primarily from managers' expenditures in excess of anticipated amounts, the company should focus on variances that total:

- A. \$50,000U.
- B. \$70,000U.
- C. \$120,000U.
- D. \$178,000U.
- E. some other amount.

Answer: C LO: 5 Type: A, N

35. Delson Company, which applies overhead to production on the basis of machine hours, reported the following data for the period just ended:

Actual units produced: 10,000
Actual variable overhead incurred: \$62,000
Actual machine hours worked: 16,000
Standard variable overhead cost per machine hour: \$4

If Delson estimates 1.7 hours to manufacture a completed unit, the company's variable-overhead spending variance is:

- A. \$2,000 favorable.
- B. \$2,000 unfavorable.
- C. \$6,000 favorable.
- D. \$6,000 unfavorable.
- E. some other amount not listed above.

Answer: A LO: 5 Type: A

36. Martin Company, which applies overhead to production on the basis of machine hours, reported the following data for the period just ended:

Actual units produced: 9,000
Actual variable overhead incurred: \$54,400
Actual machine hours worked: 16,000
Standard variable overhead cost per machine hour: \$3.50

If Martin estimates two hours to manufacture a completed unit, the company's variable-overhead efficiency variance is:

- A. \$1,600 favorable.
- B. \$1,600 unfavorable.
- C. \$7,000 favorable.
- D. \$7,000 unfavorable.
- E. some other amount not listed above.

Answer: C LO: 5 Type: A

Use the following to answer questions 37-38:

Abbott has a standard variable overhead rate of \$4.50 per machine hour, and each unit produced has a standard time allowed of three hours. The company's static budget was based on 46,000 units. Actual results for the year follow.

Actual units produced: 42,000
Actual machine hours worked: 120,000
Actual variable overhead incurred: \$520,000

37. Abbott's variable-overhead spending variance is:

- A. \$20,000 favorable.
- B. \$20,000 unfavorable.
- C. \$27,000 favorable.
- D. \$27,000 unfavorable.
- E. not listed above.

Answer: A LO: 5 Type: A

38. Abbott's variable-overhead efficiency variance is:

- A. \$20,000 favorable.
- B. \$20,000 unfavorable.
- C. \$27,000 favorable.
- D. \$27,000 unfavorable.
- E. not listed above.

Answer: C LO: 5 Type: A

39. Arling Company, which applies overhead to production on the basis of machine hours, reported the following data for the period just ended:

Actual units produced: 12,000
Actual fixed overhead incurred: \$730,000
Actual machine hours worked: 60,000
Budgeted fixed overhead: \$720,000
Planned level of machine-hour activity: 50,000

If Arling estimates four hours to manufacture a completed unit, the company's standard fixed overhead rate per machine hour would be:

- A. \$12.00.
- B. \$14.40.
- C. \$14.60.
- D. \$15.00.
- E. some other amount.

Answer: B LO: 5 Type: A

40. Herman Company, which applies overhead to production on the basis of machine hours, reported the following data for the period just ended:

Actual units produced: 13,000
Actual fixed overhead incurred: \$742,000
Standard fixed overhead rate: \$15 per hour
Budgeted fixed overhead: \$720,000
Planned level of machine-hour activity: 48,000

If Herman estimates four hours to manufacture a completed unit, the company's fixed-overhead budget variance would be:

- A. \$22,000 favorable.
- B. \$22,000 unfavorable.
- C. \$60,000 favorable.
- D. \$60,000 unfavorable.
- E. some other amount.

Answer: B LO: 5 Type: A

41. Enberg Company, which applies overhead to production on the basis of machine hours, reported the following data for the period just ended:

Actual units produced: 14,800
Actual fixed overhead incurred: \$791,000
Standard fixed overhead rate: \$13 per hour
Budgeted fixed overhead: \$780,000
Planned level of machine-hour activity: 60,000

If Enberg estimates four hours to manufacture a completed unit, the company's fixed-overhead volume variance would be:

- A. \$10,400 favorable.
- B. \$10,400 unfavorable.
- C. \$11,000 favorable.
- D. \$11,000 unfavorable.
- E. some other amount.

Answer: B LO: 5 Type: A

Use the following to answer questions 42-43:

Benson Company, which uses a standard cost system, budgeted \$600,000 of fixed overhead when 40,000 machine hours were anticipated. Other data for the period were:

Actual units produced: 10,000
Standard production time per unit: 3.9 machine hours
Fixed overhead incurred: \$620,000
Actual machine hours worked: 42,000

42. Benson's fixed-overhead budget variance is:
- A. \$10,000 favorable.
 - B. \$15,000 favorable.
 - C. \$15,000 unfavorable.
 - D. \$20,000 favorable.
 - E. \$20,000 unfavorable.

Answer: E LO: 5 Type: A

43. Benson's fixed-overhead volume variance is:
- A. \$10,000 favorable.
 - B. \$15,000 favorable.
 - C. \$15,000 unfavorable.
 - D. \$20,000 favorable.
 - E. \$20,000 unfavorable.

Answer: C LO: 5 Type: A

Use the following to answer questions 44-46:

Sussex Company uses a standard cost system and prepared the following budget for May when 24,000 machine hours of activity were anticipated: variable overhead, \$48,000; fixed overhead: \$240,000. Actual data for May were:

Standard machine hours allowed for output attained: 25,000
Actual machine hours worked: 24,000
Variable overhead incurred: \$50,000
Fixed overhead incurred: \$250,000

44. The standard variable overhead rate for May is:
- A. \$2.00.
 - B. \$2.08.
 - C. \$3.00.
 - D. \$5.00.
 - E. \$5.21.

Answer: A LO: 5 Type: A

45. The variable-overhead spending and efficiency variances are:

	<u>Variable-Overhead Spending Variance</u>	<u>Variable-Overhead Efficiency Variance</u>
A.	\$0	\$0
B.	\$0	\$2,000 unfavorable
C.	\$2,000 unfavorable	\$0
D.	\$2,000 favorable	\$2,000 unfavorable
E.	\$2,000 unfavorable	\$2,000 favorable

Answer: E LO: 5 Type: A

46. The fixed-overhead budget and volume variances are:

	<u>Fixed-Overhead Budget Variance</u>	<u>Fixed-Overhead Volume Variance</u>
A.	\$0	\$10,000 favorable
B.	\$10,000 favorable	\$0
C.	\$10,000 favorable	\$10,000 unfavorable
D.	\$10,000 unfavorable	\$0
E.	\$10,000 unfavorable	\$10,000 favorable

Answer: E LO: 5 Type: A

Use the following to answer questions 47-51:

Duncanville, Inc., has the following overhead standards:

Variable overhead: 4 hours at \$8 per hour

Fixed overhead: 4 hours at \$10 per hour

The standards were based on a planned activity of 20,000 machine hours when 5,000 units were scheduled for production. Actual data follow.

Variable overhead incurred: \$167,750

Fixed overhead incurred: \$210,000

Machine hours worked: 19,800

Actual units produced: 5,100

47. Duncanville's fixed-overhead budget variance is:

- A. \$6,000 unfavorable.
- B. \$7,000 unfavorable.
- C. \$10,000 unfavorable.
- D. \$12,000 unfavorable.
- E. not listed above.

Answer: C LO: 5 Type: A

48. Duncanville's fixed-overhead volume variance is:

- A. \$4,000 favorable.
- B. \$4,000 unfavorable.
- C. \$10,000 favorable.
- D. \$10,000 unfavorable.
- E. not listed above.

Answer: A LO: 5 Type: A

49. Duncanville's variable-overhead spending variance is:

- A. \$550 favorable.
- B. \$4,550 unfavorable.
- C. \$4,800 favorable.
- D. \$9,350 unfavorable.
- E. not listed above.

Answer: D LO: 5 Type: A

50. Duncanville's variable-overhead efficiency variance is:

- A. \$550 favorable.
- B. \$550 unfavorable.
- C. \$4,800 favorable.
- D. \$4,800 unfavorable.
- E. not listed above.

Answer: C LO: 5 Type: A

51. The amount of variable overhead that Duncanville applied to production is:
- A. \$158,400.
 - B. \$160,000.
 - C. \$163,200.
 - D. \$167,750.
 - E. not listed above.

Answer: C LO: 5 Type: A

52. Luke, Inc., has a standard variable overhead rate of \$5 per machine hour, with each completed unit expected to take three machine hours to produce. A review of the company's accounting records found the following:

Actual production: 19,500 units
Variable-overhead efficiency variance: \$9,000U
Variable-overhead spending variance: \$21,000F

What was Luke's actual variable overhead during the period?

- A. \$262,500.
- B. \$280,500.
- C. \$304,500.
- D. \$322,500.
- E. Some other amount.

Answer: B LO: 5 Type: A, N

53. Bushnell, Inc., has a standard variable overhead rate of \$4 per machine hour, with each completed unit expected to take three machine hours to produce. A review of the company's accounting records found the following:

Actual variable overhead: \$210,000
Variable-overhead efficiency variance: \$18,000U
Variable-overhead spending variance: \$30,000F

How many units did Bushnell actually produce during the period?

- A. 13,500.
- B. 16,500.
- C. 18,500.
- D. 21,500.
- E. Some other amount.

Answer: C LO: 5 Type: A, N

54. Atlanta Enterprises incurred \$828,000 of fixed overhead during the period. During that same period, the company applied \$845,000 of fixed overhead to production and reported an unfavorable budget variance of \$41,000. How much was Atlanta's budgeted fixed overhead?
- \$787,000.
 - \$804,000.
 - \$869,000.
 - \$886,000.
 - Not enough information to judge.

Answer: A LO: 5 Type: A, N

Use the following to answer questions 55-56:

SanBox Company is choosing new cost drivers for its accounting system. One driver is labor hours; the other is a combination of machine hours for unit variable costs and number of setups for a pool of batch-level costs. Data for the past year follow.

	<u>Budget</u>	<u>Actual</u>
Labor hours	200,000	200,000
Machine hours	360,000	450,000
Number of setups	3,000	3,300
Unit variable cost pool	\$1,600,000	\$2,000,000
Batch-level cost pool	\$900,000	\$990,000

55. Assume that both cost pools are combined into a single pool, and labor hours is the driver. The total flexible budget for the actual level of labor hours and the total variance for the combined pool are:

	<u>Flexible Budget</u>	<u>Variance</u>
A.	\$1,600,000	\$400,000U
B.	\$2,500,000	\$490,000U
C.	\$2,590,000	\$400,000U
D.	\$2,900,000	\$90,000U
E.	\$2,990,000	\$0

Answer: B LO: 7 Type: A

56. Assume that the two separate pools are used. The flexible budget amounts for the actual level of machine hours and actual number of setups are:

	<u>Unit Variable Cost Pool</u>	<u>Batch-Level Cost Pool</u>
A.	\$1,600,000	\$900,000
B.	\$1,600,000	\$990,000
C.	\$2,000,000	\$900,000
D.	\$2,000,000	\$990,000
E.	\$2,500,000	\$0

Answer: D LO: 7 Type: A

57. What is the most common treatment of the fixed-overhead budget variance at the end of the accounting period?
- A. Reported as a deferred charge or credit.
 - B. Allocated among Work-in-Process Inventory, Finished-Goods Inventory, and Cost of Goods Sold.
 - C. Charged or credited to Cost of Goods Sold.
 - D. Allocated among Cost of Goods Manufactured, Finished-Goods Inventory, and Cost of Goods Sold.
 - E. Charged or credited to Income Summary.

Answer: C LO: 8 Type: RC

58. In an effort to reduce record-keeping procedure, companies that sell perishable goods will often enter the standard cost of direct material, direct labor, and manufacturing overhead directly into what account?
- A. Work-in-Process Inventory.
 - B. Finished-Goods Inventory.
 - C. Cost of Goods Sold.
 - D. Cost of Goods Manufactured.
 - E. Sales Revenue.

Answer: C LO: 8 Type: RC

59. When actual variable cost per unit equals standard variable cost per unit, the difference between actual and budgeted contribution margin is explained by a combination of which two variances?
- A. The sales-volume variance and the fixed-overhead volume variance.
 - B. The sales-volume variance and the fixed-overhead budget variance.
 - C. The sales-price variance and the fixed-overhead volume variance.
 - D. The sales-price variance and sales-volume variance.
 - E. The sales-price variance and fixed-overhead budget variance.

Answer: D LO: 9 Type: RC

60. The sales-volume variance equals:
- A. (actual sales volume - budgeted sales volume) x actual sales price.
 - B. (actual sales volume - budgeted sales volume) x actual contribution margin.
 - C. (actual sales volume - budgeted sales volume) x budgeted sales price.
 - D. (actual sales price - budgeted sales price) x budgeted sales volume.
 - E. (actual sales price - budgeted sales price) x fixed-overhead volume variance.

Answer: C LO: 9 Type: RC

Use the following to answer questions 61-62:

Master Products has the following information for the year just ended:

	<u>Budget</u>	<u>Actual</u>
Sales in units	<u>15,000</u>	<u>14,000</u>
Sales	\$150,000	\$147,000
Less: Variable expenses	<u>90,000</u>	<u>82,600</u>
Contribution margin	\$ 60,000	\$ 64,400
Less: Fixed expenses	<u>35,000</u>	<u>40,000</u>
Operating income	<u>\$ 25,000</u>	<u>\$ 24,400</u>

61. The company's sales-volume variance is:
- A. \$3,000 unfavorable.
 - B. \$4,000 unfavorable.
 - C. \$4,400 favorable.
 - D. \$10,000 unfavorable.
 - E. \$10,000 favorable.

Answer: D LO: 9 Type: A

62. The company's sales-price variance is:
- A. \$3,000 unfavorable.
 - B. \$7,000 unfavorable.
 - C. \$7,000 favorable.
 - D. \$7,500 unfavorable.
 - E. \$7,500 favorable.

Answer: C LO: 9 Type: A

EXERCISES

Static Budget vs. Flexible Budget

63. Bavaria's budget for variable overhead and fixed overhead revealed the following information for an anticipated 40,000 hours of activity: variable overhead, \$348,000; fixed overhead, \$600,000.

The company actually worked 43,000 hours, and actual overhead incurred was: variable, \$365,500; fixed, \$608,000.

Required:

- Compute the company's total cost variance for variable overhead and fixed overhead if the firm uses a static budget to help assess performance.
- Repeat part "A" assuming the use of a flexible budget.
- Which of the two budgets (static or flexible) is preferred for performance evaluations? Why?

LO: 1, 2 Type: A, N

Answer:

A. Actual (\$365,500 + \$608,000)	\$973,500
Less: Static budget (\$348,000 + \$600,000)	<u>948,000</u>
Variance, unfavorable	<u>\$ 25,500</u>

- B. Budgeted variable overhead: $\$348,000 \div 40,000 \text{ hours} = \8.70 per hour

Flexible budget [(43,000 hours x \$8.70) + \$600,000]	\$974,100
Less: Actual (\$365,500 + \$608,000)	<u>973,500</u>
Variance, favorable	<u>\$ 600</u>

- C. Flexible budgets are preferred in performance evaluations. The use of flexible budgets eliminates volume differences between actual and budgeted activity, allowing the analyst to concentrate on differences between actual and budgeted costs "on the same, level playing field." The result is a clearer picture to study.

Flexible Budgets

64. The Houston Chamber Orchestra presents a series of concerts throughout the year. Budgeted fixed costs total \$300,000 for the concert season; variable costs are expected to average \$5 per patron. The orchestra uses flexible budgeting.

Required:

- Prepare a flexible budget that shows the expected costs of 8,000, 8,500, and 9,000 patrons.
- Construct the orchestra's flexible budget formula.
- Assume that 8,700 patrons attended concerts during the year just ended, and actual costs were: variable, \$42,000; fixed, \$307,500. Evaluate the orchestra's financial performance by computing variances for variable costs and fixed costs.

LO: 1, 2 Type: A

Answer:

A. Patrons	<u>8,000</u>	<u>8,500</u>	<u>9,000</u>
Variable cost at \$5	\$ 40,000	\$ 42,500	\$ 45,000
Fixed cost	<u>300,000</u>	<u>300,000</u>	<u>300,000</u>
Total	<u>\$340,000</u>	<u>\$342,500</u>	<u>\$345,000</u>

- B. Total budgeted cost = (number of patrons x \$5) + \$300,000

C.	<u>Budget*</u>	<u>Actual</u>	<u>Variance</u>
Variable cost	\$ 43,500	\$ 42,000	\$1,500F
Fixed cost	<u>300,000</u>	<u>307,500</u>	<u>7,500U</u>
Total	<u>\$343,500</u>	<u>\$349,500</u>	<u>\$6,000U</u>

*Variable budget: 8,700 patrons x \$5

The variances reveal that the orchestra exceeded its budget for 8,700 patrons by \$6,000. The overall performance was not that bad, however, as the variances (individually and in total) are small in both dollar- and percentage-terms.

Budgets, Performance Evaluation

65. Calgary Insurance uses budgets to forecast and monitor overhead throughout the organization. The following budget formula relates to the processing of applications for automobile policies in any given month:

$$\text{Total overhead} = \$6.60\text{APH} + \$12,000$$

where APH = application processing hours

The typical automobile insurance policy has an estimated processing time of 1.5 hours.

During June, management originally anticipated that 280 applications would be processed. Activity was lower than expected, with only 240 applications completed by month-end, and the following costs were incurred: variable overhead, \$2,780; fixed overhead, \$11,900.

Required:

- A. What volume level would have been used if Calgary had constructed a static budget?
- B. Construct a flexible budget that shows the expected monthly variable and fixed overhead costs of processing 200, 250, and 300 applications.
- C. From a cost perspective, did the company perform better or worse than anticipated in June? Show calculations to support your answer.

LO: 1, 2 Type: A, N

Answer:

- A. The static budget would have been based on the original forecast of 280 applications and 420 processing hours (280 x 1.5).

B. Processing hours*	<u>300</u>	<u>375</u>	<u>450</u>
Variable cost at \$6.60	\$ 1,980	\$ 2,475	\$ 2,970
Fixed cost	<u>12,000</u>	<u>12,000</u>	<u>12,000</u>
Total	<u>\$13,980</u>	<u>\$14,475</u>	<u>\$14,970</u>

*Number of applications (200, 250, 300) x 1.5 hours

- C. The company did worse than expected. Despite processing 40 fewer applications (280 - 240) than anticipated, costs exceeded budgeted amounts by \$304:

Actual (\$2,780 + \$11,900)	\$14,680
Flexible budget [(240 x 1.5 x \$6.60) + \$12,000]	<u>14,376</u>
Variance, unfavorable	<u>\$ 304</u>

Budgets, Performance Evaluation

66. The Marketing Club at Northern University recently held an end-of-year dinner and swim party, which the treasurer noted was a financial success. "Attendance was an all-time high, 60 members, and the results were much better than expected." The treasurer presented the following performance report at the executive board's June meeting:

	<u>Budget</u>	<u>Actual</u>	<u>Variance</u>
Revenue	<u>\$1,575</u>	<u>\$2,205</u>	<u>\$630F</u>
Food	\$ 675	\$ 870	\$195U
Beverages	315	480	165U
Disc jockey	150	175	25U
Facility rental	<u>200</u>	<u>200</u>	<u>----</u>
Total costs	<u>\$1,340</u>	<u>\$1,725</u>	<u>\$385U</u>
Profit	<u>\$ 235</u>	<u>\$ 480</u>	<u>\$245F</u>

The budget was based on the assumptions that follow.

- Forty-five members would attend at a fixed ticket price of \$35.
- Food and beverage costs were anticipated to be \$15 and \$7 per attendee, respectively.
- A disc jockey was hired via a written contract at \$50 per hour.

Required:

- Briefly evaluate the meaningfulness of the treasurer's performance report.
- Prepare a performance report by using flexible budgeting and determine whether the end-of-year party was as successful as originally reported.
- Based on your answer in requirement "B," present a possible explanation for the variances in revenue, food costs, beverage costs, and the disc jockey.

LO: 1, 2 Type: A, N

Answer:

- The performance report is not very meaningful, as it was prepared based on the original estimate that 45 tickets would be sold. With 60 members in attendance, the resulting report compares anticipated revenues, costs, and profit at one level of activity against actual amounts at a totally different volume. In effect, it's a comparison of apples vs. oranges.

- B. The end-of-year party was successful as the treasurer claimed, as it netted the Marketing Club \$480. However, when actual results are compared against what should have happened for the increased number of attendees (60), the overall profitability was only \$50 greater than expected.

	<u>Budget</u>	<u>Actual</u>	<u>Variance</u>
Revenue*	<u>\$2,100</u>	<u>\$2,205</u>	<u>\$105F</u>
Food*	\$ 900	\$ 870	\$ 30F
Beverages*	420	480	60U
Disc jockey	150	175	25U
Facility rental	<u>200</u>	<u>200</u>	<u>----</u>
Total costs	<u>\$1,670</u>	<u>\$1,725</u>	<u>\$ 55U</u>
Profit	<u>\$ 430</u>	<u>\$ 480</u>	<u>\$ 50F</u>

*Revenue, food, and beverage figures (\$35, \$15, and \$7, respectively) are all based on 60 attendees.

- C. Revenue (\$105F)—Three members who purchased tickets didn't attend ($\$105 \div \$35 = 3$); the Club received a donation from the University or the faculty advisor to help offset operating costs.
Food (\$30F)—The actual food cost per person was less than expected; attendees ate less than expected.
Beverages (\$60U)—The actual beverage cost was more than expected; attendees drank more than expected.
Disc jockey (\$25U)—The disc jockey played music for 3.5 hours ($3.5 \times \$50 = \175) rather than the 3 hours that were originally budgeted.

Flexible Budgets and Performance Evaluation

67. Hempstead Corporation plans to manufacture 8,000 units over the next month at the following costs: direct materials, \$480,000; direct labor, \$60,000; variable manufacturing overhead, \$150,000; and fixed manufacturing overhead, \$300,000. The last amount, which includes \$24,000 of straight-line depreciation, resulted in a total budget of \$990,000.

Shortly after the conclusion of the month, Hempstead reported the following costs:

Direct materials used	\$490,500
Direct labor	69,600
Variable manufacturing overhead	132,000
Depreciation	24,000
Other fixed manufacturing overhead	<u>272,000</u>
Total	<u>\$988,100</u>

Howard Krueger and his crews turned out 7,200 units—a remarkable feat given that the firm's manufacturing plant was closed for several days because of blizzards and impassable roads. Krueger was especially pleased with the fact that total actual costs were less than budget. He was thus very surprised when Hempstead's general manager expressed unhappiness about the plant's financial performance.

Required:

- A. Prepare a performance report that fairly compares budgeted and actual costs for the period just ended—namely, the report that the general manager likely used when assessing performance.
- B. Should Krueger be praised for "having met the budget" or is the general manager's unhappiness justified? Explain, citing any apparent problems for the firm.

LO: 1, 2 Type: A, N

Answer:

	Budget:	Actual:	
	7,200	7,200	
A.	<u>Units</u>	<u>Units</u>	<u>Variance</u>
Direct materials used (\$60.00)	\$432,000	\$490,500	\$58,500U
Direct labor (\$7.50)	54,000	69,600	15,600U
Variable manufacturing overhead (\$18.75)	135,000	132,000	3,000F
Depreciation	24,000	24,000	----
Other fixed manufacturing overhead	<u>276,000</u>	<u>272,000</u>	<u>4,000F</u>
Total	<u>\$921,000</u>	<u>\$988,100</u>	<u>\$67,100U</u>

Budget calculations:

Direct materials used: $\$480,000 \div 8,000 \text{ units} = \60.00 per unit

Direct labor: $\$60,000 \div 8,000 \text{ units} = \7.50 per unit

Variable manufacturing overhead: $\$150,000 \div 8,000 \text{ units} = \18.75 per unit

Other fixed manufacturing overhead: $\$300,000 - \$24,000 = \$276,000 \text{ per month}$

- B. The general manager's unhappiness is appropriate because of the variances that have arisen. By comparing the original budget of \$990,000 vs. actual costs of \$988,100, Krueger appears to have met the budget. Bear in mind, though, that volume was below the original monthly expectation of 8,000 units—presumably because of the plant closure. A reduced volume will likely lead to lower variable costs than anticipated (and resulting favorable variances).

When the volume differential is removed, variable cost variances turn unfavorable for direct materials and direct labor. These two amounts are, respectively, 13.5% and 28.9% greater than budget.

Understanding a Flexible Budget; Cost Behavior

68. Midwestern University operates a motor pool for the convenience of its faculty and staff. The following budget was prepared for an upcoming period:

Gasoline and oil	\$ 40,000
Minor repairs	6,000
Insurance	20,000
Office help	24,000
Depreciation	<u>30,000</u>
Total	<u>\$120,000</u>

The budget was based on the assumptions of 20 vehicles, with each vehicle being driven 8,000 miles. Midwestern acquired two additional vehicles early in the period under study. Actual miles driven during the period totaled 180,000.

Discussions with the motor pool manager revealed that pool costs are variable and fixed in nature. The manager believed that miles driven was the most appropriate cost driver for studying gasoline and oil expense. In contrast, the number of vehicles in the pool was the best base to use when studying other selected costs.

Required:

- Contrast a static budget with a flexible budget.
- Suppose that the university's budget officer desired to prepare a report that compared budgeted and actual costs. Should the report be based on a static budget or a flexible budget? Why?
- On the basis of the information presented, determine the amounts for the five preceding costs that would be used in a flexible budget.

LO: 1, 2 Type: A, N

Answer:

- A static budget is based on a single expected activity level. In contrast, a flexible budget reflects data for several activity levels.
- A performance report that incorporates flexible budgets is preferred. The report compares budgeted and actual performance at the same volume level, eliminating any variations in activity. In essence, everything is placed on a "level playing field."
- Gasoline and oil: $\$40,000 \div (8,000 \times 20) = \0.25 per mile; 180,000 miles $\times \$0.25 = \$45,000$
Minor repairs: $\$6,000 \div 20 = \300 per vehicle; 22 vehicles $\times \$300 = \$6,600$
Insurance: $\$20,000 \div 20 = \$1,000$ per vehicle; 22 vehicles $\times \$1,000 = \$22,000$
Office help: \$24,000 (fixed)
Depreciation: $\$30,000 \div 20 = \$1,500$ per vehicle; 22 vehicles $\times \$1,500 = \$33,000$

Flexible Budgets and Variable Overhead Variances

69. Hot Stuff operates a delivery service for local restaurants, delivering call-in, to-go meals for restaurant customers. Variable overhead costs are budgeted at \$3 per hour, and the typical roundtrip takes a driver 45 minutes to complete. Actual results for March follow.

Number of roundtrips run: 1,560
Hours of delivery time: 1,250
Variable overhead cost incurred: \$3,450

Hot Stuff uses flexible budgets and variance analysis to monitor performance.

Required:

- A. Prepare a flexible-budget performance report that shows (1) actual variable overhead, (2) the amount of variable overhead that should have been incurred for the number of roundtrips taken, and (3) the variance between these amounts.
- B. Compute the company's variable-overhead spending and efficiency variances.
- C. Compare the variances that you computed in requirements "A" and "B," and comment on your findings.

LO: 1, 5, 6 Type: A, N

Answer:

- | | | |
|----|--|--------------|
| A. | Budgeted variable overhead (1,560 x 45/60 x \$3) | \$3,510 |
| | Less: Actual variable overhead | <u>3,450</u> |
| | Variance, favorable | <u>\$ 60</u> |
- B. Spending variance: $\$3,450 - (1,250 \times \$3) = \$300\text{F}$
Efficiency variance: $(1,250 \times \$3) - (1,560 \times 45/60 \times \$3) = \$240\text{U}$

The spending and efficiency variances comprise the "total" variance as shown in the flexible-budget performance report ($\$300\text{F} + \$240\text{U} = \$60\text{F}$). That is, variable overhead was \$60 lower than anticipated because of variations in both spending habits and driver efficiency.

Straightforward Variance Analysis

70. Hunt, Inc., uses a standard cost system when accounting for its sole product. Planned production is 60,000 process hours per month, which gives rise to the following per-unit standards:

Variable overhead: 13 hours at \$15 per hour
Fixed overhead: 13 hours at \$7 per hour

During September, 5,100 units were produced and the company incurred the following overhead costs: variable, \$942,500; fixed, \$429,000. Actual process hours totaled 65,000.

Required:

- A. Calculate the spending and efficiency variances for variable overhead.
- B. Calculate the budget and volume variances for fixed overhead.

LO: 5 Type: A

Answer:

- A. Spending variance: $\$942,500 - (65,000 \times \$15) = \$32,500\text{F}$
Efficiency variance: $(65,000 \times \$15) - (5,100 \times 13 \times \$15) = \$19,500\text{F}$
- B. Budget variance: $\$429,000 - (60,000 \times \$7) = \$9,000\text{U}$
Volume variance: $(60,000 \times \$7) - (5,100 \times 13 \times \$7) = \$44,100\text{F}^*$

*Some accountants choose to label a negative volume variance as "favorable," while others prefer to omit the unfavorable/favorable label altogether.

Straightforward Variance Analysis

71. Jefferson Corporation uses a standard cost system, applying manufacturing overhead on the basis of machine hours. The company's overhead standards per unit are shown below.

Variable overhead: 4 hours at \$9 per hour
Fixed overhead: 4 hours at \$6* per hour

*Based on planned monthly activity of 120,000 machine hours

Actual data for May were:

Number of units produced: 29,000
Number of machine hours worked: 125,000
Variable overhead costs incurred: \$1,085,000
Fixed overhead costs incurred: \$755,000

Required:

- A. Calculate the spending and efficiency variances for variable overhead.
- B. Calculate the budget and volume variances for fixed overhead.

LO: 5 Type: A

Answer:

- A. Spending variance: $\$1,085,000 - (125,000 \times \$9) = \$40,000\text{F}$
Efficiency variance: $(125,000 \times \$9) - (29,000 \times 4 \times \$9) = \$81,000\text{U}$
- B. Budget variance: $\$755,000 - (120,000 \times \$6) = \$35,000\text{U}$
Volume variance: $(120,000 \times \$6) - (29,000 \times 4 \times \$6) = \$24,000\text{U}^*$

*Some accountants choose to label a positive volume variance as "unfavorable," while others prefer to omit the unfavorable/favorable label altogether.

Basic Variance Analysis

72. The following information relates to Joplin Company for the period just ended:

Standard variable overhead rate per hour	\$1
Standard fixed overhead rate per hour	\$2
Planned monthly activity	40,000 machine hours
Actual production completed	82,000 units
Standard machine processing time	Two units per hour
Actual variable overhead	\$37,000
Actual total overhead	\$121,000
Actual machine hours worked	40,500

All of the company's overhead is variable or fixed in nature.

Required:

- A. Calculate the spending and efficiency variances for variable overhead.
B. Calculate the budget and volume variances for fixed overhead.

LO: 5 Type: A

Answer:

- A. Spending variance: $\$37,000 - (40,500 \times \$1) = \$3,500\text{F}$
Efficiency variance: $(40,500 \times \$1) - (82,000 \times 0.5^* \times \$1) = \$500\text{F}$

*Two units per hour = 0.5 hours per unit

- B. Budget variance: $(\$121,000 - \$37,000) - (40,000 \times \$2) = \$4,000\text{U}$
Volume variance: $(40,000 \times \$2) - (82,000 \times 0.5^* \times \$2) = \$2,000\text{F}^{**}$

* Two units per hour = 0.5 hours per unit

**Some accountants choose to label a negative volume variance as "favorable," while others prefer to omit the unfavorable/favorable label altogether.

Variance Interrelationships: Working Backward

73. The following selected information was extracted from the accounting records of Austin, Inc.:

Planned manufacturing activity: 40,000 machine hours
 Standard variable-overhead rate per machine hour: \$16
 Budgeted fixed overhead: \$100,000
 Variable-overhead spending variance: \$92,000U
 Variable-overhead efficiency variance: \$102,000F
 Fixed-overhead budget variance: \$25,000U
 Total actual overhead: \$675,000

Required:

Determine the following: actual fixed overhead, actual variable overhead, actual machine hours worked, standard machine hours allowed for actual production, and the fixed-overhead volume variance.

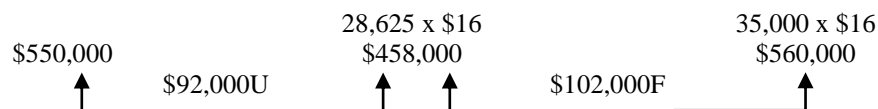
LO: 5 Type: A, N

Answer:

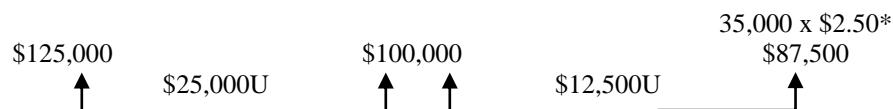
Actual fixed overhead: \$125,000
 Actual variable overhead: \$550,000
 Actual machine hours worked: 28,625
 Standard machine hours allowed: 35,000
 Fixed-overhead volume variance: \$12,500U*

*Some accountants choose to label a positive volume variance as "unfavorable," while others prefer to omit the unfavorable/favorable label altogether.

Variable overhead analysis:



Fixed overhead analysis:



*\$100,000 ÷ 40,000 hours

Fixed Overhead Variances: Computation and Analysis

74. Alexander Corporation applies fixed manufacturing overhead to production on the basis of machine hours worked. The following data relate to the month just ended:

Actual fixed overhead incurred: \$1,245,000
Budgeted fixed overhead: \$1,200,000
Anticipated machine hours: 240,000
Standard machine hours per finished unit: 8
Actual finished units completed: 31,250

Required:

- A. Compute Alexander's standard fixed overhead rate per machine hour.
- B. Determine Alexander's fixed overhead budget variance and fixed overhead volume variance.
- C. Calculate the amount of fixed overhead applied to production.
- D. Consider the two events that follow and determine whether the event will affect the fixed overhead budget variance, the fixed overhead volume variance, both variances, or neither variance. Assume that Alexander has not yet revised its standards to reflect these events if a revision is warranted.
 1. A raw material shortage halted production for two days.
 2. An additional assembly line supervisor was hired at the beginning of the month.

LO: 5 Type: A, N

Answer:

- A. Budgeted fixed overhead (\$1,200,000) ÷ anticipated machine hours (240,000) = \$5
- B. Budget variance: \$1,245,000 - \$1,200,000 = \$45,000U
Volume variance: \$1,200,000 - (31,250 x 8 x \$5) = \$50,000F*

*Some accountants choose to label a negative variance as "favorable," while others prefer to omit the unfavorable/favorable label altogether.

- C. $31,250 \times 8 \times \$5 = \$1,250,000$
- D.
 1. The volume variance would be affected because of reduced output.
 2. The budget variance would be affected because actual fixed overhead will increase.

Overhead and Variances: Focus on Interpretation

75. Hanks Company uses a standard cost system and applies manufacturing overhead to products on the basis of machine hours. The following information is available for the year just ended:

Standard variable overhead rate per machine hour: \$2.50
Standard fixed overhead rate per machine hour: \$5.00
Planned activity during the period: 30,000 machine hours
Actual production: 10,700 finished units
Production standard: Three machine hours per unit
Actual variable overhead: \$86,200
Actual total overhead: \$225,500
Actual machine hours worked: 35,100

Required:

- Calculate the budgeted fixed overhead for the year.
- Did Hanks spend more or less than anticipated for fixed overhead? How much?
- Was variable overhead under- or overapplied during the year? By how much?
- Was Hanks efficient in its use of machine hours? Briefly explain.
- Would the company's efficiency or inefficiency in the use of machine hours have any effect on Hanks' overhead variances? If "yes," which one(s)?

LO: 5 Type: A, N

Answer:

- Let X = budgeted fixed overhead
 $X \div 30,000 \text{ machine hours} = \5.00 per hour
 $X = \$150,000$
- Hanks spent less than anticipated. Actual fixed overhead amounted to \$139,300 (\$225,500 - \$86,200) when the budget was set at \$150,000 (part "A"). The fixed-overhead budget variance is \$10,700 favorable (\$150,000 - \$139,300).
- Variable overhead is underapplied by \$5,950:

Actual variable overhead	\$86,200
Applied overhead: Standard hours allowed x standard rate (10,700 x 3 x \$2.50)	<u>80,250</u>
Underapplied variable overhead	<u>\$ 5,950</u>
- No. The company used 35,100 machine hours when it should have used 32,100 hours (10,700 x 3).
- Yes. The actual and standard machine hours are used in the calculation of the variable-overhead efficiency variance.

DISCUSSION QUESTIONS

Overhead Application: Normal Costing vs. Standard Costing

76. Briefly describe the procedures that are used to apply manufacturing overhead to production for companies that use (1) normal costing systems and (2) those that use standard costing systems.

LO: 3 Type: RC

Answer:

In a normal costing system, overhead is applied to the Work-in-Process Inventory account as follows (assuming hours as an application base): actual hours x predetermined overhead rate. The actual hours represent the actual time consumed in processing the actual number of units produced (either completed or those in production). A similar procedure is followed in a standard costing system except that the predetermined rate is multiplied by the standard hours allowed (i.e., the actual production x the standard time per unit).

Understanding the Variable-Overhead Efficiency Variance

77. A production manager was recently given a performance report that showed a sizable unfavorable variable-overhead efficiency variance. The manager was puzzled as to how the department could be inefficient in the use/incurrence of this cost.

Required:

Briefly explain the nature of this variance to the manager. Does the variance really have much to do with variable overhead efficiencies or inefficiencies? Discuss.

LO: 5 Type: RC

Answer:

The variable-overhead efficiency variance can be somewhat misleading. It is computed as follows: (actual quantity x standard price) - (standard quantity x standard price). The quantities consist of the actual and standard amounts of the application base that is used to apply overhead to production (such as labor hours or machine hours). The variance really has nothing to do with the manager's efficiency or inefficiency in variable overhead consumption; rather, it deals with the efficiency or inefficiency of the application base.

Understanding the Fixed-Overhead Volume Variance

78. Briefly explain the nature of the fixed-overhead volume variance. Be sure to address the issue of capacity utilization in your response.

LO: 5 Type: RC

Answer:

The fixed-overhead volume variance is the difference between a company's budgeted amount of fixed overhead and that applied to production. The variance will arise if the standard hours allowed for production differ from the hours of planned activity.

This hour difference is what some accountants call an over-utilization or under-utilization of capacity. The cost of this under- or over-utilization is really more than the fixed overhead amount just described, courtesy of the contribution margin lost on the units not produced (when capacity is under-utilized). Note that in the opposite case, the company "gains" from the contribution margin associated with the excess units.