

## Chapter 16

### True/False

1. Companies that make sales return adjustments based on broad averaging potentially reduce the accuracy of the individual product revenue amounts they report.
2. Many of the issues discussed with revenue tracing and sales returns also apply to price offset coupons.
3. The incremental revenue-allocation method uses product-specific information pertaining to products in the bundle to determine the weights used to allocate the bundled revenues to those individual products.
4. The first-ranked product is termed the incremental product in the incremental revenue-allocation method.
5. The static-budget variance for revenues is the difference between the actual revenues and the budgeted revenues from the static budget.
6. The sales-mix variance is the difference between two amounts: (1) the budgeted amount based on actual quantities sold of all products and the budgeted mix, and (2) the amount in the static budget.
7. The market-size variance is the difference between two amounts: (1) the budgeted amount at budgeted mix based on the actual market size in units and the actual market share, and (2) the budgeted amount at budgeted mix based on actual market size in units and the budgeted market share.
8. Managers find customer-profitability analysis useful because it frequently highlights how vital a small set of customers is to total profitability.
9. General promotional expenditures is an enterprise-related activity.
10. The sales-volume variance is favorable assuming the sales-mix variance and the sales-quantity variances are favorable.
11. The sales-quantity variance can be unfavorable if both the market-share and market-size variances are favorable.
12. Which of the following statements is TRUE?
  - a. Joint product allocation results in more accurate assignment of revenues to products than does revenue allocation.
  - b. Revenue allocation results in more accurate assignment of revenues to products than does revenue tracing.
  - c. Revenue tracing results in more accurate assignment of revenues to products than does revenue allocation.
  - d. Revenue allocation results in more accurate assignment of revenues to products than does joint product allocation.

13-16. John's Video Game Outlet encounters revenue-allocation decisions with its bundled product sales. Here, two or more of the video games are sold as a single package. Managers at John's are keenly interested in individual product-profitability figures. Information pertaining to its three bundled products and the stand-alone prices of its individual products is as follows:

| Package        | Stand-Alone Sales Price |        |        | Packaged Price |
|----------------|-------------------------|--------|--------|----------------|
|                | Game A                  | Game B | Game C |                |
| Games A & B    | \$25                    | \$30   | ---    | \$44           |
| Games A & C    | 25                      | ---    | \$45   | 56             |
| Games A, B & C | 25                      | 30     | 45     | 76             |

The unit manufacturing costs are \$3.60, \$4.00, and \$5.00 for games A, B, and C, respectively.

13. What is the gross profit per unit for Game A in the first package (Games A and B) using the stand-alone revenue-allocation method, assuming Game A is the primary product and Game B is the secondary one?

- a. \$16. 40
- b. \$20.00
- c. \$25.00
- d. \$15. 40

14. What is the gross profit per unit for Game B in the first package (Games A and B) using the stand-alone revenue-allocation method, assuming Game A is the primary product and Game B is the secondary one?

- a. \$16. 40
- b. \$20.00
- c. \$30.00
- d. \$18. 80

15. What is the gross profit per unit for Game A in the first package (Games A and B) using the incremental revenue-allocation method, assuming Game A is the primary product and Game B is the secondary one?

- a. \$16. 40
- b. \$20.00
- c. \$21. 40
- d. \$15. 40

16. What is the gross profit per unit for Game B in the first package (Games A and B) using the increment revenue-allocation method, assuming Game A is the primary product and Game B is the secondary one?

- a. \$16. 40
- b. \$20.00
- c. \$30.00
- d. \$15.00

17. The sales-volume variance plus or minus the static budget amount results in

- a. a fixed-budget amount.
- b. a flexible-budget amount.
- c. an unfavorable/favorable variance.
- d. a variable-budget amount.

18-21, 45-47. Special Tea Products has an exclusive contract with Tea Distributors. Two brands of teas are imported, Strong and Mild, and sold to retail outlets. The monthly budget for the contract is based on a combination of last year's performance, a forecast of general industry sales, and the company's expected share of the U. S. market for imported tea. The following information is provided for the month of May:

|                       | Budgeted    |             | Actual      |             |
|-----------------------|-------------|-------------|-------------|-------------|
|                       | Strong      | Mild        | Strong      | Mild        |
| Price per lb.         | \$2.00      | \$3.00      | \$2. 50     | \$2. 50     |
| Variable cost per lb. | <u>1.00</u> | <u>1.50</u> | <u>1.00</u> | <u>2.00</u> |
| Cont. margin          | \$1.00      | \$1.50      | \$1. 50     | \$0. 50     |
| Sales (in lbs. )      | 2,000       | 1,500       | 1,700       | 1,800       |

Budgeted fixed costs are \$1,750. Actual fixed costs are \$2,000.

18. What is the total static-budget variance for revenues?

- a. \$50 favorable
- b. \$250 favorable
- c. \$50 unfavorable
- d. \$250 unfavorable

19. What is the total flexible-budget variance for revenues?
- \$50 favorable
  - \$250 favorable
  - \$50 unfavorable
  - \$250 unfavorable
20. What is the total sales-quantity variance?
- \$0
  - \$250 favorable
  - \$50 favorable
  - \$300 favorable
21. What is the total sales-mix variance?
- \$0
  - \$250 favorable
  - \$50 favorable
  - \$300 favorable
45. What is the budgeted operating income for May when a static budget is prepared?
- \$4,250
  - \$3,450
  - \$2,500
  - \$1,450
46. What is the total sales-volume variance for May?
- \$300 favorable
  - \$300 unfavorable
  - \$1,500 favorable
  - \$1,500 unfavorable
47. What is the sales-volume variance for Strong tea?
- \$600 favorable
  - \$600 unfavorable
  - \$900 favorable
  - \$900 unfavorable
22. The sales-volume variance is
- (actual sales quantity in units divided by budgeted individual product selling price per unit) times budgeted sales quantity in units.
  - budgeted individual product selling price per unit times (actual sales quantity in units less budgeted sales quantity in units).
  - (actual sales quantity in units plus budgeted sales quantity in units) divided by budgeted individual product selling price per unit.
  - (budgeted sales quantity in units divided by budgeted individual selling price per unit) times actual sales quantity in units.
23. The expected sales for Radios were 1,500 units; 2,000 were sold. The budgeted selling price for Radios was \$15.00; however, the actual selling price was \$13.00. At a selling price of \$9.00 per unit, 5,000 units of Speakers was sold during the month. Budgeted sales were 4,600 units at a selling price of \$7. 50. What is the sales-volume variance for the period?
- \$4,500 favorable
  - \$4,500 unfavorable
  - \$10,500 favorable
  - \$10,500 unfavorable
24. The sales-volume variance is also known as
- the contribution variance.
  - the cost variance.
  - the marketing variance.
  - the production variance.
25. Fresh Bread Company sells a special mix of wheat bread. If the expected output equals the actual

output, the sales-volume variance

- a. will not exist.
- b. will be positive.
- c. will be favorable.
- d. will be unfavorable.

26. Which of the following is NOT one of the items that are important to managers when analyzing sales-volume variance information?

- a. whether budgeted and actual total units are equal
- b. whether the aggregated dollars give an overall picture of the product line
- c. how many products were produced during the period
- d. the combination of the sales-volume variances

27. The sales-quantity variance arises because

- a. the mix of individual products actually sold differs from the budgeted mix.
- b. the total quantity of units actually sold differs from the static budget.
- c. the total quantity of units expected to be sold differs from the static budget.
- d. the mix of budgeted products sold differs from the actual product mix.

28. Which of the following actually calculates the sales-quantity variance?

- a. Budgeted sales mix percentage times budgeted unit selling price times (actual units of all products sold less budgeted units of all products sold).
- b. Budgeted sales mix percentage times budgeted unit selling price times actual units of all products sold.
- c. Budgeted sales mix percentage times budgeted unit selling price times budgeted units of all products sold.
- d. Budgeted sales mix percentage times budgeted unit selling price.

29. Metal Cabinet Company manufactures two- and four-drawer filing cabinets. The actual units sold (5,000) equaled the expected units to be sold for both products. The four-drawer cabinets constitute 66 % of the budgeted sales mix. The selling price is \$30 for four-drawer cabinets, and \$15 for two-drawer cabinets. What is the sales-quantity variance?

- a. \$ 0
- b. \$25,500
- c. \$49,500
- d. \$99,000

30, 49-50. Teddy Bear Company manufactures and sells a total of 30,000 stuffed tigers and lions. During August, the following information was gathered:

|                        | Tigers  | Lions    |
|------------------------|---------|----------|
| Actual selling price   | \$7. 50 | \$10. 50 |
| Budgeted selling price | \$5. 50 | \$10. 50 |
| Actual sales mix       | 69%     | 31%      |
| Budgeted sales mix     | 75%     | 25%      |

30. What is the total sales-quantity variance of revenues?

- a. \$13,500 favorable
- b. \$18,900 unfavorable
- c. \$5,400 unfavorable
- d. \$ 0

49. What is the total sales-mix variance of revenues?

- a. \$13,500 favorable
- b. \$5,400 unfavorable
- c. \$9,000 unfavorable
- d. \$32,400 unfavorable

50. What is the total sales-volume variance of revenues?
- \$13,500 favorable
  - \$5,400 unfavorable
  - \$9,000 unfavorable
  - \$32,400 unfavorable
31. When the actual mix of products sold shifts in favor of the high contribution-margin product,
- the total sales-mix variance is unfavorable.
  - the total sales-mix variance is favorable.
  - the total sales-volume variance is unfavorable.
  - the total sales-volume variance is favorable.
32. Overall demand for the industry's products and the company's ability to maintain its share of the market determines the company's
- current growth.
  - labor costs.
  - sales.
  - tax allowance.
33. Which variance is generally more controllable than which other variance?
- actual-market more controllable than expected-market
  - expected-market more controllable than actual-market
  - market-size more controllable than market-share
  - market-share more controllable than market-size
34. The difference between (1) the budgeted amount based on the actual market size in units and the budgeted market share, and (2) the static-budget amount based on the budgeted market size in units and budgeted market share, is called the
- budgeted market-size variance.
  - budgeted market-share variance.
  - market-share variance.
  - market-size variance.
35. Remote Company manufactures remote control devices for electronic equipment. The following information was collected during June:

|                                |          |
|--------------------------------|----------|
| Actual market size (units)     | 20,000   |
| Budgeted market size (units)   | 22,500   |
| Actual market share            | 34%      |
| Budgeted market share          | 32%      |
| Budgeted average selling price | \$12.00  |
| Actual average selling price   | \$10. 50 |

What is the company's market-share variance?

- \$4,800 favorable.
  - \$7,000 favorable.
  - \$9,600 favorable.
  - \$9,600 unfavorable.
36. Remote Company manufactures remote control devices for electronic equipment. The following information was collected during June:

|                                |         |
|--------------------------------|---------|
| Actual market size (units)     | 20,000  |
| Budgeted market size (units)   | 22,500  |
| Actual market share            | 34%     |
| Budgeted market share          | 32%     |
| Budgeted average selling price | \$12.00 |

|                              |          |
|------------------------------|----------|
| Actual average selling price | \$10. 50 |
|------------------------------|----------|

What is the company's market-size variance?

- a. \$4,800 favorable.
- b. \$7,000 favorable.
- c. \$9,600 favorable.
- d. \$9,600 unfavorable.

37. Which of the following statements is TRUE?

- a. Managers often find the bar chart presentation to be the most intuitive way to analyze customer profitability.
- b. Managers find customer-profitability analysis useful because it frequently highlights how vital a small set of customers is to total profitability.
- c. Managers find customer-profitability analysis useful because, when a customer is ranked in the loss category, they can focus on ways to make future business with this customer more profitable.
- d. All of the above are true statements.

38. Security of the plant, employee training, and new initiatives in data processing are examples of

- a. enterprise-related activities.
- b. market-related activities.
- c. channel-related activities.
- d. customer-related activities.

39. Sponsorship of motor car sporting events is an example of

- a. order-related activities.
- b. market-related activities.
- c. channel-related activities.
- d. customer-related activities.

40. The costs of managing receivables and the cost of export sales staff are examples of

- a. order-related activities.
- b. parts-related activities.
- c. channel-related activities.
- d. customer-related activities.

41. Price discounts to specific customers, customer contacts, and materials return are examples of

- a. order-related activities.
- b. parts-related activities.
- c. direct materials.
- d. customer-related activities.

42. Pick-and-pack labor, outbound freight, and customer invoicing are examples of

- a. order-related activities.
- b. parts-related activities.
- c. direct materials.
- d. enterprise-related activities.

43. Which of the following statements is TRUE?

- a. Companies that make sales return adjustments based on broad averaging will increase the accuracy of the individual product revenue amounts they report.
- b. The stand-alone allocation method ranks the individual products in a bundle and then uses this ranking to allocate the bundled revenues to these individual products.
- c. The incremental revenue-allocation method uses product-specific information pertaining to products in the bundle to determine the weights used to allocate the bundled revenues to those individual products.
- d. Companies that make sales return adjustments based on broad averaging potentially reduce the accuracy of the individual product revenue amounts they report.

44. Which of the following statements is TRUE?

- a. Many of the issues discussed with revenue tracing and sales returns also apply to price offset coupons.
- b. The stand-alone allocation method ranks the individual products in a bundle and then uses this ranking to allocate the bundled revenues to these individual products.
- c. A bundled product is a package of two or more products or services, sold for multiple prices.
- d. The issues discussed with revenue tracing and sales returns do not apply to price offset coupons.

48. The only difference between the flexible budget and the static budget is that the flexible budget is the budget for \_\_\_\_\_, while the static budget is the budget for \_\_\_\_\_.

- a. expected outputs, actual outputs.
- b. budgeted outputs achieved, actual outputs achieved.
- c. budgeted outputs achieved, expected outputs.
- d. actual outputs achieved, expected outputs.

51. Harry's Movie Store encounters revenue-allocation decisions with its bundled product sales. Here, two or more of the movie videos are sold as a single package. Managers at Harry's are keenly interested in individual product-profitability figures. Information pertaining to its three bundled products and the stand-alone prices of its individual products is as follows:

| Package        | Stand-Alone Sales Price |      |          | Packaged Price |
|----------------|-------------------------|------|----------|----------------|
|                | New                     | Old  | Classics |                |
| New & Old      | \$20                    | \$15 | ---      | \$30           |
| New & Classics | 20                      | ---  | \$15     | 30             |
| All three      | 20                      | 15   | 15       | 40             |

The unit inventory costs is \$4.00, \$3.00, and \$2. 50 for New Releases, Older Releases, and Classics, respectively.

Required:

- a. What is the gross profit per unit for each video under each package using the stand-alone revenue-allocation method?
- b. What is the gross profit per unit for each video under each package using the incremental revenue-allocation method?

52. Software For You encounters revenue-allocation decisions with its bundled product sales. Here, two or more units of the software are sold as a single package. Managers at Software For You are keenly interested in individual product-profitability figures. Information pertaining to its three bundled products and the stand-alone prices of its individual products is as follows:

| Package   | Stand-Alone Sales Price |                   |                          | Package Price |
|-----------|-------------------------|-------------------|--------------------------|---------------|
|           | Word Processing (WP)    | Spread-Sheet (SS) | Accounting Software (AS) |               |
| WP & SS   | \$125                   | \$150             | ---                      | \$220         |
| WP & AS   | 125                     | ---               | \$225                    | 280           |
| All three | 125                     | 150               | 225                      | 380           |

The unit inventory costs is \$18, \$20, and \$25 for WP, SS, and AS, respectively.

Required:

- What is the gross profit per unit for each software under each package using the stand-alone revenue-allocation method?
- What is the gross profit per unit for each software under each package using the incremental revenue-allocation method?

53. Columbia Coffee, Inc. sells two types of coffee, Regular and Decaf. The monthly budget for U. S. coffee sales is based on a combination of last year's performance, a forecast of industry sales, and the company's expected share of the U. S. market. The following information is provided for March:

|                         | Budgeted |       | Actual  |       |
|-------------------------|----------|-------|---------|-------|
|                         | Regular  | Decaf | Regular | Decaf |
| Price per pound         | \$50     | \$60  | \$52    | \$60  |
| Variable cost per pound | 24       | 26    | 24      | 28    |
| Contribution margin     | \$26     | \$34  | \$28    | \$32  |
| Sales (in lbs. )        | 4,000    | 4,500 | 3,700   | 4,800 |

Budgeted fixed costs are \$58,000. Actual fixed costs are \$62,000.

Required:

- Prepare a static budget and a flexible budget for the company for March.
- What is the sales-volume variance of revenues?

54. Better Printing manufactures hardcover books. For January, the following information is available:

|                                |         |
|--------------------------------|---------|
| Actual market size (units)     | 200,000 |
| Budgeted market size (units)   | 250,000 |
| Actual market share            | 38%     |
| Budgeted market share          | 36%     |
| Budgeted average selling price | \$2. 40 |
| Actual average selling price   | \$2. 44 |

Requirement:

Prepare a market size/share variance report.

55. Wood Door Company manufactures a special 36-inch interior door for office buildings. For April, the company installed 2,700 doors, with an average profit margin per pane of \$40. Additional information for April is as follows:

|                                 |          |
|---------------------------------|----------|
| Actual market share             | 25%      |
| Budgeted market share           | 24%      |
| Budgeted profit margin per unit | \$37. 50 |

The annual market size for doors in 19x1 was 45,000, when only 42,000 doors had been budgeted. Equal monthly sales are predicted.

Required:

Prepare a market size/share variance report for April.

56. Roger's Cabinets manufactures a special 36-inch kitchen cabinet. For June, the company installed 8,100 cabinets with an average profit margin per cabinet of \$20. Additional information for June is as follows:

|                                 |            |
|---------------------------------|------------|
| Actual market share             | 30 percent |
| Budgeted market share           | 25 percent |
| Budgeted profit margin per unit | \$18       |

The annual market size for cabinets in 19x1 was 135,000, when only 126,000 cabinets had been budgeted.

Required:

Prepare a market size/share variance report for 19x1.

57. Harry's Electronics manufactures TVs and VCRs. During February, the following activities occurred:

|                        | TVs    | VCRs   |
|------------------------|--------|--------|
| Actual units sold      | 20,000 | 80,000 |
| Budgeted units sold    | 17,640 | 66,360 |
| Actual selling price   | \$100  | \$158  |
| Budgeted selling price | \$90   | \$156  |

Required:

- Determine the total sales-mix variance.
- Determine the total sales-quantity variance.
- Determine the total sales-volume variance.

58. Bob's Appliances manufactures Dryers and Washers. During February, the following activities occurred:

|                        | Dryers | Washers |
|------------------------|--------|---------|
| Actual units sold      | 10,000 | 40,000  |
| Budgeted units sold    | 8,820  | 33,180  |
| Actual selling price   | \$200  | \$316   |
| Budgeted selling price | \$180  | \$312   |

Required:

- Determine the total sales-mix variance.
- Determine the total sales-quantity variance.
- Determine the total sales-volume variance.

59. Various Product Company is a manufacturer of numerous products which are similar and are processed on the same assembly line. The production manager has decided that she will require all product managers and assembly line managers to be responsible for their own operations. The accounting information system is a large complex system that can provide specialized reporting, when needed. It also has room for new, permanent applications.

Required:

Discuss how the production manager can expand the reporting responsibilities of these managers.

60. Describe and discuss the two methods of allocating the revenues of a bundled package to the

individual products in that package. Describe any special problems associated with the method.

61. Market size and market share variances are important to TV networks? Why?

## ANSWERS

- |          |          |           |          |
|----------|----------|-----------|----------|
| 1. True  | 2. True  | 3. False  | 4. False |
| 5. True  | 6. False | 7. False  | 8. True  |
| 9. False | 10. True | 11. False | 12. c    |

13. a  $[\$25 / (\$25 + \$30)] \times \$44 = \$20$ ;  $\$20.00 - \$3.60 = \$16.40$

14. b  $[\$30 / (\$25 + \$30)] \times \$44 = \$24$ ;  $\$24.00 - \$4.00 = \$20.00$

15. c  $\$25.00 - \$3.60 = \$21.40$

16. d  $\$44 - \$25 = \$19$ ;  $\$19 - \$4 = \$15$

17. b.

18. b.

|   |              |
|---|--------------|
| Actual sales $(1,700 \times \$2.50) + (1,800 \times \$2.50)$          | \$8,750      |
| Budget sales (static) $(2,000 \times \$2.00) + (1,500 \times \$3.00)$ | <u>8,500</u> |
|   | \$250 F      |

19. c

|   |              |
|---|--------------|
| Actual sales $(1,700 \times \$2.50) + (1,800 \times \$2.50)$                  | \$8,750      |
| Budget sales (actual quant. ) $(1,700 \times \$2.00) + (1,800 \times \$3.00)$ | <u>8,800</u> |
|   | \$50 U       |

20. a

|  |     |
|--|-----|
| Strong $(3,500 - 3,500) \times 2,000/3,500 \times \$2$ | \$0 |
| Mild $(3,500 - 3,500) \times 1,500/3,500 \times \$3$   | 0   |
|  | \$0 |

21. d

|  |              |
|--|--------------|
| Strong $(3,500 \times (1,700/3,500 - 2,000/3,500)) \times \$2$ | \$600 U      |
| Mild $(3,500 \times (1,800/3,500 - 1,500/3,500)) \times \$3$   | <u>900 F</u> |
|  | \$300 F      |

22. b

23. c

|  |                |
|--|----------------|
| Radios $(2,000 - 1,500) \times \$15.00 =$  | \$7,500 F      |
| Speakers $(5,000 - 4,600) \times \$7.50 =$ | <u>3,000 F</u> |
|  | \$10,500 F     |

24. c

25. a

26. c

27. b

28. a  
 29. a  
 30. d  
 Tigers  $[(30,000 - 30,000) \times 0.69 \times \$7.50]$  \$0  
 Lions  $[(30,000 - 30,000) \times 0.31 \times \$10.50]$  0  
 \$0

31. b  
 32. c  
 33. d  
 34. d  
 35. a  $20,000 \times (0.34 - 0.32) \times \$12$  \$4,800 F  
 36. d  $(20,000 - 22,500) \times 0.32 \times \$12$  \$9,600 U

37. d  
 38. a  
 39. b  
 40. c  
 41. d  
 42. a  
 43. d  
 44. a  
 45. c

|  |                |  |
|--|----------------|--|
| Revenues: $(2,000 \times 2) + (1,500 \times 3)$          | \$8,500        |  |
| Variable Costs: $(2,000 \times 1) + (1,500 \times 1.50)$ | <u>(4,250)</u> |  |
| Contribution Margin                                      | \$4,250        |  |
| Fixed Costs  | <u>(1,750)</u> |  |
| Operating Income   | \$2,500        |  |

46. a  
 Strong  $(1,700 - 2,000) \times \$2$  \$600 U  
 Mild  $(1,800 - 1,500) \times \$3$  900 F  
 \$300 F

47. b Sales volume variance:  $[(1,700 - 2,000) \times \$2] = \$600$  unfavorable  
 48. d

49. c  
 Tigers  $[(30,000 \times (0.75 - 0.69) \times \$5.50)]$  \$9,900 F  
 $[(30,000 \times (0.25 - 0.31) \times \$10.50)]$  18,900 U  
 \$9,000 U

50. c \$9,000 favorable - \$0 = \$9,000 unfavorable

51. a. New and Old:

|  |  |           |  |
|--|--|-----------|--|
|  | New $[(\$20/\$35) \times \$30] - \$4.00$ | = \$13.14 |  |
|  | Old $[(\$15/\$35) \times \$30] - \$3.00$ | = \$9.86  |  |

New and Classics:

|  |   |           |  |
|--|---|-----------|--|
|  | New $[(\$20/\$35) \times \$30] - \$4.00$      | = \$13.14 |  |
|  | Classics $[(\$15/\$35) \times \$30] - \$2.50$ | = \$10.36 |  |

|        |                   |   |            |
|--------|-------------------|---|------------|
|        | All three:        | New [(\$20/\$50) x \$40] - \$4.00           | = \$12.00  |
|        |                   | Old [(\$15/\$50) x \$40] - \$3.00           | = \$9.00   |
|        |                   | Classics [(\$15/\$50) x \$40] - \$2. 50     | = \$9. 50  |
| b.     | New and Old:      | New \$20.00 - \$4.00                        | = \$16.00  |
|        |                   | Old \$30.00 - \$20.00 - \$3.00              | = \$7.00   |
|        | New and Classics: | New \$20.00 - \$4.00                        | = \$16.00  |
|        |                   | Classics \$30.00 - \$20.00 - \$2. 50        | = \$7. 50  |
|        | All three:        | New \$20.00 - \$4.00                        | = \$16.00  |
|        |                   | Old \$15.00 - \$3.00                        | = \$12.00  |
|        |                   | Classics \$5.00 - 2. 50                     | = \$2. 50  |
| 52. a. | WP and SS:        | WP [(\$125/\$275) x \$220] - \$18           | = \$82.00  |
|        |                   | SS [(\$150/\$275) x \$220] - \$20           | = \$100.00 |
|        | WP and AS:        | WP [(\$125/\$350) x \$280] - \$18           | = \$82.00  |
|        |                   | AS [(\$225/\$350) x \$280] - \$25           | = \$155.00 |
|        | All three:        | WP [(\$125/\$500) x \$380] - \$18           | = \$77.00  |
|        |                   | SS [(\$150/\$500) x \$380] - \$20           | = \$94.00  |
|        |                   | AS [(\$225/\$500) x \$380] - \$25           | = \$146.00 |
| b.     | WP and SS:        | WP \$125.00 - \$18.00                       | = \$107.00 |
|        |                   | SS \$220.00 - \$125.00 - \$20.00            | = \$75.00  |
|        | WP and AS:        | WP \$125.00 - \$18.00                       | = \$107.00 |
|        |                   | AS \$280.00 - \$125.00 - \$25.00            | = \$130.00 |
|        | All three:        | WP \$125.00 - \$18.00                       | = \$107.00 |
|        |                   | SS \$150.00 - \$20.00                       | = \$130.00 |
|        |                   | AS \$380.00 - \$125.00 - \$150.00 - \$25.00 | = \$80.00  |

|        |                              |                 |                |
|--------|------------------------------|-----------------|----------------|
| 53. a. |                              | Flexible Budget | Static Budget  |
|        | Revenues                     | \$473,000       | \$470,000      |
|        | Variable Costs               | <u>213,600</u>  | <u>213,000</u> |
|        | Contribution Margin          | \$259,400       | \$257,000      |
|        | Fixed Costs                  | <u>58,000</u>   | <u>58,000</u>  |
|        | Operating Income             | \$201,400       | \$199,000      |
| b.     | Regular (3,700 - 4,000) x 50 | \$15,000 U      |                |
|        | Decaf (4,800 - 4,500) x 60   | <u>18,000 F</u> |                |
|        |                              | \$3,000 F       |                |

54. Actual x Actual

Actual x Budget

Budget x Budget

|  |                                       |  |
|--|---------------------------------------|--|
| 200,000 x 0. 38 x \$2. 40<br>\$182,400 | 200,000 x 0. 36 x \$2.40<br>\$172,800 | 250,000 x 0. 36 x \$2. 40<br>\$216,000 |
| \$9,600 F<br>Mkt. -share var.          |                                       | \$43,200 U<br>Mkt. -size var.          |

\$33,600 U  
Total sales-quantity var.

|   |  |   |
|---|--|---|
| 55. Actual x Actual<br>45,000 x 0. 25 x \$37. 50<br>\$421,875 | Actual x Budget<br>45,000 x 0. 24 x \$37.50<br>\$405,000 | Budget x Budget<br>42,000 x 0. 24 x \$37. 50<br>\$378,000 |
| \$16,875 F<br>Mkt. -share var.                                |  | \$27,000 F<br>Mkt. -size var.                             |

\$43,875 F  
Total sales-quantity var.

|  |  |  |
|--|--|--|
| 56. Actual x Actual<br>135,000 x 0. 30 x \$18<br>\$729,000 | Actual x Budget<br>135,000 x 0. 25 x \$18<br>\$607,500 | Budget x Budget<br>126,000 x 0. 25 x \$18<br>\$567,000 |
| \$121,500 F<br>Mkt. -share var.                            |  | \$40,500 F<br>Mkt. -size var.                          |

\$162,000 F  
Total sales-quantity var.

57. a. TVs [(20,000 x 0. 20) x \$90] = \$1,800,000  
 [(20,000 x 0. 21) x \$90] = 1,890,000  
 \$90,000 unfavorable  
 [(100,000 x (0. 20 - 0. 21) x \$90) = \$90,000 unfavorable

VCRs [(100,000 x 0. 80) x \$156] = \$12,480,000  
 [(100,000 x 0. 79) x \$156] = 12,324,000  
 \$156,000 favorable

Total sales mix variance = \$90,000 unfavorable + \$156,000 favorable = \$66,000 favorable

b. TVs [((100,000 - 84,000) x 0. 21) x \$90] = \$302,400 favorable  
 VCRs [((100,000 - 84,000) x 0. 79) x \$156] = 1,971,840 favorable  
 \$2,274,240 favorable

c. Total sales volume variance = \$66,000 favorable + \$2,274,240 favorable = \$2,340,240 favorable

58. a. Dryers [(50,000 x 0. 20) x \$180] = \$1,800,000  
 [(50,000 x 0. 21) x \$180] = 1,890,000  
 \$90,000 unfavorable  
 [(50,000 x (0. 20 - 0. 21) x \$180) = \$90,000 unfavorable

|                                      |                     |
|--------------------------------------|---------------------|
| Washers [(50,000 x 0. 80) x \$312] = | \$12,480,000        |
| [(50,000 x 0. 79) x \$312] =         | <u>12,324,000</u>   |
|                                      | \$156,000 favorable |

Total sales mix variance = \$90,000 unfavorable + \$156,000 favorable = \$66,000 favorable

|  |                     |
|--|---------------------|
| b. Dryers [(50,000 x 0. 21) x \$180] = | \$1,890,000         |
| [(42,000 x 0. 21) x \$180] =           | <u>1,587,600</u>    |
|  | \$302,400 favorable |

|                                     |                       |
|-------------------------------------|-----------------------|
| Washers [(50,000 x 0. 79 x \$312] = | \$12,324,000          |
| [(42,000 x 0. 79 x \$312] =         | <u>10,352,160</u>     |
|                                     | \$1,971,840 favorable |

Total sales quantity variance = \$302,400 favorable + \$1,971,840 favorable = \$2,340,240 favorable

c. Total sales volume variance = \$66,000 favorable + \$2,340,240 favorable = \$2,340,240 favorable

59. The reporting system can be expanded by providing a variety of variance reports. The product managers may receive sales-volume variances, price variances, total sales-quantity variances, sales-mix variances, market-size and market-share variances. The assembly line managers may receive individual variances for the assembly lines they control. These can include materials and labor cost and efficiency variances, product yield and mix variances, partial product variances, and total product variances.

60. The stand-alone method allocates common costs in proportion to the individual users' costs. However, when allocating bundled revenues, the proportion of revenues is allocated on 3 alternative bases: (1) individual product unit selling price (revenues), (2) individual product unit costs, or (3) number of units. Consequently, it is preferable to allocate common revenues based on unit revenues, since this best reflects customers' willingness to pay for the different products. However, if the products are never sold separately, unit selling prices are unavailable, so revenues are allocated based on unit costs (which should be available in the firm's accounting records), or simply the number of units.

The incremental revenue allocation method parallels the incremental method for allocation of common costs. However, in the common cost situation, nobody wants their product to be identified as the primary user, since the primary user is charged the bulk of the cost. In contrast, for revenue allocation, everyone does want their product to be identified as the primary product, as that product will be allocated the bulk of revenues.

61. A network's advertising revenues increase when the aggregate market increases or when the network's share of the market increases. The measures used to compute market size and share are debated intensely in this industry.