

Cost Accounting, 14e (Horngren/Datar/Rajan)
Chapter 9 Inventory Costing and Capacity Analysis

Objective 9.1

1) Which of the following cost(s) are inventoried when using variable costing?

- A) direct manufacturing costs
- B) variable marketing costs
- C) fixed manufacturing costs
- D) Both A and B are correct.

Answer: A

Diff: 1

Terms: variable costing

Objective: 1

AACSB: Reflective thinking

2) Which of the following cost(s) are inventoried when using absorption costing?

- A) direct manufacturing costs
- B) variable marketing costs
- C) fixed manufacturing costs
- D) Both A and C are correct.

Answer: D

Diff: 1

Terms: absorption costing

Objective: 1

AACSB: Reflective thinking

3) _____ is a method of inventory costing in which all variable manufacturing costs (direct and indirect) are included as inventoriable costs and all fixed manufacturing costs are excluded.

- A) Variable costing
- B) Mixed costing
- C) Absorption costing
- D) Standard costing

Answer: A

Diff: 1

Terms: absorption costing

Objective: 1

AACSB: Reflective thinking

4) Absorption costing is required for all of the following except:

- A) generally accepted accounting principles
- B) determining a competitive selling price
- C) external reporting to shareholders
- D) income tax reporting

Answer: B

Diff: 2

Terms: absorption costing

Objective: 1

AACSB: Reflective thinking

5) Absorption costing:

- A) expenses marketing costs as cost of goods sold
- B) treats direct manufacturing costs as a period cost
- C) includes fixed manufacturing overhead as an inventoriable cost
- D) is required for internal reports to managers

Answer: C

Diff: 3

Terms: absorption costing

Objective: 1

AACSB: Reflective thinking

6) Variable costing:

- A) expenses administrative costs as cost of goods sold
- B) treats direct manufacturing costs as a product cost
- C) includes fixed manufacturing overhead as an inventoriable cost
- D) is required for external reporting to shareholders

Answer: B

Diff: 3

Terms: variable costing

Objective: 1

AACSB: Reflective thinking

7) _____ method(s) expense(s) variable marketing costs in the period incurred.

- A) Variable costing
- B) Absorption costing
- C) Throughput costing
- D) All of these answers are correct.

Answer: D

Diff: 1

Terms: variable costing, absorption costing, throughput costing

Objective: 1

AACSB: Reflective thinking

8) _____ method(s) include(s) fixed manufacturing overhead costs as inventoriable costs.

- A) Variable costing
- B) Absorption costing
- C) Throughput costing
- D) All of these answers are correct.

Answer: B

Diff: 1

Terms: absorption costing

Objective: 1

AACSB: Reflective thinking

9) _____ method(s) expense(s) direct material costs as cost of goods sold.

- A) Variable costing
- B) Absorption costing
- C) Throughput costing
- D) All of these answers are correct.

Answer: D

Diff: 1

Terms: variable costing, absorption costing, throughput costing

Objective: 1

AACSB: Reflective thinking

10) _____ method(s) is required for tax reporting purposes.

- A) Variable costing
- B) Absorption costing
- C) Throughput costing
- D) All of these answers are correct.

Answer: B

Diff: 1

Terms: absorption costing

Objective: 1

AACSB: Reflective thinking

11) _____ is a method of inventory costing in which only variable manufacturing costs are included as inventoriable costs.

- A) Fixed costing
- B) Variable costing
- C) Absorption costing
- D) Mixed costing

Answer: B

Diff: 1

Terms: variable costing

Objective: 1

AACSB: Reflective thinking

12) Variable costing regards fixed manufacturing overhead as a(n):

- A) administrative cost
- B) inventoriable cost
- C) period cost
- D) product cost

Answer: C

Diff: 1

Terms: variable costing

Objective: 1

AACSB: Reflective thinking

13) The only difference between variable and absorption costing is the expensing of:

- A) direct manufacturing costs
- B) variable marketing costs
- C) fixed manufacturing costs
- D) Both A and C are correct.

Answer: C

Diff: 2

Terms: variable costing, absorption costing

Objective: 1

AACSB: Reflective thinking

Answer the following questions using the information below:

Gloria's Decorating produces and sells a mantel clock for \$80 per unit. In 2011, 50,000 clocks were produced and 40,000 were sold. Other information for the year includes:

Direct materials	\$30.00 per unit
Direct manufacturing labor	\$ 2.00 per unit
Variable manufacturing costs	\$ 3.00 per unit
Sales commissions	\$ 5.00 per part
Fixed manufacturing costs	\$25.00 per unit
Administrative expenses, all fixed	\$15.00 per unit

14) What is the inventoriable cost per unit using variable costing?

- A) \$32
- B) \$35
- C) \$40
- D) \$60

Answer: B

Explanation: B) $\$30.00 + \$2.00 + \$3.00 = \35.00

Diff: 2

Terms: variable costing

Objective: 1

AACSB: Analytical skills

15) What is the inventoriable cost per unit using absorption costing?

- A) \$32
- B) \$35
- C) \$60
- D) \$80

Answer: C

Explanation: C) $\$30 + \$2 + \$3 + \$25 = \$60$

Diff: 2

Terms: absorption costing

Objective: 1

AACSB: Analytical skills

Answer the following questions using the information below:

Kory's Auto produces and sells an auto part for \$60.00 per unit. In 2011, 100,000 parts were produced and 75,000 units were sold. Other information for the year includes:

Direct materials	\$24.00 per unit
Direct manufacturing labor	\$ 4.50 per unit
Variable manufacturing costs	\$ 1.50 per unit
Sales commissions	\$ 6.00 per part
Fixed manufacturing costs	\$750,000 per year
Administrative expenses, all fixed	\$270,000 per year

16) What is the inventoriable cost per unit using variable costing?

- A) \$28.50
- B) \$30.00
- C) \$36.00
- D) \$43.50

Answer: B

Explanation: B) $\$24.00 + \$4.50 + \$1.50 = \30.00

Diff: 2

Terms: variable costing

Objective: 1

AACSB: Analytical skills

17) What is the inventoriable cost per unit using absorption costing?

- A) \$30.00
- B) \$36.00
- C) \$37.50
- D) \$43.50

Answer: C

Explanation: C) $\$24.00 + \$4.50 + \$1.50 + (\$750,000 / 100,000) = \$37.50$

Diff: 2

Terms: absorption costing

Objective: 1

AACSB: Analytical skills

18) Which of the following inventory costing methods shown below is required by GAAP (Generally Accepted Accounting Principles) for external financial reporting?

- A) absorption costing
- B) variable costing
- C) throughput costing
- D) direct costing

Answer: A

Diff: 2

Terms: absorption costing

Objective: 1

AACSB: Reflective thinking

19) The two most common methods of costing inventories in manufacturing companies are variable costing and absorption costing.

Answer: TRUE

Diff: 1

Terms: absorption costing, variable costing

Objective: 1

AACSB: Reflective thinking

20) Absorption costing "absorbs" only fixed manufacturing costs.

Answer: FALSE

Explanation: Absorption costing "absorbs" all manufacturing costs, both fixed and variable.

Diff: 1

Terms: absorption costing

Objective: 1

AACSB: Reflective thinking

21) Variable costing includes all variable costs—both manufacturing and nonmanufacturing—in inventory.

Answer: FALSE

Explanation: Variable costing includes only manufacturing variable costs in inventory.

Diff: 1

Terms: variable costing

Objective: 1

AACSB: Reflective thinking

22) Under both variable and absorption costing, all variable manufacturing costs are inventoriable costs.

Answer: TRUE

Diff: 1

Terms: variable costing, absorption costing

Objective: 1

AACSB: Reflective thinking

23) The main difference between variable costing and absorption costing is the way in which fixed manufacturing costs are accounted for.

Answer: TRUE

Diff: 1

Terms: absorption costing, variable costing

Objective: 1

AACSB: Reflective thinking

24) Under absorption costing, all variable manufacturing costs and all fixed manufacturing costs are included as inventoriable costs.

Answer: TRUE

Diff: 1

Terms: absorption costing

Objective: 1

AACSB: Reflective thinking

25) For 2011, Nichols, Inc., had sales of 150,000 units and production of 200,000 units. Other information for the year included:

Direct manufacturing labor	\$187,500
Variable manufacturing overhead	100,000
Direct materials	150,000
Variable selling expenses	100,000
Fixed administrative expenses	100,000
Fixed manufacturing overhead	200,000

There was no beginning inventory.

Required:

- Compute the ending finished goods inventory under both absorption and variable costing.
- Compute the cost of goods sold under both absorption and variable costing.

Answer:

a.	Absorption	Variable
Direct materials	\$150,000	\$150,000
Direct manufacturing labor	187,500	187,500
Variable manufacturing overhead	100,000	100,000
Fixed manufacturing overhead	<u>200,000</u>	<u>0</u>
Total	<u>\$637,500</u>	<u>\$437,500</u>

Unit costs:

\$637,500/200,000 units	\$3.1875	
\$437,500/200,000 units		\$2.1875

Ending inventory:

50,000 units × \$3.1875	\$159,375	
50,000 units × \$2.1875		\$109,375

b. Cost of goods sold:

150,000 × \$3.1875	\$478,125	
150,000 × \$2.1875		\$328,125

Diff: 2

Terms: variable costing, absorption costing

Objective: 1

AACSB: Analytical skills

26) Charlassier Corporation manufactures and sells laptop computers and uses standard costing. For the month of September there was no beginning inventory, there were 3,000 units produced and 2,500 units sold. The manufacturing variable cost per unit is \$385 and the variable operating cost per unit was \$312.50. The fixed manufacturing cost is \$450,000 and the fixed operating cost is \$75,000. The selling price per unit is \$925.

Required:

Prepare the income statement for Charlassier Corporation for September under variable costing.

Answer:

Revenues (2,500 × \$925)		\$2,312,500
Variable costs		
Beginning inventory	\$	0
Variable manufacturing costs (3,000 × \$385)		<u>1,155,000</u>
Cost of goods available		1,155,000
Deduct ending inventory (500 × \$385)		<u>(192,500)</u>
Variable cost of goods sold		962,500
Variable operating costs (2,500 × \$312.50)		<u>781,250</u>
Total variable costs		<u>1,743,750</u>
Contribution margin		568,750
Fixed costs		
Fixed manufacturing costs	450,000	
Fixed operating costs	<u>75,000</u>	
Total fixed costs		<u>525,000</u>
Operating income		\$ 43,750

Diff: 2

Terms: variable costing

Objective: 1

AACSB: Analytical skills

27) a. Explain the difference between the variable and absorption costing methods.

b. Which method(s) are required for external reporting? For internal reporting?

Answer:

a. Absorption costing includes both fixed and variable manufacturing costs as inventoriable costs, whereas variable costing only includes variable manufacturing costs as inventoriable costs.

b. Absorption costing is required for external reporting to shareholders and for income tax reporting. A company may use whichever method it chooses for internal reporting purposes.

Diff: 2

Terms: variable costing, absorption costing

Objective: 1

AACSB: Analytical skills

Objective 9.2

1) The contribution-margin format of the income statement:

- A) is used with absorption costing
- B) calculates gross margin
- C) distinguishes between manufacturing and nonmanufacturing costs
- D) is used with variable costing

Answer: D

Diff: 2

Terms: variable costing

Objective: 2

AACSB: Reflective thinking

2) The gross-margin format of the income statement:

- A) is used with variable costing
- B) is used with absorption costing
- C) calculates contribution margin
- D) distinguishes variable costs from fixed costs

Answer: B

Diff: 2

Terms: absorption costing

Objective: 2

AACSB: Reflective thinking

3) The contribution-margin format of the income statement:

- A) is used with absorption costing
- B) highlights the lump sum of fixed manufacturing costs
- C) distinguishes manufacturing costs from nonmanufacturing costs
- D) calculates gross margin

Answer: B

Diff: 3

Terms: variable costing

Objective: 2

AACSB: Reflective thinking

4) The gross-margin format of the income statement:

- A) distinguishes between manufacturing and nonmanufacturing costs
- B) distinguishes variable costs from fixed costs
- C) is used with variable costing
- D) calculates contribution margin

Answer: A

Diff: 3

Terms: absorption costing

Objective: 2

AACSB: Reflective thinking

5) _____ are subtracted from sales to calculate contribution margin.

- A) Variable manufacturing costs
- B) Variable selling and administrative costs
- C) Fixed manufacturing costs
- D) Both A and B are correct.

Answer: D

Diff: 2

Terms: variable costing

Objective: 2

AACSB: Reflective thinking

6) _____ are subtracted from sales to calculate gross margin.

- A) Variable manufacturing costs
- B) Variable selling and administrative costs
- C) Fixed manufacturing costs
- D) Both A and C are correct.

Answer: D

Diff: 2

Terms: absorption costing

Objective: 2

AACSB: Reflective thinking

Answer the following questions using the information below:

Peggy's Pillows produces and sells a decorative pillow for \$75.00 per unit. In the first month of operation, 2,000 units were produced and 1,750 units were sold. Actual fixed costs are the same as the amount budgeted for the month. Other information for the month includes:

Variable manufacturing costs	\$20.00 per unit
Variable marketing costs	\$ 3.00 per unit
Fixed manufacturing costs	\$ 7.00 per unit
Administrative expenses, all fixed	\$15.00 per unit
Ending inventories:	
Direct materials	-0-
WIP	-0-
Finished goods	250 units

7) What is cost of goods sold per unit using variable costing?

- A) \$20
- B) \$23
- C) \$30
- D) \$45

Answer: A

Explanation: A) \$20, only variable manufacturing costs are included when using variable costing.

Diff: 1

Terms: variable costing

Objective: 2

AACSB: Analytical skills

8) What is cost of goods sold using variable costing?

- A) \$35,000
- B) \$40,000
- C) \$47,250
- D) \$54,000

Answer: A

Explanation: A) $\$20 \times 1,750 \text{ units} = \$35,000$

Diff: 2

Terms: variable costing

Objective: 2

AACSB: Analytical skills

9) What is contribution margin using variable costing?

- A) \$96,250
- B) \$91,000
- C) \$104,000
- D) \$110,000

Answer: B

Explanation: B) $(\$75 \times 1,750) - [(\$20 + \$3) \times 1,750 \text{ units}] = \$91,000$

Diff: 3

Terms: variable costing

Objective: 2

AACSB: Analytical skills

10) What is operating income using variable costing?

- A) \$52,500
- B) \$78,750
- C) \$65,750
- D) \$47,000

Answer: D

Explanation: D) Contribution margin of \$91,000 - $[(\$7 + \$15) \times 2,000 \text{ units}] = \$47,000$

Diff: 3

Terms: variable costing

Objective: 2

AACSB: Analytical skills

Answer the following questions using the information below:

Barry's Hobbies produces and sells a luxury animal pillow for \$80.00 per unit. In the first month of operation, 3,000 units were produced and 2,250 units were sold. Actual fixed costs are the same as the amount budgeted for the month. Other information for the month includes:

Variable manufacturing costs	\$38 per unit
Variable marketing costs	\$ 2 per unit
Fixed manufacturing costs	\$60,000 per month
Administrative expenses, all fixed	\$12,000 per month
Ending inventories:	
Direct materials	-0-
WIP	-0-
Finished goods	750 units

11) What is cost of goods sold per unit when using absorption costing?

- A) \$38
- B) \$40
- C) \$58
- D) \$64

Answer: C

Explanation: C) $\$38 + (\$60,000 / 3,000 \text{ units}) = \58

Diff: 2

Terms: absorption costing

Objective: 2

AACSB: Analytical skills

12) What is gross margin when using absorption costing?

- A) \$95,000
- B) \$109,500
- C) \$154,500
- D) \$49,500

Answer: D

Explanation: D) $[\$80 - \$38 - (\$60,000/3,000)] \times 2,250 \text{ units} = \$49,500$

Diff: 2

Terms: absorption costing

Objective: 2

AACSB: Analytical skills

13) What is operating income when using absorption costing?

- A) \$8,000
- B) \$33,000
- C) (\$23,500)
- D) \$37,500

Answer: B

Explanation: B) [$\$80 - \$38 - (\$60,000/3,000)$] \times 2,250 units = gross margin - $(\$2 \times 2,250) - \$12,000 = \$33,000$

Diff: 3

Terms: absorption costing

Objective: 2

AACSB: Analytical skills

14) An favorable production-volume variance occurs when:

- A) the denominator level exceeds production
- B) production exceeds the denominator level
- C) production exceeds unit sales
- D) unit sales exceed production

Answer: B

Diff: 2

Terms: practical capacity

Objective: 2

AACSB: Reflective thinking

15) If the unit level of inventory increases during an accounting period, then:

- A) less operating income will be reported under absorption costing than variable costing
- B) more operating income will be reported under absorption costing than variable costing
- C) operating income will be the same under absorption costing and variable costing
- D) the exact effect on operating income cannot be determined

Answer: B

Diff: 2

Terms: absorption costing

Objective: 2

AACSB: Reflective thinking

16) The difference between operating incomes under variable costing and absorption costing centers on how to account for:

- A) direct materials costs
- B) fixed manufacturing costs
- C) variable manufacturing costs
- D) Both B and C are correct.

Answer: B

Diff: 2

Terms: variable costing, absorption costing

Objective: 2

AACSB: Reflective thinking

17) One possible means of determining the difference between operating incomes for absorption costing and variable costing is by:

- A) subtracting sales of the previous period from sales of this period
- B) subtracting fixed manufacturing overhead in beginning inventory from fixed manufacturing overhead in ending inventory
- C) multiplying the number of units produced by the budgeted fixed manufacturing cost rate
- D) adding fixed manufacturing costs to the production-volume variance

Answer: B

Diff: 3

Terms: variable costing, absorption costing

Objective: 2

AACSB: Reflective thinking

18) When comparing the operating incomes between absorption costing and variable costing, and ending finished inventory exceeds beginning finished inventory, it may be assumed that:

- A) sales decreased during the period
- B) variable cost per unit is more than fixed cost per unit
- C) there is a favorable production-volume variance
- D) absorption costing operating income exceeds variable costing operating income

Answer: D

Diff: 3

Terms: variable costing, absorption costing

Objective: 2

AACSB: Reflective thinking

19) Which of the following statements is FALSE?

- A) Absorption costing allocates fixed manufacturing overhead to actual units produced during the period.
- B) Nonmanufacturing costs are expensed in the future under variable costing.
- C) Fixed manufacturing costs in ending inventory are expensed in the future under absorption costing.
- D) Operating income under absorption costing is higher than operating income under variable costing when production units exceed sales units.

Answer: B

Diff: 3

Terms: variable costing

Objective: 2

AACSB: Reflective thinking

20) Heston Company has the following information for the current year:

Beginning fixed manufacturing overhead in inventory	\$190,000
Fixed manufacturing overhead in production	750,000
Ending fixed manufacturing overhead in inventory	50,000

Beginning variable manufacturing overhead in inventory	\$20,000
Variable manufacturing overhead in production	100,000
Ending variable manufacturing overhead in inventory	30,000

What is the difference between operating incomes under absorption costing and variable costing?

- A) \$140,000
- B) \$100,000
- C) \$80,000
- D) \$10,000

Answer: A

Explanation: A) $\$190,000 - \$50,000 = \$140,000$

Diff: 3

Terms: variable costing, absorption costing

Objective: 2

AACSB: Analytical skills

21) The following information pertains to Brian Stone Corporation:

Beginning fixed manufacturing overhead in inventory	\$60,000
Ending fixed manufacturing overhead in inventory	45,000
Beginning variable manufacturing overhead in inventory	\$30,000
Ending variable manufacturing overhead in inventory	14,250

Fixed selling and administrative costs	\$724,000
Units produced	5,000 units
Units sold	4,800 units

What is the difference between operating incomes under absorption costing and variable costing?

- A) \$750
- B) \$7,500
- C) \$15,000
- D) \$30,750

Answer: C

Explanation: C) $\$60,000 - \$45,000 = \$15,000$

Diff: 3

Terms: variable costing, absorption costing

Objective: 2

AACSB: Analytical skills

Answer the following questions using the information below:

Stiller Corporation incurred fixed manufacturing costs of \$12,000 during 2011. Other information for 2011 includes:

- The budgeted denominator level is 2,000 units.
- Units produced total 1,500 units.
- Units sold total 1,200 units.
- Beginning inventory was zero.

The company uses absorption costing and the fixed manufacturing cost rate is based on the budgeted denominator level. Manufacturing variances are closed to cost of goods sold.

22) Fixed manufacturing costs expensed on the income statement (excluding adjustments for variances) total:

- A) \$7,200
- B) \$9,600
- C) \$12,000
- D) 0

Answer: A

Explanation: A) $\$12,000 / 2,000 \text{ units} = \$6 \times 1,200 = \$7,200$

Diff: 3

Terms: absorption costing

Objective: 2

AACSB: Analytical skills

23) Fixed manufacturing costs included in ending inventory total:

- A) \$2,400
- B) \$3,000
- C) \$1,800
- D) 0

Answer: C

Explanation: C) $\$12,000 / 2,000 \text{ units} = \$6 \times 300 = \$1,800$

Diff: 3

Terms: absorption costing

Objective: 2

AACSB: Analytical skills

24) The production-volume variance is:

- A) \$4,000
- B) \$3,000
- C) \$4,800
- D) 0

Answer: B

Explanation: B) $\$12,000 / 2,000 \text{ units} = \$6 \times 500 = \$3,000$

Diff: 3

Terms: absorption costing

Objective: 2

AACSB: Analytical skills

25) Operating income using absorption costing will be _____ than operating income if using variable costing.

- A) \$4,800 higher
- B) \$4,800 lower
- C) \$1,800 higher
- D) \$7,200 lower

Answer: C

Explanation: C) Different operating incomes are reported because the unit level of inventory increased during the accounting period by 300 units \times \$6 denominator rate = \$1,800. Therefore, operating income is \$1,800 higher under absorption costing because \$1,800 of fixed manufacturing costs remains in inventory.

Diff: 3

Terms: absorption costing

Objective: 2

AACSB: Analytical skills

Answer the following questions using the information below:

Veach Corporation incurred fixed manufacturing costs of \$6,000 during 2011. Other information for 2011 includes:

The budgeted denominator level is 1,000 units.

Units produced total 750 units.

Units sold total 600 units.

Beginning inventory was zero.

The company uses variable costing and the fixed manufacturing cost rate is based on the budgeted denominator level. Manufacturing variances are closed to cost of goods sold.

26) Fixed manufacturing costs expensed on the income statement (excluding adjustments for variances) total:

- A) \$3,600
- B) \$4,800
- C) \$6,000
- D) 0

Answer: C

Explanation: C) \$6,000 of fixed manufacturing costs is expensed as a lump sum.

Diff: 3

Terms: variable costing

Objective: 2

AACSB: Analytical skills

27) Fixed manufacturing costs included in ending inventory total:

- A) \$1,200
- B) \$1,500
- C) \$900
- D) 0

Answer: D

Explanation: D) Under variable costing no fixed manufacturing costs are included in inventory, and all are expensed on the income statement as a lump sum.

Diff: 3

Terms: variable costing

Objective: 2

AACSB: Analytical skills

28) The production-volume variance totals:

- A) \$2,000
- B) \$1,500
- C) \$2,400
- D) 0

Answer: D

Explanation: D) Variable costing has no production-volume variance.

Diff: 3

Terms: variable costing

Objective: 2

AACSB: Analytical skills

29) Operating income using variable costing will be _____ than operating income if using absorption costing.

- A) \$2,400 higher
- B) \$2,400 lower
- C) \$3,600 higher
- D) \$900 lower

Answer: D

Explanation: D) Different operating incomes are reported because the unit level of inventory increased during the accounting period by 150 units \times \$6 denominator rate = \$900. Therefore, operating income is \$900 lower under variable costing because \$900 of fixed manufacturing costs remains in inventory under absorption.

Diff: 3

Terms: variable costing, absorption costing

Objective: 2

AACSB: Analytical skills

Answer the following questions using the information below:

Tunney Corporation incurred fixed manufacturing costs of \$7,200 during 2011. Other information for 2011 includes:

- The budgeted denominator level is 1,600 units.
- Units produced total 2,000 units.
- Units sold total 1,900 units.
- Beginning inventory was zero.

The fixed manufacturing cost rate is based on the budgeted denominator level. Manufacturing variances are closed to cost of goods sold.

30) Under absorption costing, fixed manufacturing costs expensed on the income statement (excluding adjustments for variances) total:

- A) \$8,550
- B) \$9,000
- C) \$7,200
- D) 0

Answer: A

Explanation: A) $\$7,200 / 1,600 \text{ units} = \$4.50 \times 1,900 = \$8,550$

Diff: 3

Terms: absorption costing

Objective: 2

AACSB: Analytical skills

31) Under absorption costing, the production-volume variance is:

- A) \$450
- B) \$1,350
- C) \$1,800
- D) 0

Answer: C

Explanation: C) $\$7,200 / 1,600 \text{ units} = \$4.50 \times 400 = \$1,800$

Diff: 3

Terms: absorption costing

Objective: 2

AACSB: Analytical skills

32) Under variable costing, the fixed manufacturing costs expensed on the income statement (excluding adjustments for variances) total:

- A) \$8,550
- B) \$7,200
- C) \$9,000
- D) 0

Answer: B

Explanation: B) \$7,200 of fixed manufacturing costs is expensed as a lump sum.

Diff: 2

Terms: variable costing

Objective: 2

AACSB: Analytical skills

33) Operating income using absorption costing will be _____ operating income if using variable costing.

- A) \$450 higher than
- B) \$900 higher than
- C) \$1,350 lower than
- D) the same as

Answer: A

Explanation: A) Different operating incomes are reported because the unit level of inventory increased during the accounting period by 100 units \times \$4.50 denominator rate = \$450. Therefore, operating income is \$450 higher under absorption costing because \$450 of fixed manufacturing costs remains in inventory under absorption costing.

Diff: 3

Terms: absorption costing

Objective: 2

AACSB: Analytical skills

34) In general, if inventory increases during an accounting period,

- A) variable costing will report less operating income than absorption costing.
- B) absorption costing will report less operating income than variable costing.
- C) variable costing and absorption costing will report the same operating income.
- D) None of the above are correct.

Answer: A

Diff: 3

Terms: absorption costing

Objective: 2

AACSB: Analytical skills

35) At the end of the accounting period Bumsted Corporation reports operating income of \$30,000. If Bumstead's inventory levels decrease during the accounting period

- A) variable costing will report less operating income than absorption costing.
- B) absorption costing will report less operating income than variable costing.
- C) variable costing and absorption costing will report the same operating income.
- D) None of the above are correct.

Answer: B

Diff: 3

Terms: variable costing

Objective: 2

AACSB: Analytical skills

36) Given a constant contribution margin per unit and constant fixed costs, the period-to-period change in operating income under variable costing is driven solely by:

- A) changes in the quantity of units actually sold
- B) changes in the quantity of units produced
- C) changes in ending inventory
- D) changes in sales price per unit

Answer: A

Diff: 3

Terms: variable costing

Objective: 2

AACSB: Reflective thinking

37) The contribution-margin format of the income statement is used with absorption costing.

Answer: FALSE

Explanation: The contribution-margin format of the income statement is used with *variable* costing.

Diff: 1

Terms: absorption costing

Objective: 2

AACSB: Reflective thinking

38) The contribution-margin format of the income statement distinguishes manufacturing costs from nonmanufacturing costs.

Answer: FALSE

Explanation: The contribution-margin format of the income statement distinguishes variable costs from fixed costs.

Diff: 1

Terms: variable costing

Objective: 2

AACSB: Reflective thinking

39) The gross-margin format of the income statement highlights the lump sum of fixed manufacturing costs.

Answer: FALSE

Explanation: The gross-margin format of the income statement distinguishes manufacturing costs from nonmanufacturing costs, but it does not highlight the lump sum of fixed manufacturing costs.

Diff: 2

Terms: absorption costing

Objective: 2

AACSB: Reflective thinking

40) In variable costing, all nonmanufacturing costs are subtracted from contribution margin.

Answer: FALSE

Explanation: In variable costing, all fixed costs are subtracted from contribution margin.

Diff: 1

Terms: variable costing

Objective: 2

AACSB: Reflective thinking

41) Direct costing is a perfect way to describe the variable-costing inventory method.

Answer: FALSE

Explanation: Direct costing is a less than perfect way to describe this method because not all variable costs are inventoriable costs.

Diff: 2

Terms: direct costing

Objective: 2

AACSB: Analytical skills

42) When variable costing is used, an income statement will show contribution margin.

Answer: TRUE

Diff: 2

Terms: variable costing

Objective: 2

AACSB: Reflective thinking

43) The income under variable costing will always be the same as the income under absorption costing.

Answer: FALSE

Explanation: The income under variable costing will sometimes be the same as the income under absorption costing.

Diff: 2

Terms: variable costing, absorption costing

Objective: 2

AACSB: Reflective thinking

44) Absorption costing is required by GAAP (Generally Accepted Accounting Principles) for external reporting.

Answer: TRUE

Diff: 2

Terms: absorption costing

Objective: 2

AACSB: Reflective thinking

45) When production deviates from the denominator level, a production-volume variance always exists under absorption costing.

Answer: TRUE

Diff: 1

Terms: absorption costing

Objective: 2

AACSB: Reflective thinking

46) Fixed manufacturing costs included in cost of goods available for sale + the production-volume variance will always = total fixed manufacturing costs under absorption costing.

Answer: TRUE

Diff: 1

Terms: absorption costing

Objective: 2

AACSB: Reflective thinking

47) The production-volume variance only exists under variable costing and not under absorption costing.

Answer: FALSE

Explanation: The production-volume variance only exists under absorption costing and not under variable costing.

Diff: 1

Terms: absorption costing, variable costing

Objective: 2

AACSB: Reflective thinking

48) When the unit level of inventory decreases during an accounting period, operating income is lower under variable costing than absorption costing.

Answer: FALSE

Explanation: Lower operating income is reported under variable costing than absorption costing when the unit level of inventory *increases* during an accounting period.

Diff: 3

Terms: variable costing, absorption costing

Objective: 2

AACSB: Reflective thinking

49) The difference in operating income under absorption costing and variable costing is due solely to the timing difference of expensing fixed manufacturing costs.

Answer: TRUE

Diff: 2

Terms: variable costing, absorption costing

Objective: 2

AACSB: Reflective thinking

50) If managers report inventories of zero at the start and end of each accounting period, operating incomes under absorption costing and variable costing will be the same.

Answer: TRUE

Diff: 2

Terms: variable costing, absorption costing

Objective: 2

AACSB: Reflective thinking

51) Bressler Company sells its products for \$33 each. The current production level is 50,000 units, although only 40,000 units are anticipated to be sold.

Unit manufacturing costs are:

Direct materials	\$6.00
Direct manufacturing labor	\$9.00
Variable manufacturing costs	\$4.50
Total fixed manufacturing costs	\$180,000
Marketing expenses	\$3.00 per unit, plus \$60,000 per year

Required:

- Prepare an income statement using absorption costing.
- Prepare an income statement using variable costing.

Answer:

a. *Absorption-costing income statement:*

Sales (40,000 × \$33)		\$1,320,000
Cost of goods sold (40,000 × \$23.10*)		<u>924,000</u>
Gross margin		396,000
Marketing:		
Variable (40,000 × \$3)	\$120,000	
Fixed	<u>60,000</u>	<u>180,000</u>
Operating income		<u>\$216,000</u>

* $\$6.00 + \$9.00 + \$4.50 + (\$180,000/50,000) = \$23.10$

b. *Variable-costing income statement:*

Sales (40,000 × \$33)		\$1,320,000
Variable costs:		
Cost of goods sold (40,000 × \$19.50*)	\$780,000	
Marketing (40,000 × \$3)	<u>120,000</u>	<u>900,000</u>
Contribution margin		420,000
Fixed costs:		
Manufacturing	\$180,000	
Marketing	<u>60,000</u>	<u>240,000</u>
Operating income		<u>\$180,000</u>

* $\$6.00 + \$9.00 + \$4.50 = \19.50

Diff: 2

Terms: variable costing, absorption costing

Objective: 2

AACSB: Analytical skills

52) Ireland Corporation planned to be in operation for three years.

- During the first year, 20x1, it had no sales but incurred \$240,000 in variable manufacturing expenses and \$80,000 in fixed manufacturing expenses.
- In 20x2, it sold half of the finished goods inventory from 20x1 for \$200,000 but it had no manufacturing costs.
- In 20x3, it sold the remainder of the inventory for \$240,000, had no manufacturing expenses and went out of business.
- Marketing and administrative expenses were fixed and totaled \$40,000 each year.

Required:

- a. Prepare an income statement for each year using absorption costing.
- b. Prepare an income statement for each year using variable costing.

Answer:

a. *Absorption-costing income statements:*

	<u>20X1</u>	<u>20X2</u>	<u>20X3</u>
Sales	\$0	\$200,000	\$240,000
Cost of goods sold	<u>0</u>	<u>160,000</u>	<u>160,000</u>
Gross margin	0	40,000	80,000
Marketing and administrative	<u>40,000</u>	<u>40,000</u>	<u>40,000</u>
Operating income	<u>\$(40,000)</u>	<u>\$ 0</u>	<u>\$40,000</u>

b. *Variable-costing income statements:*

	<u>20X1</u>	<u>20X2</u>	<u>20X3</u>
Sales	\$ 0	\$200,000	\$240,000
Variable expenses	<u>0</u>	<u>120,000</u>	<u>120,000</u>
Contribution margin	<u>0</u>	<u>80,000</u>	<u>120,000</u>
Fixed expenses:			
Manufacturing	\$80,000	\$ 0	\$ 0
Marketing and administrative	<u>40,000</u>	<u>40,000</u>	<u>40,000</u>
Total fixed	<u>120,000</u>	<u>40,000</u>	<u>40,000</u>
Operating income	<u>\$(120,000)</u>	<u>\$40,000</u>	<u>\$80,000</u>

Diff: 3

Terms: variable costing, absorption costing

Objective: 2

AACSB: Analytical skills

53) Jarvis Golf Company sells a special putter for \$20 each. In March, it sold 28,000 putters while manufacturing 30,000. There was no beginning inventory on March 1. Production information for March was:

Direct manufacturing labor per unit	15 minutes
Fixed selling and administrative costs	\$ 40,000
Fixed manufacturing overhead	132,000
Direct materials cost per unit	2
Direct manufacturing labor per hour	24
Variable manufacturing overhead per unit	4
Variable selling expenses per unit	2

Required:

- Compute the cost per unit under both absorption and variable costing.
- Compute the ending inventories under both absorption and variable costing.
- Compute operating income under both absorption and variable costing.

Answer:

a.	<u>Absorption</u>	<u>Variable</u>
Direct manufacturing labor (\$24/4)	\$ 6.00	\$ 6.00
Direct materials	2.00	2.00
Variable manufacturing overhead	4.00	4.00
Fixed manufacturing overhead (\$132,000/30,000)	<u>4.40</u>	<u>0</u>
Total cost per unit	<u>\$16.40</u>	<u>\$12.00</u>

b.	<u>Absorption</u>	<u>Variable</u>
Beginning inventory	\$0	\$0
Cost of goods manufactured:		
30,000 × \$16.40	\$492,000	
30,000 × \$12.00	<u> </u>	<u>\$360,000</u>
Cost of goods available for sale	\$492,000	\$360,000
Cost of goods sold:		
28,000 × \$16.40	\$459,200	
28,000 × \$12.00	<u> </u>	<u>\$336,000</u>
Ending inventory	<u>\$ 32,800</u>	<u>\$ 24,000</u>

c. *Absorption-costing income statement:*

Sales (28,000 × \$20)		\$560,000
Cost of goods sold (28,000 × \$16.40)		<u>459,200</u>
Gross margin		100,800
Less:		
Variable selling and administrative	\$56,000	
Fixed selling and administrative	<u>40,000</u>	<u>96,000</u>
Operating income		<u>\$ 4,800</u>

Variable-costing income statement:

Sales (28,000 × \$20)		\$560,000
Variable COGS (28,000 × \$12)	\$336,000	
Variable selling expenses (28,000 × \$2)	<u>56,000</u>	<u>392,000</u>
Contribution margin		168,000
Fixed costs:		
Manufacturing	\$132,000	
Selling and administrative	<u>40,000</u>	<u>172,000</u>
Operating income		<u>\$ (4,000)</u>

Diff: 2

Terms: variable costing, absorption costing

Objective: 2

AACSB: Analytical skills

54) Johnson Realty bought a 2,000-acre island for \$10,000,000 and divided it into 200 equal size lots. As the lots are sold, they are cleared at an average cost of \$5,000. Storm drains and driveways are installed at an average cost of \$8,000 per site. Sales commissions are 10% of selling price. Administrative costs are \$850,000 per year. The average selling price was \$160,000 per lot during 20X5 when 50 lots were sold.

During 20X6, the company bought another 2,000-acre island and developed it exactly the same way. Lot sales in 20X6 totaled 300 with an average selling price of \$160,000. All costs were the same as in 20X5.

Required:

Prepare income statements for both years using both absorption and variable costing methods.

Answer:

Cost per site:	<u>Absorption</u>	<u>Variable</u>
Land cost \$10,000,000/200 sites	\$50,000	\$0
Clearing costs	5,000	5,000
Improvements	<u>8,000</u>	<u>8,000</u>
Total	<u>\$63,000</u>	<u>\$13,000</u>

<i>Absorption-costing income statements:</i>	<u>20X5</u>	<u>20X6</u>
Sales	\$8,000,000	\$48,000,000
Cost of goods sold:		
50 × (\$50,000 + \$8,000 + \$5,000)	3,150,000	
300 × (\$50,000 + \$8,000 + \$5,000)	_____	<u>18,900,000</u>
Gross margin	\$4,850,000	\$29,100,000
Variable marketing	800,000	4,800,000
Fixed administrative	<u>850,000</u>	<u>850,000</u>
Operating income	<u>\$3,200,000</u>	<u>\$23,450,000</u>

<i>Variable-costing income statements:</i>	<u>20X5</u>	<u>20X6</u>
Sales	\$8,000,000	\$48,000,000
Variable expenses:		
Cost of operations:		
50 × \$13,000	650,000	
300 × \$13,000		3,900,000
Selling expenses	<u>800,000</u>	<u>4,800,000</u>
Contribution margin	\$6,550,000	\$39,300,000
Fixed expenses:		
Land	10,000,000	10,000,000
Administrative	<u>850,000</u>	<u>850,000</u>
Operating income	<u>\$(4,300,000)</u>	<u>\$28,450,000</u>

Diff: 3

Terms: variable costing, absorption costing

Objective: 2

AACSB: Analytical skills

55) Moore Company prepared the following absorption-costing income statement for the year ended May 31, 2011.

Sales (8,000 units)	\$160,000
Cost of goods sold	<u>108,000</u>
Gross margin	\$52,000
Selling and administrative expenses	<u>23,000</u>
Operating income	<u>\$ 29,000</u>

Additional information follows:

Selling and administrative expenses include \$1.50 of variable cost per unit sold. There was no beginning inventory, and 8,750 units were produced. Variable manufacturing costs were \$11 per unit. Actual fixed costs were equal to budgeted fixed costs.

Required:

Prepare a variable-costing income statement for the same period.

Answer: Sales		\$160,000
Variable expenses:		
Manufacturing cost of goods sold ¹	\$88,000	
Selling and administrative ²	<u>12,000</u>	<u>100,000</u>
Contribution margin		\$ 60,000
Fixed expenses:		
Fixed factory overhead ³	\$21,875	
Fixed selling and administrative ⁴	<u>11,000</u>	<u>32,875</u>
Operating income		<u>\$ 27,125</u>

1 8,000 units × \$11 = \$88,000

2 8,000 units × \$1.50 = \$12,000

3 [(\$108,000/8,000 units) - \$11] × 8,750 units = \$21,875

4 \$23,000 - \$12,000 = \$11,000

Diff: 3

Terms: variable costing

Objective: 2

AACSB: Analytical skills

56) The following data are available for Ruggles Company for the year ended September 30, 2011.

Sales:	24,000 units at \$50 each
Expected and actual production:	30,000 units
Manufacturing costs incurred:	
Variable:	\$525,000
Fixed:	\$372,000
Nonmanufacturing costs incurred:	
Variable:	\$144,800
Fixed:	\$77,400
Beginning inventories:	none

Required:

- Determine operating income using the variable-costing approach.
- Determine operating income using the absorption-costing approach.
- Explain why operating income is not the same under the two approaches.

Answer:

- $24,000 \times \$50 = \$1,200,000$ sales
 $(\$525,000/30,000) \times 24,000 = \$420,000$ variable manufacturing cost
 $\$1,200,000 - \$420,000 - \$144,800 = \$635,200$ contribution margin
 $\$635,200 - \$372,000 - \$77,400 = \$185,800$ operating income
- $(\$372,000/30,000) \times 24,000 = \$297,600$ manufacturing fixed cost
 $\$1,200,000 - \$420,000 - \$297,600 = \$482,400$ gross margin
 $\$482,400 - \$144,800 - \$77,400 = \$260,200$ operating income
- $\$260,200 - \$185,800 = \$74,400$ or 6,000 units in ending inventory \times \$12.40 per unit of fixed manufacturing cost.

Diff: 3

Terms: variable costing, absorption costing

Objective: 2

AACSB: Analytical skills

57) Davey Jones and Sons Company was concerned that increased sales did not result in increased profits for 2012. Both variable unit and total fixed manufacturing costs for 2011 and 2012 remained constant at \$20 and \$2,000,000, respectively.

In 2011, the company produced 100,000 units and sold 80,000 units at a price of \$50 per unit. There was no beginning inventory in 2011. In 2012, the company made 70,000 units and sold 90,000 units at a price of \$50. Selling and administrative expenses were all fixed at \$200,000 each year.

Required:

- Prepare income statements for each year using absorption costing.
- Prepare income statements for each year using variable costing.
- Explain why the income was different each year using the two methods. Show computations.

Answer:

- Absorption-costing income statements:*

	<u>2011</u>	<u>2012</u>
Sales	\$4,000,000	\$4,500,000
Cost of goods sold:		
Beginning inventory	0	800,000
Variable	2,000,000	1,400,000
Fixed	<u>2,000,000</u>	<u>2,000,000</u>
Subtotal	4,000,000	4,200,000
Ending inventory	<u>800,000</u>	<u>0</u>
Total COGS	3,200,000	4,200,000
Gross margin	800,000	300,000
Selling and administrative	<u>200,000</u>	<u>200,000</u>
Operating income	<u>\$ 600,000</u>	<u>\$ 100,000</u>

- Variable-costing income statements:*

	<u>2011</u>	<u>2012</u>
Sales	\$4,000,000	\$4,500,000
Variable expenses	<u>1,600,000</u>	<u>1,800,000</u>
Contribution margin	2,400,000	2,700,000
Fixed expenses:		
Manufacturing	2,000,000	2,000,000
Selling and administrative	<u>200,000</u>	<u>200,000</u>
Operating income	<u>\$ 200,000</u>	<u>\$ 500,000</u>

- Budgeted fixed manufacturing overhead rate for 2011 = $\$2,000,000 / 100,000 = \20

2011 difference of \$400,000 = $(100,000 - 80,000) \times \$20 = \$400,000$ (favors absorption method)

2012 difference of \$400,000 = $(70,000 - 90,000) \times \$20 = \$400,000$ (favors variable method)

Diff: 2

Terms: variable costing, absorption costing

Objective: 2

AACSB: Analytical skills

58) The manager of the manufacturing division of Iowa Windows does not understand why income went down when sales went up. Some of the information he has selected for evaluation include:

	<u>January</u>	<u>February</u>
Units produced	40,000	30,000
Units sold	30,000	40,000
Sales	\$600,000	\$800,000
Beginning inventory	0	150,000
Cost of production	600,000	550,000
Ending inventory	150,000	0
Operating income	70,000	35,000

The division operated at normal capacity during January.

Variable manufacturing cost per unit was \$5, and the fixed costs were \$400,000.

Selling and administrative expenses were all fixed.

Required:

Explain the profit differences. How would variable costing income statements help the manager understand the division's operating income?

Answer: The 10,000 units in inventory being assigned fixed manufacturing costs cause the operating income difference. The fixed manufacturing cost assigned to the inventory is carried into the next month. The fixed costs per unit were \$10 per unit ($\$400,000/40,000$), therefore, \$100,000 ($10,000 \times \10) were carried into February.

Variable costing helps avoid confusion by relating variations in expenses to sales rather than to inventory fluctuations. Under variable costing, the total fixed amount (\$400,000) would be expensed in January and none carried forward into February. Therefore, January's income would be \$100,000 less than reported and February's \$100,000 more than reported.

Diff: 2

Terms: variable costing, absorption costing

Objective: 1, 2

AACSB: Reflective thinking

59) Explain the difference between the gross margin format and the contribution margin format for the income statement. What information is highlighted with each?

Answer: The gross margin format divides costs into product and period costs while the contribution format divides costs into variable and fixed costs. The gross margin format highlights cost function while the contribution format highlights cost behavior.

Diff: 2

Terms: variable costing, absorption costing

Objective: 2

AACSB: Reflective thinking

60) Galliard Company has two identical divisions, East and West. Their sales, production volume, and fixed manufacturing costs have been the same for the last five years. The amounts for each division were as follows:

	<u>20X1</u>	<u>20X2</u>	<u>20X3</u>	<u>20X4</u>	<u>20X5</u>
Units produced	50,000	55,000	55,000	44,000	44,000
Units sold	45,000	45,000	50,000	50,000	50,000
Fixed manufacturing costs	\$55,000	\$55,000	\$55,000	\$55,000	\$55,000

East Division uses absorption costing and West Division uses variable costing.

Both use FIFO inventory methods.

Variable manufacturing costs are \$5 per unit.

Selling and administrative expenses were identical for each division.

There were no inventories at the beginning of 20X1.

Which division reports the highest income each year? Explain.

Answer: East Division had the higher income during the first three years because production exceeded sales; this stored some of the fixed manufacturing costs each year in the ending inventory balances.

West had the higher income during the last two years because sales exceeded production. During these years, East incurred all of the year's fixed manufacturing costs plus those costs that were in inventory from the prior years.

Diff: 2

Terms: variable costing, absorption costing

Objective: 2

AACSB: Analytical skills

Objective 9.3

1) Companies have recently been able to reduce inventory levels because:

A) there is better sharing of information between suppliers and manufacturers

B) just-in-time production strategies are being implemented

C) production quotas are being implemented

D) Both A and B are correct.

Answer: D

Diff: 2

Terms: absorption costing

Objective: 3

AACSB: Reflective thinking

2) Many companies have switched from absorption costing to variable costing for internal reporting:

A) to comply with external reporting requirements

B) to increase bonuses for managers

C) to reduce the undesirable incentive to build up inventories

D) so the denominator level is more accurate

Answer: C

Diff: 2

Terms: variable costing, absorption costing

Objective: 3

AACSB: Analytical skills

- 3) Ways to "produce for inventory" that result in increasing operating income include:
- A) switching production to products that absorb the least amounts of fixed manufacturing costs
 - B) delaying items that absorb the greatest amount of fixed manufacturing costs
 - C) deferring maintenance to accelerate production
 - D) All of these answers are correct.

Answer: C

Diff: 2

Terms: absorption costing

Objective: 3

AACSB: Reflective thinking

- 4) Switching production to products that absorb the highest amount of fixed manufacturing costs is also called:

- A) cost reduction
- B) cherry picking
- C) producing for sales
- D) throughput costing

Answer: B

Diff: 2

Terms: absorption costing

Objective: 3

AACSB: Reflective thinking

- 5) To discourage producing for inventory, management can:

- A) evaluate nonfinancial measures such as units in ending inventory compared to units in sales
- B) evaluate performance over a three- to five-year period rather than a single year
- C) incorporate a carrying charge for inventory in the internal accounting system
- D) All of these answers are correct.

Answer: D

Diff: 2

Terms: absorption costing

Objective: 3

AACSB: Reflective thinking

- 6) Which method is NOT a way to discourage producing for inventory?

- A) incorporate a carrying charge for inventory
- B) focus on careful budgeting and inventory planning
- C) include nonfinancial measures when evaluating performance
- D) evaluate performance on a quarterly basis only

Answer: D

Diff: 2

Terms: absorption costing

Objective: 3

AACSB: Reflective thinking

7) Under absorption costing, if a manager's bonus is tied to operating income, then increasing inventory levels compared to last year would result in:

- A) increasing the manager's bonus
- B) decreasing the manager's bonus
- C) not affecting the manager's bonus
- D) being unable to determine the manager's bonus using only the above information

Answer: A

Diff: 3

Terms: absorption costing

Objective: 3

AACSB: Reflective thinking

8) Under variable costing, if a manager's bonus is tied to operating income, then increasing inventory levels compared to last year would result in:

- A) increasing the manager's bonus
- B) decreasing the manager's bonus
- C) not affecting the manager's bonus
- D) being unable to determine the manager's bonus using only the above information

Answer: C

Diff: 2

Terms: variable costing

Objective: 3

AACSB: Reflective thinking

9) Critics of absorption costing suggest to evaluate management on their ability to:

- A) exceed production quotas
- B) increase operating income
- C) decrease inventory costs
- D) All of these answers are correct.

Answer: C

Diff: 2

Terms: absorption costing

Objective: 3

AACSB: Reflective thinking

10) Differences between absorption costing and variable costing are much smaller when a:

- A) large part of the manufacturing process is subcontracted out
- B) just-in-time inventory strategy is implemented
- C) significant portion of manufacturing costs are fixed
- D) Both A and B are correct.

Answer: D

Diff: 2

Terms: variable costing, absorption costing

Objective: 3

AACSB: Reflective thinking

- 11) All of the following are examples of drawbacks of using absorption costing EXCEPT:
- A) management has the ability to manipulate operating income via production schedules
 - B) manipulation of operating income may ultimately increase the company's costs incurred over the long run
 - C) operating income solely reflects income from the sale of units and excludes the effects of manipulating production schedules
 - D) decreasing maintenance activities and increasing production result in increased operating income

Answer: C

Diff: 2

Terms: absorption costing

Objective: 3

AACSB: Reflective thinking

- 12) Which of the following inventory costing methods shown below is most likely to cause undesirable incentives for managers to build up finished goods inventory?

- A) absorption costing
- B) variable costing
- C) throughput costing
- D) direct costing

Answer: A

Diff: 2

Terms: absorption costing

Objective: 3

AACSB: Analytical skills

- 13) Under absorption costing, managers can increase operating income by holding less inventories at the end of the period.

Answer: FALSE

Explanation: Under absorption costing, managers can increase operating income by holding more inventories at the end of the period.

Diff: 2

Terms: absorption costing

Objective: 3

AACSB: Reflective thinking

- 14) Many companies use variable costing for internal reporting to reduce the undesirable incentive to build up inventories.

Answer: TRUE

Diff: 2

Terms: variable costing, absorption costing

Objective: 3

AACSB: Analytical skills

- 15) Under absorption costing, managers can increase operating income by producing more inventory at the end of the accounting period.

Answer: TRUE

Diff: 3

Terms: variable costing

Objective: 3

AACSB: Analytical skills

16) Nonfinancial measures such as comparing units in ending inventory this period to units in ending inventory last period can help reduce buildup of excess inventory.

Answer: TRUE

Diff: 1

Terms: absorption costing

Objective: 3

AACSB: Reflective thinking

17) One of the most common problems reported by companies using variable costing is the difficulty of classifying costs into fixed or variable categories.

Answer: TRUE

Diff: 2

Terms: variable costing

Objective: 3

AACSB: Communication

18) Managers can increase operating income when absorption costing is used by producing less inventory.

Answer: FALSE

Explanation: Managers can increase operating income when absorption costing is used by producing more inventory.

Diff: 2

Terms: absorption costing

Objective: 3

AACSB: Reflective thinking

19) A manager can increase operating income by deferring maintenance beyond the current accounting period when absorption costing is used.

Answer: TRUE

Diff: 2

Terms: absorption costing

Objective: 3

AACSB: Reflective thinking

20) Kaiser Company just hired its fourth production manager in three years. All three previous managers had quit because they could not get the company above the break-even point, even though sales had increased somewhat each year. The company was operating at about 60 % of plant capacity. The flatware industry was growing, so increased sales were not out of the question.

I. R. Thinking took the job as manager of the production division with a very attractive salary package. After interviewing for the position, he proposed a salary and bonus package that would give him a very small salary but a large bonus if he took the operating income (using absorption costing) above the breakeven point during his very first year.

Required:

What do you think Mr. Thinking had in mind for increasing the company's operating income?

Answer: Mr. Thinking realized that he could probably increase both production and sales during the coming year. If he substantially overproduced he knew that the extra costs would be hidden in unsold inventory. If the new production level could be sold by the sales force in the growing market, the profits would increase anyway and everybody would be happy.

Also, he could combine increased production with reduced fixed manufacturing costs such as maintenance. In the short run, several combinations could be undertaken by Mr. Thinking to ensure that the profit picture would improve.

Diff: 3

Terms: absorption costing

Objective: 3

AACSB: Ethical reasoning

21) Explain three methods under absorption costing that managers can use to improve operating income.

Answer: 1) A plant manager may switch to manufacturing products that absorb the highest amount of fixed manufacturing costs, regardless of the demand for the product.

2) A plant manager may accept a particular order to increase production, even though another plant in the same company may be better suited to handle the order.

3) To increase production, a manager may defer maintenance beyond the current period.

Diff: 3

Terms: absorption costing

Objective: 3

AACSB: Reflective thinking

22) Briefly discuss two methods of reducing the undesirable incentives associated with the use of absorption costing to evaluate the performance of a plant manager.

Answer: There are several ways to reduce the undesirable incentives associated with the use of absorption costing to evaluate the performance of a plant manager. Any two of the following would be sufficient to answer this question:

1) Use budgeted balance sheets to limit the ability of a manager to exceed those amounts without providing an explanation.

2) Incorporate a carrying charge for inventory in the internal accounting system. This will serve to reduce the amount of profit a manager reports in proportion to the amount of any inventory buildup.

3) Extend the period of the plant manager's evaluation to a 3 to 5 year period. This will reduce the manager's incentive to produce into the inventory to increase quarterly or short run profits.

4) Include non-financial as well as financial measures in the manager's performance evaluation. These might include ratios of units produced to units sold to make producing to inventory more visible to top management.

Diff: 3

Terms: absorption costing

Objective: 3

AACSB: Reflective thinking

Objective 9.4

1) Throughput costing is also called:

A) absorption costing

B) super-variable costing

C) mixed costing

D) direct costing

Answer: B

Diff: 2

Terms: throughput costing, super-variable costing

Objective: 4

AACSB: Reflective thinking

2) Advocates of throughput costing argue that:

A) only direct materials are truly variable

B) direct manufacturing labor is relatively fixed

C) variable manufacturing costs are a cost of the period

D) All of these answers are correct.

Answer: D

Diff: 2

Terms: throughput costing

Objective: 4

AACSB: Reflective thinking

3) Variable and absorption costing may be combined with all costing systems EXCEPT:

- A) mixed costing
- B) actual costing
- C) normal costing
- D) standard costing

Answer: A

Diff: 2

Terms: absorption costing, variable costing

Objective: 4

AACSB: Reflective thinking

4) Throughput contribution equals:

- A) variable costs minus fixed costs
- B) revenues minus all direct labor costs
- C) revenues minus all direct material cost of goods sold
- D) revenues minus manufacturing overhead

Answer: C

Diff: 2

Terms: throughput contribution

Objective: 4

AACSB: Reflective thinking

5) If 1,000 units are produced and only 700 units are sold, _____ results in the greatest amount of expense reported on the income statement.

- A) throughput costing
- B) variable costing
- C) absorption costing
- D) period costing

Answer: A

Diff: 2

Terms: throughput costing

Objective: 4

AACSB: Reflective thinking

6) If 800 units are produced and 1,200 units are sold, _____ results in the greatest amount of operating income.

- A) throughput costing
- B) variable costing
- C) absorption costing
- D) period costing

Answer: A

Diff: 2

Terms: throughput costing

Objective: 4

AACSB: Reflective thinking

7) Advocates of throughput costing maintain that:

- A) both variable and fixed are necessary to produce goods; therefore, both types of costs should be inventoried
- B) all manufacturing costs plus some design costs should be inventoried
- C) fixed manufacturing costs are related to the capacity to produce rather than to the actual production of specific units
- D) Both A and C are correct.

Answer: C

Diff: 3

Terms: throughput costing

Objective: 4

AACSB: Reflective thinking

Answer the following questions using the information below:

Russert Company produces wood statues. Management has provided the following information:

Actual sales	30,000 statues
Budgeted production	50,000 statues
Selling price	\$20.00 per statue
Direct material costs	\$5.00 per statue
Variable manufacturing costs	\$1.50 per statue
Variable administrative costs	\$2.50 per statue
Fixed manufacturing overhead	\$2.00 per statue

8) What is the cost per statue if throughput costing is used?

- A) \$11.00
- B) \$9.50
- C) \$7.50
- D) \$5.00

Answer: D

Explanation: D) Equal to direct materials = \$5.00

Diff: 2

Terms: throughput costing

Objective: 4

AACSB: Analytical skills

9) What is the total throughput contribution?

- A) \$1,000,000
- B) \$2,000,000
- C) \$450,000
- D) \$750,000

Answer: C

Diff: 3

Terms: throughput costing

Objective: 4

AACSB: Analytical skills

Answer the following questions using the information below:

Goldfarb Company produces a specialty item. Management has provided the following information:

Actual sales	110,000 units
Budgeted production	100,000 units
Selling price	\$40.00 per unit

Direct material costs	\$10.00 per unit
Variable manufacturing overhead	\$3.00 per unit
Variable administrative costs	\$5.00 per unit
Fixed manufacturing overhead	\$4.00 per unit

10) What is the cost per statue if throughput costing is used?

- A) \$22.00
- B) \$19.00
- C) \$15.00
- D) \$10.00

Answer: D

Explanation: D) Direct material cost of \$10

Diff: 1

Terms: throughput costing

Objective: 4

AACSB: Analytical skills

11) What is the total throughput contribution?

- A) \$2,750,000
- B) \$2,970,000
- C) \$2,530,000
- D) \$3,300,000

Answer: D

Explanation: D) $110,000 \times (\$40.00 - \$10.00) = \$3,300,000$

Diff: 3

Terms: throughput costing

Objective: 4

AACSB: Analytical skills

12) Which of the following inventory costing methods results in the LEAST amount of costs being inventoried?

- A) absorption costing
- B) variable costing
- C) throughput costing
- D) direct costing

Answer: C

Diff: 2

Terms: throughput costing

Objective: 4

AACSB: Reflective thinking

13) Which of the following inventory costing methods shown below is LEAST likely to cause undesirable incentives for managers to build up finished goods inventory?

- A) absorption costing
- B) variable costing
- C) throughput costing
- D) direct costing

Answer: C

Diff: 2

Terms: throughput costing

Objective: 4

AACSB: Reflective thinking

14) Throughput costing considers only direct materials and direct manufacturing labor to be truly variable costs.

Answer: FALSE

Explanation: Throughput costing considers *only direct materials* to be truly variable costs.

Diff: 1

Terms: throughput costing

Objective: 4

AACSB: Reflective thinking

15) Throughput costing is also referred to as super-variable costing.

Answer: TRUE

Diff: 1

Terms: throughput costing, super-variable costing

Objective: 4

AACSB: Reflective thinking

16) When production quantity exceeds sales, throughput costing results in reporting lower operating income than variable costing.

Answer: TRUE

Diff: 3

Terms: throughput costing, variable costing

Objective: 4

AACSB: Reflective thinking

17) Throughput costing provides more incentive to produce for inventory than either variable costing or, especially, absorption costing.

Answer: TRUE

Diff: 1

Terms: throughput costing, absorption costing

Objective: 4

AACSB: Reflective thinking

18) A company may use absorption costing for external reports and still choose to use throughput costing for internal reports.

Answer: TRUE

Diff: 2

Terms: throughput costing, absorption costing

Objective: 4

AACSB: Reflective thinking

19) Throughput margin equals revenues minus all product costs.

Answer: FALSE

Explanation: *Throughput margin* equals revenues minus all direct material cost of the goods sold.

Diff: 1

Terms: throughput costing

Objective: 4

AACSB: Reflective thinking

20) Throughput costing results in a higher amount of manufacturing costs being placed in inventory than either variable or absorption costing.

Answer: FALSE

Explanation: Throughput costing results in a lower amount of manufacturing costs being placed in inventory than either variable or absorption costing.

Diff: 2

Terms: throughput costing

Objective: 4

AACSB: Reflective thinking

21) Klein Enterprises produces a specialty statue item. The following information has been provided by management:

Actual sales	300,000 units
Budgeted production	320,000 units
Selling price	\$34 per unit
Direct manufacturing costs	\$9 per unit
Fixed manufacturing costs	\$5 per unit
Variable manufacturing costs	\$4 per unit
Variable administrative costs	\$2 per unit

Required:

- What is the cost per statue if absorption costing is used?
- What is the cost per statue if "super-variable costing" is used?
- What is the total throughput contribution?

Answer:

a. $\$9 + \$5 + \$4 = \18

b. Equal to direct materials = \$9

c. $300,000 \times (\$34 - \$9) = \$7,500,000$

Diff: 2

Terms: absorption costing, super-variable costing, throughput costing

Objective: 4

AACSB: Analytical skills

22) What is throughput costing? What advantages is it purported to have over variable and absorption costing?

Answer: Throughput costing treats all costs except direct materials as costs of the period in which they are incurred. Throughput costing results in a lower amount of manufacturing cost put into inventory than either variable or absorption costing. Supporters of throughput costing claim that it provides less incentive to produce for inventory than absorption costing or even variable costing.

Diff: 2

Terms: throughput costing, variable costing, absorption costing

Objective: 4

AACSB: Reflective thinking

Objective 9.5

1) Practical capacity is the denominator-level concept that:

- A) reduces theoretical capacity for unavoidable operating interruptions
- B) is the maximum level of operations at maximum efficiency
- C) is based on the level of capacity utilization that satisfies average customer demand over periods generally longer than one year
- D) is based on anticipated levels of capacity utilization for the coming budget period

Answer: A

Diff: 1

Terms: practical capacity

Objective: 5

AACSB: Reflective thinking

2) _____ reduces theoretical capacity for unavoidable operating interruptions.

- A) Practical capacity
- B) Theoretical capacity
- C) Master-budget capacity utilization
- D) Normal capacity utilization

Answer: A

Diff: 1

Terms: practical capacity

Objective: 5

AACSB: Reflective thinking

3) _____ is based on the level of capacity utilization that satisfies average customer demand over periods generally longer than one year.

- A) Practical capacity
- B) Theoretical capacity
- C) Master-budget capacity utilization
- D) Normal capacity utilization

Answer: D

Diff: 1

Terms: normal capacity utilization

Objective: 5

AACSB: Reflective thinking

4) _____ is (are) based on the demand for the output of the plant.

- A) Practical capacity
- B) Master-budget capacity utilization
- C) Normal capacity utilization
- D) Both B and C are correct.

Answer: D

Diff: 2

Terms: normal capacity utilization, master-budget capacity utilization

Objective: 5

AACSB: Reflective thinking

5) _____ is the level of capacity based on producing at full efficiency all the time.

- A) Practical capacity
- B) Theoretical capacity
- C) Normal capacity
- D) Demand capacity

Answer: B

Diff: 2

Terms: theoretical capacity

Objective: 5

AACSB: Reflective thinking

6) Theoretical capacity allows for:

- A) preventive machine maintenance
- B) interruptions due to uncontrollable power failures
- C) rework of the expected number of defective units
- D) None of these answers is correct.

Answer: D

Diff: 2

Terms: theoretical capacity

Objective: 5

AACSB: Reflective thinking

7) Theoretical capacity:

- A) is unattainable in the real world
- B) represents an ideal goal of capacity usage
- C) is based on engineering studies that provide information about the technical capabilities of machines used in production
- D) All of these answers are correct.

Answer: D

Diff: 2

Terms: theoretical capacity

Objective: 5

AACSB: Reflective thinking

8) The budgeted fixed manufacturing cost rate is the lowest for:

- A) practical capacity
- B) theoretical capacity
- C) master-budget capacity utilization
- D) normal capacity utilization

Answer: B

Diff: 2

Terms: theoretical capacity

Objective: 5

AACSB: Reflective thinking

9) _____ provides the lowest estimate of denominator-level capacity.

- A) Practical capacity
- B) Theoretical capacity
- C) Master-budget capacity utilization
- D) Normal capacity utilization

Answer: C

Diff: 2

Terms: master-budget capacity utilization

Objective: 5

AACSB: Reflective thinking

10) _____ is the level of capacity utilization that satisfies average customer demand over a period that includes seasonal, cyclical, and trend factors.

- A) Normal capacity utilization
- B) Theoretical capacity
- C) Master-budget capacity utilization
- D) Practical capacity

Answer: A

Diff: 2

Terms: normal capacity utilization

Objective: 5

AACSB: Reflective thinking

Answer the following questions using the information below:

A manufacturing firm is able to produce 2,000 pairs of sneakers per hour, at maximum efficiency. There are three eight-hour shifts each day. Due to unavoidable operating interruptions, production averages 1,600 units per hour. The plant actually operates only 27 days per month.

11) What is the theoretical capacity for the month of April?

- A) 2,000,000 units
- B) 1,440,000 units
- C) 1,036,800 units
- D) 480,000 units

Answer: B

Explanation: B) $2,000 \text{ units} \times 24 \text{ hours} \times 30 \text{ days} = 1,440,000 \text{ units}$

Diff: 2

Terms: theoretical capacity

Objective: 5

AACSB: Analytical skills

12) What is the practical capacity for the month of April?

- A) 2,000,000 units
- B) 1,440,000 units
- C) 1,036,800 units
- D) 480,000 units

Answer: C

Explanation: C) $1600 \text{ units} \times 24 \text{ hours} \times 27 \text{ days} = 1,036,800 \text{ units}$

Diff: 2

Terms: practical capacity

Objective: 5

AACSB: Analytical skills

13) Determining the "right" level of capacity is one of the most strategic and difficult decisions managers face.

Answer: TRUE

Diff: 2

Terms: practical capacity

Objective: 5

AACSB: Ethical reasoning

14) Both theoretical and practical capacity measure capacity in terms of demand for the output.

Answer: FALSE

Explanation: Both theoretical and practical capacity measure capacity in terms of what a plant can supply available capacity.

Diff: 2

Terms: theoretical capacity, practical capacity

Objective: 5

AACSB: Reflective thinking

15) Normal capacity utilization is the expected level of capacity utilization for the current budget period, which is typically one year.

Answer: FALSE

Explanation: *Master-budget capacity utilization* is the expected level of capacity utilization for the current budget period, which is typically one year.

Diff: 1

Terms: normal capacity utilization

Objective: 5

AACSB: Reflective thinking

16) Normal capacity utilization is NOT the same as master-budget capacity utilization.

Answer: TRUE

Diff: 1

Terms: normal capacity utilization, master-budget capacity utilization

Objective: 5

AACSB: Reflective thinking

17) Theoretical capacity is the level of capacity based on producing at full efficiency all the time.

Answer: TRUE

Diff: 1

Terms: theoretical capacity

Objective: 5

AACSB: Reflective thinking

18) Theoretical capacity allows time for regular machine maintenance.

Answer: FALSE

Explanation: *Theoretical capacity* is the denominator-level concept that is based on producing at full efficiency all the time.

Diff: 2

Terms: theoretical capacity

Objective: 5

AACSB: Reflective thinking

19) Practical capacity is the level of capacity that reduces theoretical capacity by considering unavoidable operating interruptions, such as scheduled maintenance time, shutdowns for holidays, and so on.

Answer: TRUE

Diff: 2

Terms: practical capacity

Objective: 5

AACSB: Reflective thinking

20) Practical capacity is unattainable in the real world.

Answer: FALSE

Explanation: Practical capacity is the level of capacity that reduces theoretical capacity by considering unavoidable operating interruptions, such as scheduled maintenance time, shutdowns for holidays, and so on. Theoretical capacity is unattainable in the real world.

Diff: 1

Terms: theoretical capacity

Objective: 5

AACSB: Analytical skills

21) Theoretical capacity is the capacity level that represents what the firm is able to obtain under reasonable circumstances.

Answer: FALSE

Explanation: Practical capacity is the capacity level that represents what the firm is able to obtain under reasonable circumstances.

Diff: 2

Terms: theoretical capacity

Objective: 5

AACSB: Reflective thinking

22) Match each of the following items with one or more of the denominator-level capacity concepts by putting the appropriate letter(s) by each item:

- a. Theoretical capacity
- b. Practical capacity
- c. Normal capacity utilization
- d. Master-budget capacity utilization

1. Reduces theoretical capacity by considering unavoidable operating interruptions
2. Producing at full efficiency all the time
3. Measures capacity levels in terms of demand
4. Level of capacity utilization that satisfies average customer demand over a period
5. Does not allow for plant maintenance
6. Engineering and human resource factors are important when estimating capacity
7. Level of capacity utilization that managers expect for the current budget period
8. Ideal goal of capacity utilization
9. Takes into account seasonal, cyclical, and trend factors
10. Measures capacity levels in terms of what a plant can supply

Answer:

1. b
2. a
3. c, d
4. c
5. a
6. a, b
7. d
8. a
9. c
10. a, b

Diff: 2

Terms: absorption costing, super-variable costing, throughput costing

Objective: 5

AACSB: Analytical skills

23) Wallace's Wrench Company manufactures socket wrenches.

- For next month, the vice president of production plans on producing 4,400 wrenches per day.
- The company can produce as many as 5,000 wrenches per day, but is more likely to produce 4,500 per day.
- The demand for wrenches for the next three years is expected to average 4,250 wrenches per day.
- Fixed manufacturing costs per month total \$336,600.
- The company works 20 days a month.
- Fixed manufacturing overhead is charged on a per-wrench basis.

Required:

- What is the theoretical fixed manufacturing overhead rate per wrench?
- What is the practical fixed manufacturing overhead rate per wrench?
- What is the normal fixed manufacturing overhead rate per wrench?
- What is the master-budget fixed manufacturing overhead rate per wrench?

Answer:

a. Theoretical overhead rate = $\$336,600 / (5,000 \times 20) = \3.366

b. Practical overhead rate = $\$336,600 / (4,500 \times 20) = \3.74

c. Normal overhead rate = $\$336,600 / (4,250 \times 20) = \3.96

d. Master-budget overhead rate = $\$336,600 / (4,400 \times 20) = \3.825

Diff: 2

Terms: absorption costing, super-variable costing, throughput costing

Objective: 5

AACSB: Analytical skills

Objective 9.6

1) Theoretical capacity:

A) represents real capacity available to the company

B) provides the best perspective of actual long-run costs

C) when used for product costing results in the lowest cost estimate of the four capacity options

D) replicates the cost of capacity in a competitor's cost structure

Answer: C

Diff: 3

Terms: theoretical capacity

Objective: 6

AACSB: Reflective thinking

2) The use of theoretical capacity results in an unrealistically low fixed manufacturing cost per unit because it is based on:

- A) real available capacity
- B) an unattainable level of capacity
- C) normal capacity utilization
- D) normal costing

Answer: B

Diff: 3

Terms: theoretical capacity

Objective: 6

AACSB: Reflective thinking

3) Budgeted fixed manufacturing costs of a product using practical capacity:

- A) represents the cost per unit of supplying capacity
- B) can result in setting selling prices that are not competitive
- C) includes the cost of unused capacity
- D) should be used to evaluate a marketing manager's performance in the current year

Answer: A

Diff: 3

Terms: practical capacity

Objective: 6

AACSB: Reflective thinking

4) Normal capacity utilization:

- A) represents real capacity available to the company
- B) can result in setting selling prices that are not competitive
- C) when used for product costing results in the lowest cost estimate of the four capacity options
- D) represents the maximum units of production intended for current capacity

Answer: B

Diff: 3

Terms: normal capacity utilization

Objective: 6

AACSB: Reflective thinking

5) Master-budget capacity utilization:

- A) hides the amount of unused capacity
- B) represents the maximum units of production intended for current capacity
- C) provides the best cost estimate for benchmarking purposes
- D) when used for product costing results in the lowest cost estimate of the four capacity options

Answer: A

Diff: 3

Terms: master-budget capacity utilization

Objective: 6

AACSB: Reflective thinking

6) From the perspective of long-run product costing it is best to use:

- A) master-budget capacity utilization to highlight unused capacity
- B) normal capacity utilization for benchmarking purposes
- C) practical capacity for pricing decisions
- D) theoretical capacity for performance evaluation

Answer: C

Diff: 3

Terms: practical capacity

Objective: 6

AACSB: Reflective thinking

7) Customers expect to pay a price that includes:

- A) the cost of unused capacity
- B) the cost of actual capacity used
- C) no capacity costs
- D) Both A and B are correct.

Answer: B

Diff: 2

Terms: practical capacity

Objective: 6

AACSB: Reflective thinking

8) The marketing manager's performance evaluation is most fair when based on a denominator level using:

- A) practical capacity
- B) theoretical capacity
- C) master-budget capacity utilization
- D) normal capacity utilization

Answer: C

Diff: 2

Terms: master-budget capacity utilization

Objective: 6

AACSB: Ethical reasoning

9) _____ is the continuing reduction in the demand for a company's products that occurs when competitor prices are NOT met.

- A) Downward demand spiral
- B) Theoretical capacity
- C) Normal capacity
- D) Practical capacity

Answer: A

Diff: 2

Terms: downward demand spiral

Objective: 6

AACSB: Reflective thinking

10) Using master-budget capacity to set selling prices:

- A) avoids the recalculation of unit costs when expected demand levels change
- B) spreads fixed costs over available capacity
- C) can result in a downward demand spiral
- D) uses the perspective of long-run product pricing

Answer: C

Diff: 2

Terms: master-budget capacity utilization

Objective: 6

AACSB: Reflective thinking

11) When large differences exist between practical capacity and master-budget capacity utilization, companies may:

- A) classify the difference as planned unused capacity
- B) use master-budget capacity utilization for setting selling prices
- C) use practical capacity for meaningful feedback to the marketing manager
- D) All of these answers are correct.

Answer: A

Diff: 2

Terms: practical capacity, master-budget capacity utilization

Objective: 6

AACSB: Reflective thinking

12) The effect of spreading fixed manufacturing costs over a shrinking master-budget capacity utilization amount results in:

- A) greater utilization of capacity
- B) increased unit costs
- C) more competitive selling prices
- D) greater demand for the product

Answer: B

Diff: 2

Terms: downward demand spiral

Objective: 6

AACSB: Reflective thinking

13) The higher the denominator level, the:

- A) higher the budgeted fixed manufacturing cost rate
- B) lower the amount of fixed manufacturing costs allocated to each unit produced
- C) higher the favorable production-volume variance
- D) more likely actual output will exceed the denominator level

Answer: B

Diff: 2

Terms: absorption costing

Objective: 6

AACSB: Reflective thinking

14) Operating income reported on the end-of-period financial statements is changed when _____ is (are) used to handle the production-volume variance at the end of the accounting period.

- A) the adjusted allocation-rate approach
- B) the proration approach
- C) the write-off variances to cost of goods sold approach
- D) All of these answers are correct.

Answer: C

Diff: 3

Terms: absorption costing

Objective: 6

AACSB: Reflective thinking

15) Practical capacity may:

- A) increase over time due to improvements in plant layout
- B) decrease over time due to efficiencies offered by new technologies
- C) cannot be altered unless there is a major plant expansion
- D) Both A and B are correct.

Answer: A

Diff: 2

Terms: practical capacity

Objective: 6

AACSB: Reflective thinking

16) The Internal Revenue Service requires the use of _____ for calculating fixed manufacturing costs per unit.

- A) practical capacity
- B) theoretical capacity
- C) master-budget capacity utilization
- D) normal capacity utilization

Answer: A

Diff: 2

Terms: practical capacity

Objective: 6

AACSB: Ethical reasoning

17) Fixed manufacturing cost per unit will be the same no matter what capacity concept is used.

Answer: FALSE

Explanation: Fixed manufacturing cost per unit will be different depending on the capacity concept used.

Diff: 2

Terms: fixed cost, unit cost

Objective: 6

AACSB: Reflective thinking

18) Data from normal costing and standard costing are used in pricing and product-mix decisions.

Answer: TRUE

Diff: 2

Terms: normal costing, standard costing

Objective: 6

AACSB: Communication

19) If a company chooses practical capacity for planning purposes, it must also use practical capacity for performance evaluation.

Answer: FALSE

Explanation: There is no requirement that one capacity-level concept has to be used for all purposes.

Diff: 2

Terms: practical capacity

Objective: 6

AACSB: Reflective thinking

20) Theoretical capacity is most often used to cost a product.

Answer: FALSE

Explanation: Theoretical capacity is unattainable and therefore should not be used to cost a product. Practical capacity is generally used to cost a product.

Diff: 2

Terms: theoretical capacity

Objective: 6

AACSB: Reflective thinking

21) The downward demand spiral for a company is the continuing reduction in the demand for its products that occurs when competitor prices are NOT met.

Answer: TRUE

Diff: 2

Terms: downward demand spiral

Objective: 6

AACSB: Reflective thinking

22) For benchmarking purposes it is best to use master-budget capacity because all competitors use about the same amount of capacity for production.

Answer: FALSE

Explanation: For benchmarking purposes it is best to use *practical* capacity because it best represents the long-run cost of capacity.

Diff: 2

Terms: master-budget capacity utilization

Objective: 6

AACSB: Reflective thinking

23) Using normal capacity for pricing decisions can lead to setting noncompetitive selling prices.

Answer: TRUE

Diff: 3

Terms: normal capacity utilization

Objective: 6

AACSB: Reflective thinking

24) Using master-budget capacity for pricing purposes can lead to a downward demand spiral.

Answer: TRUE

Diff: 2

Terms: master-budget capacity utilization, downward demand spiral

Objective: 6

AACSB: Reflective thinking

25) Using practical capacity is best for evaluating the marketing manager's performance for a particular year.

Answer: FALSE

Explanation: Using *master-budget capacity* is best for evaluating the marketing manager's performance.

Diff: 3

Terms: practical capacity

Objective: 6

AACSB: Reflective thinking

26) The production-volume variance is affected by the choice of capacity concept used to determine the denominator level.

Answer: TRUE

Diff: 2

Terms: practical capacity

Objective: 6

AACSB: Reflective thinking

27) The higher the denominator level the higher the budgeted fixed manufacturing cost rate per unit.

Answer: FALSE

Explanation: The higher the denominator level the *lower* the budgeted fixed manufacturing cost rate per unit.

Diff: 2

Terms: practical capacity

Objective: 6

AACSB: Reflective thinking

28) Master-budget capacity utilization can be more reliably estimated than normal capacity utilization.

Answer: TRUE

Diff: 2

Terms: master-budget capacity utilization

Objective: 6

AACSB: Reflective thinking

29) Unused capacity is not considered wasted resources because capacity has to be purchased in "large chunks" to accommodate future needs, NOT just the needs of the current period.

Answer: TRUE

Diff: 1

Terms: practical capacity

Objective: 6

AACSB: Reflective thinking

30) Ernstring Bottling Works manufactures glass bottles. January and February operations were identical in every way except for the planned production.

January had a production denominator of 35,000 units.
 February had a production denominator of 36,000 units.
 Fixed manufacturing costs totaled \$126,000.

Sales for both months totaled 45,000 units with variable manufacturing costs of \$4 per unit. Selling and administrative costs were \$0.40 per unit variable and \$60,000 fixed. The selling price was \$10 per unit.

Required:

Compute the operating income for both months using absorption costing.

Answer:

January manufacturing cost per unit:

Variable costs:	\$4.00
Fixed costs (\$126,000/35,000)	<u>3.60</u>
Total per unit	<u>\$7.60</u>

February manufacturing cost per unit:

Variable costs	\$4.00
Fixed costs \$126,000/36,000	<u>3.50</u>
Total per unit	<u>\$7.50</u>

January Income Statement

Sales (45,000 × \$10)		\$450,000
Cost of goods sold (45,000 × \$7.60)		<u>342,000</u>
Gross margin		\$108,000
Other costs:		
Variable selling and administrative	\$18,000	
Fixed selling and administrative	<u>60,000</u>	<u>78,000</u>
Operating income		<u>\$30,000</u>

February Income Statement

Sales (45,000 × \$10)		\$450,000
Cost of goods sold (45,000 × \$7.50)		<u>337,500</u>
Gross margin		\$112,500
Other costs:		
Variable selling and administrative	\$18,000	
Fixed selling and administrative	<u>60,000</u>	<u>78,000</u>
Operating income		<u>\$34,500</u>

Diff: 2

Terms: absorption costing

Objective: 2, 6

AACSB: Analytical skills

- 31) a. List the four different measures of capacity.
b. Which measure of capacity is best for setting prices? Why?
c. Which measure of capacity is best for evaluating the performance of the marketing manager for the current year? Why?

Answer:

- a. Theoretical capacity, practical capacity, normal capacity utilization, and master-budget capacity utilization are the four measures of capacity.
b. Practical capacity is best to use when setting prices because only the actual cost of capacity used for production is included in the cost of a unit.
c. Master-budget capacity utilization is best for evaluating performance of managers over the current year because the manager should only be held accountable for budgeted sales of the current year and not production capacity, especially when there is unused capacity.

Diff: 2

Terms: theoretical/practical capacity, normal/master-budget capacity utilization

Objective: 5, 6

AACSB: Reflective thinking

Objective 9.7

- 1) It is most difficult to estimate _____ because of the need to predict demand for the next few years.
A) practical capacity
B) theoretical capacity
C) master-budget capacity utilization
D) normal capacity utilization

Answer: D

Diff: 2

Terms: normal capacity utilization

Objective: 7

AACSB: Reflective thinking

- 2) Managers face uncertainty when estimating:
A) demand of the product
B) the denominator level for practical capacity
C) total fixed manufacturing costs for the next accounting period
D) All of these answers are correct.

Answer: D

Diff: 2

Terms: practical capacity

Objective: 7

AACSB: Reflective thinking

3) Unused capacity:

- A) is a definite sign of wasted resources
- B) is intended for future use
- C) provides capacity for potential demand surges
- D) Both B and C are correct.

Answer: D

Diff: 2

Terms: practical capacity, normal capacity utilization

Objective: 7

AACSB: Reflective thinking

4) Capacity costs:

- A) are difficult to estimate
- B) don't provide a useful planning tool for nonmanufacturing firms
- C) cannot be used with activity-based costing
- D) All of these answers are correct.

Answer: A

Diff: 2

Terms: practical capacity, normal capacity utilization

Objective: 7

AACSB: Reflective thinking

5) The breakeven point using absorption costing depends on all of the following factors, EXCEPT:

- A) the number of units sold during the current period
- B) the budgeted level of production
- C) the denominator level chosen for the fixed manufacturing overhead rate
- D) fulfillment of current production quotas

Answer: B

Diff: 2

Terms: absorption costing

Objective: 7

AACSB: Reflective thinking

6) There is NOT an output-level variance for variable costing, because:

- A) the inventory level decreased during the period
- B) the inventory level increased during the period
- C) fixed manufacturing overhead is allocated to work in process
- D) fixed manufacturing overhead is not allocated to work in process

Answer: D

Diff: 2

Terms: variable costing

Objective: 7

AACSB: Reflective thinking

7) Challenges only result from estimating the denominator level, but NOT the costs in the numerator of the fixed manufacturing cost rate.

Answer: FALSE

Explanation: Challenges result from estimating both the denominator level and the costs in the numerator of the fixed manufacturing cost rate.

Diff: 1

Terms: practical capacity

Objective: 7

AACSB: Reflective thinking

8) Estimating capacity costs is unique to manufacturing and it is NOT applicable to nonmanufacturing entities.

Answer: FALSE

Explanation: Estimating capacity costs is needed in both manufacturing and nonmanufacturing entities.

Diff: 1

Terms: practical capacity

Objective: 7

AACSB: Reflective thinking

9) If the capacity level chosen to calculate the budgeted fixed overhead cost rate is more than the actual production, an unfavorable production-volume variance will result.

Answer: TRUE

Diff: 2

Terms: practical capacity

Objective: 7

AACSB: Reflective thinking

10) Explain how using master-budget capacity utilization for setting prices can lead to a downward demand spiral.

Answer: If master-budget capacity utilization is used as the denominator level for determining fixed manufacturing costs per unit, the cost includes a charge for unused capacity. If prices are based on this cost, the product may be priced higher than competitor's products. With a higher selling price, volume of sales will probably decrease reducing the expected number of future sales. Lower expected sales leads to a lower denominator level, which in turn results in an even higher selling price and even lower sales volume. Etc., etc., etc.

Diff: 2

Terms: downward demand spiral

Objective: 7

AACSB: Reflective thinking

11) Should a company with high fixed costs and unused capacity raise selling prices to try to fully recoup its costs?

Answer: No, companies in this situation might experience greater reductions in the demand of their products if they continue to raise selling prices. This would result in the fixed capacity costs being spread over fewer and fewer units, increasing reported costs, resulting in more pressure to raise prices.

Diff: 3

Terms: normal capacity utilization

Objective: 7

AACSB: Analytical skills

12) How does the capacity level chosen to compute the budgeted fixed overhead cost rate affect the production-volume variance?

Answer: The chosen capacity level is directly related to the size and direction of the production-volume variance. When the chosen capacity level exceeds the actual production level, there will be an unfavorable production-volume variance; when the chosen capacity level is less than the actual production level, there will be a favorable production-volume variance.

Diff: 3

Terms: absorption costing

Objective: 7

AACSB: Reflective thinking

13) Discuss the three methods to dispose of production volume variance.

Answer: 1) Adjusted allocation-rate approach - This approach restates all amounts by using actual, rather than budgeted, cost rates.

2) Proration approach - The underallocated or overallocated overhead is spread among the ending balances in work-in-Process Control, finished Goods Control, and Cost of Goods Sold.

3) Write-off variances to cost of goods sold approach - The variance is written off to cost of goods sold.

Diff: 3

Terms: production-volume variance

Objective: 7

AACSB: Reflective thinking

Objective 9.A

Answer the following questions using the information below:

Ms. Janice Meyers, the company president, has heard that there are multiple breakeven points for every product. She does not believe this and has asked you to provide the evidence of such a possibility. Some information about the company for 2011 is as follows:

Total fixed manufacturing overhead	\$180,000
Total other fixed expenses	\$200,000
Total variable manufacturing expenses	\$240,000
Total other variable expenses	\$240,000
Units produced	60,000 units
Budgeted production	60,000 units
Units sold	50,000 units
Selling price	\$40

1) What are breakeven sales in units using variable costing?

A) 5,625 units

B) 5,769 units

C) 11,875 units

D) 12,180 units

Answer: C

Explanation: C) Breakeven units = $(\$180,000 + \$200,000) / (\$40 - \$4 - \$4) = 11,875$ units

Diff: 2

Terms: variable costing

Objective: A

AACSB: Analytical skills

2) What are breakeven sales in units using absorption costing?

- A) 5,625 units
- B) 6,667 units
- C) 6,897 units
- D) 8,000 units

Answer: C

Explanation: C) Breakeven units $N = \frac{[\$380,000 + (\$180,000 / 60,000 \times (N - 60,000))]}{(\$40 - \$4 - \$4)}$

$$N = (\$380,000 + \$3N - \$180,000) / \$32$$

$$\$32N = \$200,000 + \$3N$$

$$\$29N = \$200,000$$

$$N = 6,897 \text{ units}$$

Diff: 2

Terms: absorption costing

Objective: A

AACSB: Analytical skills

3) What are breakeven sales in units using absorption costing if the production units are actually 25,000?

- A) 5,625 units
- B) 6,667 units
- C) 7,667 units
- D) 7,931 units

Answer: D

Explanation: D) Breakeven units $N = \frac{[\$380,000 + (\$180,000 / 60,000 \times (N - 50,000))]}{(\$40 - \$4 - \$4)}$

$$N = (\$380,000 + \$3N - \$150,000) / \$32$$

$$\$32N = \$230,000 + \$3N$$

$$\$29N = \$230,000$$

$$N = 7,931 \text{ units}$$

Diff: 2

Terms: absorption costing

Objective: A

AACSB: Analytical skills

Answer the following questions using the information below:

The following information pertains to the Bean Company:

Selling price per unit	\$123
Standard fixed manufacturing costs per unit	\$60
Variable selling and administrative costs per unit	\$12
Standard variable manufacturing costs per unit	\$3
Fixed selling and administrative costs	\$48,000
Units produced	10,000 units
Units sold	9,600 units

4) What is the variable costing breakeven point in units?

- A) 833 units
- B) 5,556 units
- C) 5,838 units
- D) 6,000 units

Answer: D

Explanation: D) Breakeven units = $[\$48,000 + (10,000 \times \$60)] / (\$123 - \$3 - \$12) = 6,000$ units

Diff: 2

Terms: variable costing

Objective: A

AACSB: Analytical skills

5) What is the absorption costing breakeven point in units?

- A) 917 units
- B) 1,000 units
- C) 5,838 units
- D) 6,000 units

Answer: B

Explanation: B) Breakeven units $N = [(\$648,000 + (\$60 \times (N - 10,000)))] / (\$123 - \$3 - \$12) = 1,000$ units

Diff: 2

Terms: absorption costing

Objective: A

AACSB: Analytical skills

Answer the following questions using the information below:

Greene Manufacturing incurred the following expenses during 2011:

Fixed manufacturing costs	\$45,000
Fixed nonmanufacturing costs	\$35,000
Unit selling price	\$100
Total unit cost	\$40
Variable manufacturing cost rate	\$20
Units produced	1,340 units

6) What will be the breakeven point if variable costing is used?

- A) 1,334 units
- B) 1,125 units
- C) 1,000 units
- D) 563 units

Answer: C

Explanation: C) Breakeven units = $(\$45,000 + \$35,000) / (\$100 - \$20) = 1,000$ units

Diff: 2

Terms: variable costing

Objective: A

AACSB: Analytical skills

7) What will be the breakeven point in units if absorption costing is used?

- A) 1,330 units
- B) 1,000 units
- C) 887 units
- D) 563 units

Answer: C

Explanation: C) Breakeven units $N = \frac{[(\$45,000 + \$35,000) + (\$20 \times (N - 1,340))]}{(\$100 - \$20)}$

$$N = (\$80,000 + \$20N - \$26,800) / \$80$$

$$\$80N = \$53,200 + \$20N$$

$$N = 887 \text{ units}$$

Diff: 2

Terms: absorption costing

Objective: A

AACSB: Analytical skills

8) What is the breakeven point in units using absorption costing if the units produced are actually 2,250?

- A) 1,330 units
- B) 1,000 units
- C) 887 units
- D) 584 units

Answer: D

Explanation: D) Breakeven units $N = \frac{[(\$45,000 + \$35,000) + (\$20 \times (N - 2,250))]}{(\$100 - \$20)}$

$$N = (\$80,000 + \$20N - \$45,000) / \$80$$

$$\$80N = \$35,000 + \$20N$$

$$N = 584 \text{ units}$$

Diff: 2

Terms: absorption costing

Objective: A

AACSB: Analytical skills

9) The formula for computing the breakeven point in units under variable costing includes all of the following EXCEPT:

- A) total fixed costs
- B) contribution margin percentage
- C) target operating income
- D) contribution margin per unit

Answer: B

Diff: 2

Terms: breakeven point (BEP)

Objective: A

AACSB: Reflective thinking

10) Bosely Corporation is in the business of selling computers. The following expenses were incurred in March 2011:

Fixed manufacturing costs	\$75,000
Fixed nonmanufacturing costs	\$35,000
Unit selling price	\$1,200
Variable manufacturing cost	\$700
Units produced	1,500

What will be the breakeven point if variable costing is used?

- A) 150 units
- B) 220 units
- C) 157 units
- D) 92 units

Answer: B

Explanation: B) $(\$75,000 + \$35,000) / (\$1,200 - \$700) = 220 \text{ units}$

Diff: 2

Terms: variable cost

Objective: A

AACSB: Analytical skills

11) The breakeven points are the same under both variable costing and absorption costing.

Answer: FALSE

Explanation: The breakeven points are generally different under both variable costing and absorption costing. If variable costing is used, the breakeven point (that's where operating income is \$0) is computed in the usual manner. If absorption costing is used, the required number of units to be sold to earn a specific target operating income is not unique because of the number of variables involved. The breakeven point under absorption costing depends on (1) fixed manufacturing costs, (2) fixed operating (marketing) costs, (3) contribution margin per unit, (4) unit level of production, and (5) the capacity level chosen as the denominator to set the fixed manufacturing cost rate.

Diff: 2

Terms: variable costing, absorption costing

Objective: A

AACSB: Reflective thinking

12) Sutton Hot Dog Stand sells hot dogs for \$1.35. Variable costs are \$1.05 per unit with fixed production costs of \$90,000 per month at a level of 400,000 units. Fixed administrative costs total \$30,000. Sales average 400,000 units per month, with planned production of 400,000 hot dogs.

Required:

- What are breakeven unit sales under variable costing?
- What are breakeven unit sales under absorption costing if she sells everything she prepares?
- What are breakeven unit sales under absorption costing if average sales are 498,000 and planned production is changed to 500,000?

Answer: a. Breakeven units = $(\$90,000 + \$30,000) / (\$1.35 - \$1.05) = 400,000$

b. Breakeven units (N) =
$$\frac{[(\$90,000 + \$30,000) + (\$0.225(N - 400,000))]}{\$1.35 - \$1.05}$$

$$N = (\$120,000 + \$0.225N - \$90,000) / \$0.30$$

$$\$0.30N = \$30,000 + \$0.225N$$

$$\$0.075N = \$30,000$$

$$N = 400,000 \text{ units}$$

c. Breakeven units (N) =
$$\frac{[(\$90,000 + \$30,000) + (\$0.18(N - 500,000))]}{\$1.35 - \$1.05}$$

$$N = (\$120,000 + \$0.18N - \$90,000) / \$0.30$$

$$\$0.3N = \$30,000 + \$0.18N$$

$$\$0.12N = \$30,000$$

$$N = 250,000 \text{ units}$$

Diff: 2

Terms: absorption costing, super-variable costing, throughput costing

Objective: A

AACSB: Analytical skills