

TRUE/FALSE. Write 'T' if the statement is true and 'F' if the statement is false.

- 1) Total fixed costs change in response to changes in the volume of production. 1) _____
- 2) Unit variable costs change as total production increases. 2) _____
- 3) Mixed costs are part variable and part fixed. 3) _____
- 4) Fixed costs per unit increase as production levels increase. 4) _____
- 5) Fixed costs per unit decrease as production levels increase. 5) _____
- 6) An expense such as advertising could be considered a discretionary fixed cost. 6) _____
- 7) The fixed cost per unit always remains the same. 7) _____
- 8) The graph for total fixed costs will be a vertical line. 8) _____
- 9) Total variable costs change in direct proportion to changes in volume. 9) _____
- 10) The variable cost per unit of activity increases as activity increases. 10) _____
- 11) When graphing total fixed costs, the fixed cost per unit is the slope of the fixed cost line. 11) _____
- 12) When graphing total variable costs, the cost line always begins at the origin. 12) _____
- 13) The graph of a total variable cost will be a horizontal line. 13) _____
- 14) The fixed cost per unit of activity varies inversely with changes in volume. 14) _____
- 15) When graphing total mixed costs, the cost line always begins at the origin. 15) _____
- 16) Total mixed costs increase as volume increases because of the fixed cost component. 16) _____
- 17) Mixed costs per unit decrease as volume increases because of the fixed cost component. 17) _____
- 18) Total mixed cost graphs slope upward, but do not begin at the origin. 18) _____
- 19) Total mixed cost graphs intersect the y-axis at the level of fixed costs. 19) _____

20) The slope of the total variable cost line is the variable cost per unit of activity. 20) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

21) A cost whose total amount changes in direct proportion to a change in volume is a(n) _____ 21) _____
cost.

- A) irrelevant B) mixed C) fixed D) variable

22) Which of the following costs is an example of a fixed cost? 22) _____

- A) Delivery costs B) Sales commissions
C) Direct materials D) Salary of plant manager

23) Which of the following statements is TRUE with respect to variable costs per unit? 23) _____

- A) They will decrease as production increases within the relevant range.
B) They will increase as production decreases within the relevant range.
C) They will decrease as production decreases within the relevant range.
D) They will remain the same as production levels change within the relevant range.

24) Which of the following statements is TRUE with respect to total variable costs? 24) _____

- A) They will remain the same as production levels change within the relevant range.
B) They will decrease as production decreases within the relevant range.
C) They will increase as production decreases within the relevant range.
D) They will decrease as production increases within the relevant range.

25) Which of the following statements is TRUE with respect to total fixed costs? 25) _____

- A) They will decrease as production increases within the relevant range.
B) They will increase as production decreases within the relevant range.
C) They will remain the same as production levels change within the relevant range.
D) They will decrease as production decreases within the relevant range.

26) Within the relevant range, which of the following statements is TRUE with respect to fixed costs per unit? 26) _____

- A) They will remain the same as production levels change.
B) They will increase as production decreases.
C) They will increase as production increases.
D) They will decrease as production decreases.

27) Which of the following is a characteristic of a variable cost? 27) _____

- A) Variable costs do not change in total over any range.
B) Variable costs per unit change with changes in volume.
C) Variable costs are fixed in total.
D) Variable costs fluctuate in total with production and sales.

- 28) Which of the following is a fixed cost? 28) _____
 A) Direct labour cost B) Sales commissions expense
 C) Direct materials cost D) Straight-line depreciation expense
- 29) Which of the following statements describes variable costs? 29) _____
 A) They vary per unit of output.
 B) They are fixed per unit and vary in total.
 C) They decrease per unit as production volume increases.
 D) They are fixed in total.
- 30) Renting a car and paying \$35 per day plus \$.20 per kilometre driven is an example of what type of cost? 30) _____
 A) Variable cost B) Conversion cost
 C) Mixed cost D) Fixed cost
- 31) For most businesses, annual straight-line depreciation expense on the company's building is what type of cost? 31) _____
 A) Variable B) Step C) Mixed D) Fixed
- 32) Direct materials is an example of what type of cost? 32) _____
 A) Fixed cost B) Conversion cost
 C) Variable cost D) Mixed cost
- 33) In a hotel operation, which of the following will likely be a mixed cost? 33) _____
 A) The Salary of the hotel manager B) Utility costs
 C) Depreciation D) The cost of consumable toiletries

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

- 34) Selected financial data for Flash Corporation follows for a production level of 100,000 unit 34) _____

Total fixed costs	\$400,000
Total costs (fixed and variable)	\$500,000

- A. Calculate the variable cost per unit.
 B. If Flash Corporation makes 80,000 units, calculate the fixed cost per unit.
 C. If Flash Corporation makes 150,000 units, calculate the total variable costs.
 D. If Flash Corporation makes 200,000 units, calculate the total costs.

- 35) The following chart shows three different costs: Cost A, Cost B, Cost C. For each cost, the chart shows the total cost and cost per unit at two different volumes within the same relevant range. Based on this information, identify each cost as fixed, variable or mixed. 35) _____

<i>At 10,000 units</i>			<i>At 20,000 units</i>		Cost behaviour
	Total cost	Cost per Unit	Total cost	Cost per Unit	
Cost A	\$ 80,000	\$ 8.00	\$ 80,000	\$ 4.00	
Cost B	\$ 80,000	\$ 8.00	\$ 160,000	\$ 8.00	
Cost C	\$ 80,000	\$ 8.00	\$ 120,000	\$ 6.00	

- 36) The following chart shows three different costs: Cost A, Cost B, Cost C. For each cost, the chart shows the total cost and cost per unit at two different volumes within the same relevant range. Based on this information, identify each cost as fixed, variable or mixed. 36) _____

<i>At 4,000 units</i>			<i>At 6,000 units</i>		Cost behaviour
	Total cost	Cost per Unit	Total cost	Cost per Unit	
Cost A	\$ 12,000	\$ 3.00	\$ 12,000	\$ 2.00	
Cost B	\$ 12,000	\$ 3.00	\$ 15,000	\$ 2.50	
Cost C	\$ 12,000	\$ 3.00	\$ 18,000	\$ 3.00	

- 37) The following chart shows three different costs: Cost A, Cost B, Cost C. For each cost, the chart shows the total cost and cost per unit at two different volumes within the same relevant range. Based on this information, identify each cost as fixed, variable or mixed. 37) _____

<i>At 7,000 units</i>			<i>At 9,000 units</i>		Cost behaviour
	Total cost	Cost per Unit	Total cost	Cost per Unit	
Cost A	\$ 6,300	\$ 0.90	\$ 6,750	\$ 0.75	
Cost B	\$ 6,300	\$ 0.90	\$ 8,100	\$ 0.90	
Cost C	\$ 6,300	\$ 0.90	\$ 6,300	\$ 0.70	

- 38) The following chart shows three different costs: Cost A, Cost B, Cost C. For each cost, the chart shows the total cost and cost per unit at two different volumes with the same relevant range. Based on this information, identify each cost as fixed, variable or mixed. 38) _____

<i>At 3,000 units</i>			<i>At 5,000 units</i>		Cost behaviour
	Total cost	Cost per Unit	Total cost	Cost per Unit	
Cost A	\$12,000	\$ 4.00	\$ 20,000	\$ 4.00	
Cost B	\$12,000	\$ 4.00	\$ 17,500	\$ 3.50	
Cost C	\$12,000	\$ 4.00	\$ 12,000	\$ 2.40	

39) Jensen Ltd. reports the following information for September:

39) _____

Sales	\$15,000
Variable costs	3,000
Fixed costs	<u>4,000</u>
Operating income	<u>\$8,000</u>

Required:

If sales double in October, what is the projected operating income?

ESSAY. Write your answer in the space provided or on a separate sheet of paper.

40) Describe mixed costs and provide an example.

TRUE/FALSE. Write 'T' if the statement is true and 'F' if the statement is false.

41) In the equation $y = vx + f$, the x represents the volume of activity. 41) _____

42) In the equation $y = vx + f$, the f represents the fixed costs. 42) _____

43) Cost behaviour can be mathematically expressed using equations. 43) _____

44) The equation for a straight line is $y = vx + f$. 44) _____

45) At any given volume, average fixed costs must equal average variable costs. 45) _____

46) The relevant range is the band of volume where total fixed and variable costs remain constant. 46) _____

47) The relevant range is the band of volume where total fixed and variable costs per unit remain constant. 47) _____

48) Total variable costs can be expressed as $y = vx$, where y = total variable cost, v = variable cost per unit of activity, and x = volume of activity. 48) _____

49) Total fixed costs can be expressed as $y = vx$, where y = total variable cost, v = variable cost per unit of activity, and x = volume of activity. 49) _____

50) Total mixed costs can be expressed as $y = vx$, where y = total variable cost, v = variable cost per unit of activity, and x = volume of activity. 50) _____

51) Total mixed costs can be expressed as a combination of the variable and fixed cost equations. 51) _____

52) Managers often approximate curvilinear costs and step costs as mixed costs. 52) _____

- 53) Step costs are fixed over small range of activity and then jump up to a new fixed level with moderate changes in volume. 53) _____
- 54) A bank that replaces mailing monthly bank statements to customers with electronic statements would have an increase in variable costs and a decrease in fixed costs. 54) _____

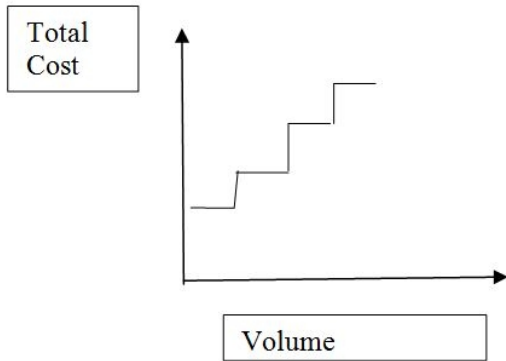
MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 55) If production increases by 15%, how will total variable costs likely react? 55) _____
 A) Increase by 15% B) Increase by 7.5%
 C) Decrease by 15% D) Remain the same
- 56) If production increases by 15%, how will total fixed costs likely react? 56) _____
 A) Increase by 7.5% B) Decrease by 15%
 C) Increase by 15% D) Remain the same
- 57) Which of the following would be considered a discretionary fixed cost? 57) _____
 A) Depreciation B) Employees wages
 C) Advertising D) Property taxes and insurance
- 58) Which of the following would be considered a committed fixed cost? 58) _____
 A) Depreciation B) Research and Development
 C) Office holiday party D) Advertising
- 59) Which of the following would be considered a discretionary fixed cost? 59) _____
 A) Depreciation B) Equipment Leases
 C) Office holiday party D) Municipal taxes on property
- 60) Management has little or no control over 60) _____
 A) all fixed costs. B) variable costs.
 C) committed fixed costs. D) discretionary fixed costs.
- 61) Which of the following cost behaviours cannot be accurately represented by a single straight line? 61) _____
 A) Step costs B) Fixed costs C) Mixed costs D) Variable costs
- 62) When predicting costs at different volumes, managers should consider which of the following? 62) _____
 A) The relevant range of the cost B) The type of cost behaviour
 C) Neither of the above D) Both of the above
- 63) An equation of a line for all costs is 63) _____
 A) $y = vx + f$ B) $y = fx + v$ C) $y = f$ D) $y = vx - f$

- 64) An equation of a line for total mixed costs is
 A) $y = vx + f$. B) $f = vx + y$. C) $f = vx - y$. D) $y = vx - f$. 64) _____
- 65) The equation for total fixed costs is
 A) $f = vx + y$. B) $y = f$. C) $y = vx + f$. D) $y = vx - f$. 65) _____
- 66) The representation for total variable costs is
 A) $y = vx$. B) vx . C) $vx - f$. D) $vx + f$. 66) _____
- 67) The representation for fixed cost per unit of activity is
 A) vx divided by v . B) y divided by x .
 C) f divided by x . D) vx divided by y . 67) _____
- 68) If a company's overhead cost equation is $y = \$9.90x + \$120,014$. The "x" is
 A) the cost driver in units. B) total fixed costs.
 C) the variable costs. D) total overhead costs. 68) _____
- 69) If a company's overhead cost equation is: $\$620,000 = \$5.00(100,000) + \$120,000$. What are total costs?
 A) \$5.00 B) \$120,000 C) \$500,000 D) \$620,000 69) _____
- 70) If a company's overhead cost equation is: $\$620,000 = \$5.00(100,000) + \$120,000$. What are total variable costs?
 A) \$5.00 B) \$120,000 C) \$500,000 D) \$620,000 70) _____
- 71) If a company's overhead cost equation is: $\$620,000 = \$5.00(100,000) + \$120,000$. What are total fixed costs?
 A) \$5.00 B) \$120,000 C) \$500,000 D) \$620,000 71) _____
- 72) If a company's overhead cost equation is: $\$620,000 = \$5.00(100,000) + \$120,000$. What are variable costs per unit?
 A) \$5.00 B) \$120,000 C) \$500,000 D) \$620,000 72) _____
- 73) If a company's overhead cost equation is: $\$620,000 = \$5.00(100,000) + \$120,000$. What are fixed costs per unit?
 A) \$1.20 B) \$6.20 C) \$5.00 D) \$120,000 73) _____
- 74) If a company's overhead cost equation is: $\$620,000 = \$5.00(100,000) + \$120,000$. What are total costs per unit?
 A) \$1.20 B) \$6.20 C) \$5.00 D) \$120,000 74) _____

75) The following graph indicates which type of cost behaviour?

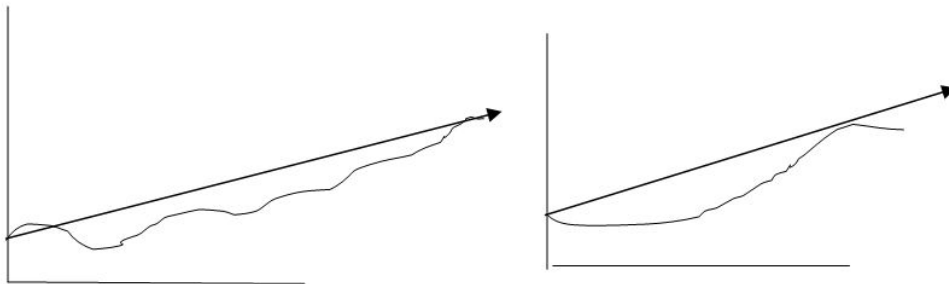
75) _____



- A) Mixed B) Step C) Fixed D) Variable

76) The following graphs indicate which type of cost behaviour?

76) _____



- A) Fixed B) Variable C) Step D) Curvilinear

77) In the equation: $y = vx + f$, what term represents the total variable cost component?

77) _____

- A) f B) v C) y D) vx

78) In the equation: $y = vx + f$, what term represents the total cost?

78) _____

- A) f B) v C) y D) vx

79) In the equation: $y = vx + f$, what term represents the variable cost per unit of activity? (Assume x represents the volume of activity.)

79) _____

- A) f B) v C) y D) vx

80) In the equation: $y = vx + f$, what variable represents the volume of activity? (Assume v represents the variable cost per unit of activity.)

80) _____

- A) vx B) v C) y D) x

81) In the equation: $y = vx + f$, what term represents the fixed cost component?

81) _____

- A) vx B) v C) f D) y

- 82) In the equation $y = \$9.90x + \$120,014$, "y" represents 82) _____
 A) total fixed costs. B) variable costs/unit.
 C) total variable costs. D) total overhead costs.
- 83) In the equation $y = \$9.90x + \$120,014$, "x" represents 83) _____
 A) number of units produced. B) total fixed costs.
 C) total variable costs. D) total overhead costs.
- 84) In the equation $y = \$9.90x + \$120,014$ 84) _____
 A) \$120,014 are the total fixed costs. B) \$120,014 are the total costs.
 C) \$120,014 are the total overhead costs. D) \$120,014 are the total variable costs.
- 85) Total fixed costs for Herman Enterprises are \$200,000. Total costs, both fixed and variable, are \$550,000 if 100,000 units are produced. The variable cost per unit is 85) _____
 A) \$7.50/unit. B) \$3.50/unit. C) \$2.00/unit. D) \$5.50/unit.
- 86) Total fixed costs for Excelsior Corporation are \$600,000. Total costs, both fixed and variable, are \$750,000 if 125,000 units are produced. The fixed cost per unit at 300,000 units would be 86) _____
 A) \$6.00/unit. B) \$2.00/unit. C) \$0.50/unit. D) \$4.80/unit.
- 87) Total fixed costs for Yellow Boats Inc. are \$100,000. Total costs, both fixed and variable, are \$500,000 if 125,000 units are produced. The total variable costs at a level of 200,000 units would be 87) _____
 A) \$800,000. B) \$640,000. C) \$312,000. D) \$160,000
- 88) If 125,000 units are produced, total costs are \$380,000. Total fixed costs for White Sails, Inc. are \$180,000. The variable cost per unit is 88) _____
 A) \$1.44/unit. B) \$4.48/unit. C) \$3.04/unit. D) \$1.60/unit.
- 89) Total fixed costs for Threads Company are \$80,000. Total costs, both fixed and variable, are \$170,000 if 125,000 units are produced. The fixed cost per unit at 100,000 units would be 89) _____
 A) \$0.80/unit. B) \$2.50/unit. C) \$1.70/unit. D) \$0.90/unit.
- 90) Total costs for Watson & Company at 100,000 units are \$350,000, while total fixed costs are \$150,000. The total variable costs at a level of 200,000 units would be 90) _____
 A) \$300,000. B) \$700,000. C) \$400,000. D) \$175,000.
- 91) YouCall offers a calling plan that charges \$2.00 per month plus \$0.05 per minute of call time. Under this plan, what is your monthly cost if you talk for a total of 100 minutes? 91) _____
 A) \$7.00 B) \$3.00 C) \$5.00 D) \$2.00
- 92) BestCalls has a special plan offer this month. There is a \$4.00 per month charge each month and calls anywhere in the United States are \$0.03 per minute. What would the monthly cost be if you typically talk for 500 minutes per month? 92) _____
 A) \$15.00 B) \$11.00 C) \$19.00 D) \$5.00

- 93) Plymouth Manufacturing produces cup holders. Total manufacturing costs are \$400,000 when 40,000 holders are produced. Of this amount, total variable costs are \$120,000. What are the total production costs when 60,000 holders are produced? (Assume the same relevant range for both production levels.) 93) _____
 A) \$460,000 B) \$180,000 C) \$580,000 D) \$600,000
- 94) Fresh Best Friends produces 80,000 dog collars each month that give off a fresh scent to keep your dog smelling clean between baths. Total manufacturing costs are \$240,000. Of this amount, \$180,000 are variable costs. What are the total production costs when 100,000 collars are produced? (Assume both production levels are in the same relevant range.) 94) _____
 A) \$225,000 B) \$465,000 C) \$300,000 D) \$285,000

Answer the following question(s) using the information below.

Feathered Nests produces decorative birdhouses. The company's average cost per unit is \$20.00 at a production level of 2,000 birdhouses. What is the total cost of producing 2,000 birdhouses?

- 95) What is the total cost of producing 2,000 birdhouses? 95) _____
 A) \$40,000 B) \$20.00 C) \$2,020 D) \$80,000
- 96) If \$4,800 of the total costs are fixed, what is the variable cost of producing each birdhouse? 96) _____
 A) \$35,200 B) \$20.00 C) \$2.40 D) \$17.60
- 97) If \$4,800 of the costs are fixed, and the plant manager uses the average cost per unit to predict total costs, his forecast for 2,200 birdhouses will be 97) _____
 A) \$4,000. B) \$40,000. C) \$44,000. D) \$43,520.
- 98) If \$4,800 of the costs are fixed, and the plant manager uses the cost equation to predict total costs, his forecast for 2,200 birdhouses will be 98) _____
 A) \$40,000. B) \$43,520. C) \$44,000. D) \$4,000.

Answer the following question(s) using the information below.

Angry Bird produces decorative birdhouses. The company's average cost per unit is \$40.00 at a production level of 2,000 birdhouses. What is the total cost of producing 2,000 birdhouses?

- 99) What is the total cost of producing 2,000 birdhouses? 99) _____
 A) \$20,000 B) \$80,000 C) \$40 D) \$40,000
- 100) If \$10,000 of the total costs are fixed, what is the variable cost of producing each birdhouse? 100) _____
 A) \$17.50 B) \$35.00 C) \$40.00 D) \$25.00
- 101) If \$10,000 of the costs are fixed, and the plant manager uses the average cost per unit to predict total costs, his forecast for 2,200 birdhouses will be 101) _____
 A) \$92,000. B) \$40,000. C) \$88,000. D) \$44,000.

- 102) If \$10,000 of the costs are fixed, and the plant manager uses the cost equation to predict total costs, his forecast for 2,200 birdhouses will be 102) _____
A) \$43,500. B) \$40,000. C) \$87,000. D) \$92,000.

Answer the following question(s) using the information below.

The Clauson Company has total fixed costs of \$400,000. They also have \$120,000 in total variable costs. These costs exist at a production level of 80,000 units.

- 103) The Clauson Company variable cost per unit is 103) _____
A) \$5.00. B) \$3.50. C) \$1.50. D) \$6.50.
- 104) The Clauson Company fixed cost per unit is 104) _____
A) \$5.00. B) \$3.50. C) \$6.50. D) \$1.50.

Answer the following question(s) using the information below.

Pedro Company has total fixed costs of \$480,000. Total fixed and variable costs are \$600,000 at a production level of 125,000 units.

- 105) At Pedro Company the fixed cost per unit at a production level of 300,000 units is 105) _____
A) \$2.00. B) \$3.20. C) \$1.60. D) \$4.00.
- 106) At Pedro Company the variable cost per unit at 300,000 units is 106) _____
A) the same as at 150,000 units. B) greater than at 150,000 units.
C) dependent upon fixed costs per unit. D) less than at 150,000 units.
- 107) At Pedro Company the variable cost per unit at 300,000 units is 107) _____
A) \$3.20. B) \$0.96. C) \$0.40. D) \$4.00.

Answer the following question(s) using the information below.

Harbour Manufacturing is trying to predict the cost associated with producing its anchors. At a production level of 4,000 anchors, Harbour Manufacturing's average cost per anchor is \$150.00.

- 108) At Harbour Manufacturing what is the total cost of producing 4,000 anchors? 108) _____
A) \$200,000 B) \$600,000 C) \$50 D) \$150.
- 109) At Harbour Manufacturing if \$200,000 of the total costs are fixed, what is the variable cost of producing each anchor? 109) _____
A) \$45 B) \$100 C) \$50 D) \$20
- 110) If the plant manager uses the average cost per unit to predict total costs, her forecast for 5,000 anchors will be 110) _____
A) \$700,000. B) \$900,000. C) \$750,000. D) \$600,000.

- 111) At Harbour Manufacturing if \$200,000 of the costs are fixed, and the plant manager uses the cost equation to predict total costs, her forecast for 5,000 anchors will be 111) _____
 A) \$50,000. B) \$250,000. C) \$245,000. D) \$200,000.
- 112) At 5,000 anchors, total fixed costs will be 112) _____
 A) \$200,000. B) \$900,000. C) \$250,000. D) \$750,000.

Answer the following question(s) using the information below.

Mountain Manufacturing is trying to predict the cost associated with producing its hiking packs. At a production level of 20,000 packs, Mountain Manufacturing's average cost per pack is \$70.00.

- 113) At Mountain Manufacturing what is the total cost of producing 20,000 packs? 113) _____
 A) \$1,600,000 B) \$1,400,000 C) \$1,200,000 D) \$700,000
- 114) At Mountain Manufacturing if \$200,000 of the total costs are fixed, what is the variable cost of producing each pack? 114) _____
 A) \$70 B) \$60 C) \$50 D) \$40
- 115) At Mountain Manufacturing if \$200,000 of the costs are fixed, and the plant manager uses the average cost per unit to predict total costs, her forecast for 25,000 packs will be 115) _____
 A) \$700,000. B) \$1,550,000. C) \$1,750,000. D) \$1,400,000.
- 116) At Mountain Manufacturing if \$200,000 of the costs are fixed, and the plant manager uses the cost equation to predict total costs, her forecast for 25,000 packs will be 116) _____
 A) \$1,500,000. B) \$1,700,000. C) \$1,400,000. D) \$1,750,000.

Answer the following question(s) using the information below.

The following data pertain to costs at Martin Company:

Total fixed costs	\$250,000
Total variable costs	\$80,000
Production level	40,000 units

- 117) The variable cost per unit at the Martin Company is 117) _____
 A) \$8.25. B) \$2.00. C) \$6.25. D) \$4.25.
- 118) The fixed cost per unit at the Martin Company is 118) _____
 A) \$2.00. B) \$8.25. C) \$4.25. D) \$6.25.

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

- 119) Write the cost equation for the Martin Company - substituting y for total costs and x for the number of units produced. 119) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Answer the following question(s) using the information below.

The following data pertain to costs at Martin Company:

Total fixed costs	\$250,000
Total variable costs	\$80,000
Production level	40,000 units

- 120) If Martin Company increased production to 50,000 units then the fixed cost per unit would be 120) _____
A) \$6.25. B) \$8.75. C) \$1.50. D) \$5.00.
- 121) If Martin Company increased production to 50,000 units then the variable cost per unit would be 121) _____
A) \$1.60. B) \$1.50. C) \$5.00. D) \$2.00.

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

- 122) Write the cost equation for the Martin Company - substituting y for total costs and x for the number of units produced. 122) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Answer the following question(s) using the information below.

At Raines Company, total fixed and variable costs are \$480,000 at a production level of 140,000 units. The company has total fixed costs of \$200,000.

- 123) At Raines Company the fixed cost per unit at a production level of 200,000 units is 123) _____
A) \$2.40. B) \$1.00. C) \$1.43. D) \$3.43.
- 124) At Raines Company the variable cost per unit at 200,000 units is 124) _____
A) \$2.00. B) \$3.43. C) \$1.40. D) \$1.43.
- 125) If Raines Company reduces production to 180,000 units then the fixed cost per unit will be 125) _____
A) \$1.15. B) \$1.11. C) \$1.00. D) \$1.18.
- 126) If Raines Company reduces production to 180,000 units then the variable cost per unit will be 126) _____
A) \$1.18. B) \$1.11. C) \$2.00. D) \$1.15.

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

- 127) Write the cost equation for Raines Company - substituting y for total costs and x for the number of units produced. 127) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Answer the following question(s) using the information below.

The following data pertain to costs at Richardson Company:

Total fixed costs	\$750,000
Total variable costs	\$110,000
Production level	40,000 units

- 128) At Richardson Company the variable cost per unit is 128) _____
A) \$3.75. B) \$21.50. C) \$18.75. D) \$2.75.
- 129) At Richardson Company the average cost per unit is 129) _____
A) \$2.75. B) \$18.75. C) \$3.75. D) \$21.50.
- 130) If Richardson Company increases production to 50,000 units then the fixed cost per unit will be 130) _____
A) \$15.00. B) \$17.20. C) \$18.75. D) \$21.50.
- 131) If Richardson Company increases production to 50,000 units then the variable cost per unit will be 131) _____
A) \$2.75. B) \$2.00. C) \$3.25. D) \$2.20.
- 132) If Richardson Company increases production to 50,000 units then the average cost per unit will be 132) _____
A) \$19.20. B) \$17.20. C) \$21.50. D) \$17.75.

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

- 133) Write the cost equation for the Richardson Company - substituting y for total costs and x for the number of units produced. 133) _____
- 134) What is the total cost of producing 50,000 units? 134) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Answer the following question(s) using the information below.

The following data pertain to costs at Masters Company:

Total fixed costs	\$980,000
Total variable costs	\$212,000
Production level	80,000 units

- 135) At Masters Company the variable cost per unit is 135) _____
A) \$14.90. B) \$12.25. C) \$2.65. D) \$2.35.
- 136) At Masters Company the average cost per unit is 136) _____
A) \$2.35. B) \$12.25. C) \$14.90. D) \$2.65.

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

- 137) Answer the following questions: 137) _____
1. What is a cost equation?
2. If a company has fixed costs of \$1,000 and variable costs of \$2 per unit, what is their cost equation?
3. What would a company use a cost equation for?
- 138) Your internet provider charges a fixed monthly fee of \$20.00 plus \$0.03 cents per on-line minute. Under this plan what is your monthly internet fee if you are on-line for 138) _____
a. 3 hrs ?
b. 12 hours and 40 minutes ?
c. 6 hours ?
- 139) Your telephone service provider charges a fixed monthly fee of \$80.00 plus \$0.10 cents per call for calls within Canada and \$0.50 per minute for international calls. Under this plan what is your monthly phone cost if you make 100 calls within Canada and 45 minutes of international calls? 139) _____
- 140) Your telephone service provider charges a fixed monthly fee of \$90.00 plus \$0.15 cents per call for calls within Canada and \$0.75 per minute for international calls. Under this plan what is your monthly phone cost if you make 150 calls within Canada and 160 minutes of international calls? 140) _____
- 141) Your telephone service provider charges a fixed monthly fee of \$85.00 plus \$0.25 cents per call for calls within Canada and \$0.90 per minute for international calls. Under this plan what is your monthly phone cost if you make 160 calls within Canada and 200 minutes of international calls? 141) _____

- 142) The controller for Truman Canoes has gathered the following cost and activity level information:

142) _____

Average total cost per unit	\$300.00
Production level used to calculate average cost	2,000
Total fixed costs	\$200,000

Required:

1. What is the total cost of producing 2,000 fiberglass canoes?
2. What is the variable cost of producing each fiberglass canoe?
3. Suppose the controller uses the average cost to predict total costs. What total cost would the controller calculate for 3,000 fiberglass canoes?
4. If the controller uses the cost equation to predict total costs, what total cost would the controller calculate for 3,000 fiberglass canoes?
5. Is there a difference between the forecasted total cost using average cost versus the cost equation? If there is a difference, what creates the difference? If there is no difference, when would there be a difference?

- 143) The controller for Andy's Bicycles has gathered the following cost and activity level information:

143) _____

Average total cost per unit	\$225.00
Production level used to calculate average cost	1,000
Total fixed costs	\$80,000

- a. What is the total cost of producing 1,000 racing bicycles?
- b. What is the variable cost of producing each racing bicycle?
- c. Suppose the controller uses the average cost to predict total costs. What total cost would the controller calculate for 2,500 racing bicycles?
- d. If the controller uses the cost equation to predict total costs, what total cost would the controller calculate for 2,500 racing bicycles?
- e. Is there a difference between the forecasted total cost using average cost versus the cost equation? If there is a difference, what creates the difference? If there is no difference, when would there be a difference?

- 144) Cute Wheels Cars produces custom wheels. The company's average cost per wheel is \$189 when it produces 5,000 wheels per month.

144) _____

Required:

1. What is the total cost of producing 5,000 wheels?
2. If \$500,000 of the total cost is fixed, what is the variable cost of producing each wheel?
3. What is Cute Wheels cost equation?
4. What is the expected total cost of producing 7,000 wheels in a month?

145) Cute Wheels Cars produces custom wheels. The company's average cost per wheel is \$160 when it produces 2,000 wheels per month. 145) _____

Required:

1. What is the total cost of producing 2,000 wheels?
2. If \$100,000 of the total cost is fixed, what is the variable cost of producing each wheel?
3. What is Cute Wheels cost equation?
4. What is the expected total cost of producing 3,000 wheels in a month?

146) Travel Throne Inc. produces after-market heated seats for motorcycles. The company's average cost per seat is \$350.00 when it produces 6,000 seats per month. 146) _____

Required:

1. What is the total cost of producing 6,000 seats?
2. If \$750,000 of the total cost is fixed, what is the variable cost of producing each seat?
3. What is Travel Throne's cost equation?
4. What is the expected total cost of producing 7,000 seats in a month?

147) Travel Throne Inc. produces after-market heated seats for motorcycles. The company's average cost per seat is \$450.00 when it produces 2,500 seats per month. 147) _____

Required:

1. What is the total cost of producing 2,500 seats?
2. If \$425,000 of the total cost is fixed, what is the variable cost of producing each seat?
3. What is Travel Throne's cost equation?
4. What is the expected total cost of producing 3,500 seats in a month?

148) Northern Lights Electric Ltd. (NLE) is a small electric utility servicing small northern communities. The company currently sends monthly bills to its customers via the community post offices. Because of a concern for the environment and recent increases in postal rates, NLE management is considering offering an option to its customers for paperless billing. In addition to saving printing, paper, and postal costs, paperless billing will save energy and water (through reduced paper needs, reduced waste disposal, and reduced transportation needs.) While the company's management would like to switch to 100% paperless billing, many of its customers are not comfortable with paperless billing or may not have web access, so the paper billing option will remain regardless of whether NLE adopts a paperless billing system or not.

The cost of the paperless billing system would be \$150,000 per year with no variable costs; the costs of the system are the salaries of the clerks and the cost of leasing the computer system. The paperless billing system being proposed would be able to handle up to 200,000 bills per quarter (more than 200,000 bills per quarter would require a different computer system and is outside the scope of the current situation at NLE.)

NLE has gathered its cost data for the past year by quarter for paper, toner cartridges, printer maintenance costs, and postage costs for its billing department. The cost data is as follows:

	Quarter 1	Quarter 2	Quarter 3	Quarter 4
# of bills mailed	112,670	113,900	114,970	115,000
Cost for paper, postage, etc.	\$130,325	\$133,600	\$134,710	\$135,000

The company projects that it will process a total of 460,000 bills next year.

Required:

1. Calculate the average variable cost per bill under the current paper-based billing system (rounded to the nearest cent).
2. What will be the effect on operating income if 30% of the customers switch to electronic billing?
3. Provide an example of a qualitative factor that would influence management's decision to adopt an electronic billing system.

TRUE/FALSE. Write 'T' if the statement is true and 'F' if the statement is false.

149) When performing account analysis, managers decide how to classify each account as a variable, fixed or mixed cost.

149) _____

150) Indirect materials would likely be classified as fixed costs.

150) _____

151) It is possible that wages paid to employees could be classified as both fixed and variable costs.

151) _____

152) After performing account analysis, a mixed cost account can be separated into its fixed and variable amounts.

152) _____

153) If the data points in a scatter plot fall in a fairly straight line, it means that there is a fairly weak relationship between cost and volume.

153) _____

154) If there is little or no relationship between the cost and volume, the data points on a scatter plot will appear almost random.

154) _____

- 155) A scatter plot helps managers visualize the relationship between historical costs and volume. 155) _____
- 156) A scatter plot will not help managers identify potential outliers. 156) _____
- 157) If a scatter plot reveals a fairly weak relationship between cost and volume, the cost equation based on that data should be very useful for predicting future costs. 157) _____
- 158) If a scatter plot reveals a fairly weak relationship between cost and volume, the manager should select a different activity for modeling cost behaviour. 158) _____
- 159) Outliers are data points that do not fall in the same general pattern as the other data points. 159) _____
- 160) Outliers are normal data points. 160) _____
- 161) If a manager sees a potential outlier in the data, he or she should first determine whether the data is correct. 161) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 162) Using account analysis, what type of cost is the rental of a space at \$2,000 per month?
A) Fixed B) Mixed C) Step D) Variable 162) _____
- 163) Using account analysis, what type of cost is utilities if you are charged \$40 for the first 200 kilowatts hours, \$85 for 201 - 400 kilowatt hours, and \$135 for 401-600 kilowatt hours?
A) Fixed B) Mixed C) Step D) Variable 163) _____
- 164) Using account analysis, what type of cost is the local phone service which charges a flat fee for unlimited local calls?
A) Fixed B) Mixed C) Step D) Variable 164) _____
- 165) Using account analysis, what type of cost is the price of gasoline when your car uses 9.8 litres per 100 kilometres and each litre costs \$1.15?
A) Fixed B) Mixed C) Step D) Variable 165) _____
- 166) Using account analysis, what type of cost is Satellite TV when the charge is \$30.00 per month plus \$3.99 for pay-per-view movies?
A) Fixed B) Mixed C) Step D) Variable 166) _____
- 167) Using account analysis, what type of cost is the purchase of a cup of coffee on the way to school?
A) Fixed B) Mixed C) Step D) Variable 167) _____

- 168) Using account analysis, what type of cost is a student activity pass that costs \$50 plus \$5.00 per event? 168) _____
 A) Fixed B) Mixed C) Step D) Variable
- 169) Manufacturing overhead is usually what type of cost? 169) _____
 A) Step B) Variable C) Fixed D) Mixed
- 170) When managers use their judgment to classify costs as variable, fixed, or mixed, which method are they using? 170) _____
 A) High-low method B) Account analysis
 C) Low-high method D) Regression analysis
- 171) When preparing a scatter plot, how should the data be graphed? 171) _____
 A) Volume data on the z-axis B) Volume data on the y-axis
 C) Cost data on the x-axis D) Cost data on the y-axis

Answer the following question(s) using the information below.

Penny's TV and Appliance Store is a small company that has the following information pertaining to current year operations.

Sales (2,000 televisions)	\$900,000
Cost of goods sold	400,000
Store manager's salary per year	70,000
Operating costs per year	157,000
Advertising and promotion per year	15,000
Commissions (4% of sales)	36,000

- 172) What was the Penny's TV variable cost per unit sold? 172) _____
 A) \$200 B) \$235 C) \$339 D) \$218
- 173) What were total fixed costs at Penny's TV for the current year? 173) _____
 A) \$227,000 B) \$436,000 C) \$278,000 D) \$242,000
- 174) What are the estimated total costs if Penny's expects to sell 3,000 units next year? 174) _____
 A) \$896,000 B) \$1,259,000 C) \$678,000 D) \$542,000

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

- 175) Using account analysis, determine the type of cost described by the following data: 175) _____

Activity	Cost
1,000	\$ 450
1,200	\$ 540
1,300	\$ 585
1,500	\$675

176) Using account analysis, determine the type of cost described by the following data:

176) _____

Activity	Cost
1,000	\$ 650
1,200	\$ 740
1,300	\$ 785
1,500	\$875

177) Using account analysis, determine the type of cost described by the following data:

177) _____

Activity	Cost
1,000	\$ 1,000
1,200	\$ 1,000
1,300	\$ 1,000
1,500	\$ 1,000

ESSAY. Write your answer in the space provided or on a separate sheet of paper.

178) Describe the scattergraph method. Discuss the advantages and disadvantages of using the scattergraph method.

TRUE/FALSE. Write 'T' if the statement is true and 'F' if the statement is false.

179) When using the high-low method, fixed costs and variable costs appear in the same cost equation. 179) _____

180) The high-low method uses only two of the historical data points for estimating a cost equation. 180) _____

181) When using the high-low method, the "high" point should be chosen as the data point with the highest volume (not the highest cost). 181) _____

182) When using the high-low method, the "low" point should be chosen as the data point with the lowest cost (not the lowest volume). 182) _____

183) When using the high-low method, the "low" point should be chosen as the data point with the lowest cost. 183) _____

184) When using the high-low method, the "high" point should be chosen as the data point with the highest cost. 184) _____

185) When using the high-low method using an outlier as a data point is acceptable as long as the outlier is within the relevant range. 185) _____

186) The high-low method can be used to determine a cost function for mixed costs. 186) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 187) The data points with the _____ and _____ should be selected for use in the high-low method. 187) _____
A) highest volume; the lowest volume B) highest cost; the lowest volume
C) highest volume; the lowest cost D) highest cost; the lowest cost
- 188) When using the high-low method, what step is performed first? 188) _____
A) Write the cost equation. B) Find the vertical intercept.
C) Find the slope. D) Predict total cost.
- 189) When using the high-low method, what is the correct order of the following three steps? 189) _____
i. Write the cost equation.
ii. Find the vertical intercept.
iii. Find the slope.
A) i, ii, iii B) iii, i, ii C) ii, iii, i D) iii, ii, i
- 190) When using the high-low method, the variable cost per unit can be found as the 190) _____
A) run over rise. B) change in volume over change in cost.
C) vertical intercept. D) rise over run.
- 191) When using the high-low method, the variable cost per unit can be found as the 191) _____
A) change in cost divided by the change in volume.
B) vertical intercept.
C) average cost per unit at the "high" point minus the average cost per unit at the "low" point.
D) change in volume over change in cost.
- 192) When using the high-low method, what data point can be used to solve for the fixed cost component if months are on the X axis? 192) _____
A) The "high" point B) The "low" point
C) Either the "high" or the "low" point D) Any point in the data set
- 193) The tennis club where you play tennis charges \$35.00 per month and \$12.00 per hour of court time. If your bill for last month is \$131.00, how many hours did you use? 193) _____
A) 12 hours B) 3 hours C) 8 hours D) 11 hours

Answer the following question(s) using the information below.

Ricco was reviewing the water bill for his carwash business and determined that the highest bill, \$6,000, occurred in July when cars were washed. The lowest bill, \$4,500, occurred in February when 1,000 cars were washed. Use the high-low method to answer the following questions.

- 194) What was the variable cost per carwash? 194) _____
A) \$1.50 B) \$3.00 C) \$0.67 D) \$4.50

- 195) What was the fixed portion of the water bill at the car wash? 195) _____
 A) \$1,500 B) \$3,000 C) \$5,000 D) \$5,250
- 196) What is the estimated cost of water at the car wash if 1,700 cars are expected to be washed? 196) _____
 A) \$4,900 B) \$6,500 C) \$5,750 D) \$5,550

Answer the following question(s) using the information below.

Sunny's Frozen Treats is a snow cone stand near the local park. To plan for the future, Sunny wants to determine his cost behavior patterns. He has the following information available about his operating costs and the number of snow cones served.

Month	Number of snow cones	Total operating costs
January	7,200	\$4,700
February	8,000	\$5,800
March	6,000	\$4,600
April	6,600	\$4,500
May	7,700	\$5,100
June	7,250	\$5,000

- 197) The variable cost per snow cone using the high-low method is 197) _____
 A) \$0.73. B) \$0.77. C) \$0.60. D) \$1.67.
- 198) Using the high-low method, Sunny's fixed costs for a month are 198) _____
 A) \$1,000. B) \$4,800. C) \$1,200. D) \$10,400.
- 199) Using the high-low method, the monthly operating costs—if Sunny sells 7,500 snow cones in a month—are 199) _____
 A) \$5,500. B) \$9,300. C) \$4,500. D) \$1,000.

Answer the following question(s) using the information below.

Crystal Clear Water Hauling wants to determine a fuel surcharge to add to its customers' bills based on the number of kilometres driven to each area. It wants to separate the fixed and variable portion of the truck's operating costs so it has a better idea of how distance affects these costs. Crystal Clear Water Hauling has the following data available.

Month	Kilometres driven	Total operating costs
January	15,900	\$27,500
February	17,300	\$29,910
March	18,500	\$29,830
April	16,100	\$28,600
May	17,100	\$28,800
June	15,500	\$26,830

- 200) The variable cost per kilometre using the high-low method is 200) _____
 A) \$1.00. B) \$0.97. C) \$1.61. D) \$1.73.

- 201) Using the high-low method for Crystal Clear Water Hauling, the fixed costs in a month are 201) _____
 A) \$18,500. B) \$3,000. C) \$56,660. D) \$11,330.
- 202) Using the high-low method, the monthly operating costs if Crystal Clear Water Hauling drives 202) _____
 18,000 kilometres in a month will be
 A) \$29,330 B) \$11,330 C) \$36,500 D) \$18,000

Answer the following question(s) using the information below.

The manager at Copley Mulch has been trying to calculate the portion of the company's overhead expenses that is fixed and the portion that is variable. Over the past twelve months, the number of square metres of mulch processed was highest in July, with total monthly overhead costs totaled \$6,000 for 25,000 square metres of mulch processed. The lowest number of square metres of mulch processed in the last twelve months occurred in October, when total overhead costs were \$4,000 for 15,000 square metres of mulch processed. Use the high-low method to answer the following questions.

- 203) What was the variable cost per square metre at Copley Mulch? 203) _____
 A) \$5.00 B) \$0.27 C) \$0.24 D) \$0.20
- 204) What is the fixed portion of the monthly overhead expenses at Copley Mulch? 204) _____
 A) \$1,000 B) \$9,000 C) \$5,000 D) \$4,000
- 205) What is the estimated monthly overhead expense at Copley Mulch if volume is expected to be 205) _____
 21,000 square metres of mulch?
 A) \$5,200 B) \$5,600 C) \$5,000 D) \$4,500

Answer the following question(s) using the information below.

Below is information about the units produced and total manufacturing costs for Snow Enterprises for the past six months

Month	Number of units produced	Total manufacturing costs
January	7,940	\$5,900
February	7,500	\$5,460
March	6,400	\$5,000
April	6,600	\$5,500
May	4,740	\$5,100
June	7,800	\$5,840

- 206) Using the high-low method, what is the variable cost per unit at Snow Enterprises? 206) _____
 A) \$1.08 B) \$0.74 C) \$4.00 D) \$0.25
- 207) Using the high-low method, what is the monthly fixed manufacturing cost at Snow Enterprises? 207) _____
 A) \$11,000 B) \$3,915 C) \$1,985 D) \$800
- 208) Using the high-low method, what will the total monthly manufacturing costs be if Snow 208) _____
 Enterprises produces 7,500 units?
 A) \$5,790 B) \$3,860 C) \$1,875 D) \$3,915

Answer the following question(s) using the information below.

Maintenance costs at Red Dot Manufacturing over the past six months are listed in the following table.

Month	Maintenance cost	Machine hours
January	\$9,500	15,800
February	\$9,860	17,300
March	\$8,600	14,500
April	\$8,840	16,100
May	\$8,600	17,100
June	\$8,100	15,500

- 209) Using the high low method, what is the variable maintenance cost per machine hour at Red Dot Manufacturing? 209) _____
- A) \$0.57 B) \$0.45 C) \$2.22 D) \$0.59
- 210) Using the high low method, what is the monthly fixed maintenance cost at Red Dot Manufacturing? 210) _____
- A) \$7,785 B) \$18,460 C) \$2,075 D) \$1,260
- 211) Using the high low method, what is the total maintenance costs at Red Dot Manufacturing if 18,000 machine hours were used? 211) _____
- A) \$15,660 B) \$10,175 C) \$7,875 D) \$9,950

Answer the following question(s) using the information below.

The controller of Menno Corp presents you with the following observations in a general ledger account called Maintenance:

Month	Machine-hours	Maintenance Costs Incurred
January	6,000	\$4,000
February	8,000	4,750
March	8,500	4,900
April	9,000	5,000
May	7,000	4,400
June	10,000	5,400

- 212) Using the high-low method, what is the variable maintenance cost per machine hour at Menno Corp? 212) _____
- A) \$0.35 B) \$1.50 C) \$0.67 D) \$0.54
- 213) Using the high-low method, what is the monthly fixed maintenance cost at Menno Corp? 213) _____
- A) \$7,785 B) \$1,900 C) \$18,460 D) \$1,260

- 214) Using the high-low method, what will the total monthly manufacturing costs be if Menno Corp produces 7,500 units? 214) _____
- A) \$4,525 B) \$4,050 C) \$5,555 D) \$2,625

Answer the following question(s) using the information below.

Fast Food College has recently opened a restaurant as part of its hospitality major. The manager gathered the following data for the first five weeks of operations. Knowing you are currently taking a managerial accounting course he has asked that you analyze the data.

Week	Number of customers per week	Weekly total restaurant costs incurred
1	1,500	\$33,600
2	1,600	35,850
3	1,750	38,455
4	1,633	36,204
5	1,850	40,600
6	1,790	39,468

- 215) Using the high-low method, what is the variable cost per customer at Fast Food College's restaurant? 215) _____
- A) \$22.40 B) \$20.00 C) \$21.95 D) \$0.46
- 216) Using the high-low method, what is the fixed cost per week at Fast Food College's restaurant? 216) _____
- A) \$3,600 B) \$1,260 C) \$7,785 D) \$18,460
- 217) Using the high-low method, what will the total monthly manufacturing costs be if the College's restaurant produces 1,650 units? 217) _____
- A) \$36,210 B) \$36,600 C) \$36,960 D) \$33,000

Answer the following question(s) using the information below.

Gourmet College has recently opened a restaurant as part of its hospitality major. The manager gathered the following data for the first five weeks of operations. Knowing you are currently taking a managerial accounting course he has asked that you analyze the data.

Week	Number of customers per week	Weekly total restaurant costs incurred
1	1,200	\$25,200
2	1,600	26,890
3	1,750	28,840
4	1,633	27,150
5	1,900	38,150
6	1,790	29,600

- 218) Using the high-low method, what is the variable cost per customer at the Gourmet College restaurant? 218) _____
 A) \$18.50 B) \$20.08 C) \$7.45 D) \$18.75
- 219) Using the high-low method, what is the fixed cost per week at the Gourmet College restaurant? 219) _____
 A) \$18,460 B) \$7,785 C) \$3,000 D) \$1,260
- 220) Using the high-low method, what will the total monthly manufacturing costs be if the College's restaurant produces 1,850 units? 220) _____
 A) \$37,225 B) \$4,525 C) \$5,555 D) \$2,625

Use the information below to answer the following question(s).

The Monroe Company uses the high-low method to estimate the cost function. The information for the current year is provided below.

	Machine Hours	Labour Costs
Highest observation of cost driver	240	\$4,000
Lowest observation of cost driver	110	2,960

- 221) What is Monroe Company's variable labour cost per machine hour? 221) _____
 A) \$18.00 B) \$26.91 C) \$16.67 D) \$8.00
- 222) What is the fixed for the estimating cost equation? 222) _____
 A) \$3,970 B) \$2,960 C) \$4,000 D) \$2,080
- 223) What is the estimate of Monroe's labour cost when 200 machine hours are used? 223) _____
 A) \$3,680.00 B) \$2,280.00 C) \$1,840.00 D) \$1,997.50

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

- 224) Stella Services has a customer website to take orders, answer customer questions, and address customer complaints. The costs associated with this customer website over the past six months are listed below:

224) _____

Month	Customer website costs	Number of website hits
January	\$15,000	9,000
February	\$15,400	9,200
March	\$16,000	10,200
April	\$15,950	9,700
May	\$14,500	8,200
June	\$14,800	8,800

Management at Stella Services believes that the customer website costs are a mixed cost and would like to use the high-low method to estimate their future costs using the number of website hits in any given month as the cost driver.

Required:

1. Using the high-low method, estimate the variable cost per website hit and the monthly fixed costs associated with the customer website.
2. Write the cost equation for estimating the customer website expenses for Stella Service using the results from Requirement 1.
3. If Stella Services expects 9,500 website hits for July, what are their anticipated customer website costs for July?

- 225) To follow is information about the units produced and total manufacturing costs for Darryl Rug Company for the past six months.

225) _____

Month	Number of units produced	Total manufacturing costs
January	28,800	\$21,500
February	31,200	\$22,500
March	25,200	\$19,500
April	26,400	\$20,000
May	30,800	\$23,000
June	29,000	\$21,900

Darryl Rug Company uses the high-low method to estimate its costs.

Answer the following questions:

1. What is the variable cost per unit?
2. What is the monthly fixed manufacturing cost?
3. Write the cost equation that could be used to predict Darryl Rug Company's total manufacturing costs.
4. What will the total monthly manufacturing costs be if the company produces 28,000 units?

- 226) The controller of Menno Corp presents you with the following observations in a general ledger account called Maintenance:

226) _____

Month	Machine-hours	Maintenance Costs Incurred
January	6,000	\$4,000
February	8,000	4,750
March	8,500	4,900
April	9,000	5,000
May	7,000	4,400
June	10,000	5,400

Using the high-low method estimate the cost function for Menno Corp.'s monthly maintenance costs

- 227) Fast Food College has recently opened a restaurant as part of its hospitality major. The manager gathered the following data from the first five weeks of operations. Knowing you are currently taking a managerial accounting course he has asked that you analyze the data

227) _____

Week	Number of customers per week	Weekly total restaurant costs incurred
1	1,500	\$33,600
2	1,600	35,850
3	1,750	38,455
4	1,633	36,204
5	1,850	40,600
6	1,790	39,468

Using the high-low method estimate the weekly cost function for the restaurant costs.

- 228) Gourmet College has recently opened a restaurant as part of its hospitality major. The manager gathered the following data from the first five weeks of operations. Knowing you are currently taking a managerial accounting course he has asked that you analyze the data.

228) _____

Week	Number of customers per week	Weekly total restaurant costs incurred
1	1,200	\$25,200
2	1,600	26,890
3	1,750	28,840
4	1,633	27,150
5	1,900	38,150
6	1,790	29,600

Using the high-low method estimate the weekly cost function for the restaurant costs.

- 229) Gourmet College has recently opened a restaurant as part of its hospitality major. The manager gathered the following data from the first five weeks of operations. The college is beginning its summer break and the manager expects the number of customers to be only 800 per week for the next few weeks.

229) _____

Week	Number of customers per week	Weekly total restaurant costs incurred
1	1,400	\$36,375
2	1,650	36,890
3	1,775	37,840
4	1,833	37,150
5	1,900	38,000
6	1,890	38,150

Using the high-low method estimate the weekly costs if the number of customers is 800.

- 230) Presented below are the production data for the first six months of the year for the mixed costs incurred by Gallup Company.

230) _____

<u>Month</u>	<u>Cost</u>	<u>Units</u>
January	\$4,890	4,100
February	4,024	3,200
March	6,480	5,300
April	8,840	7,500
May	5,800	4,800
June	7,336	6,600

Required:

Using the high-low method determine the forecasted cost for July if the number of units produced is expected to be 5,000.

- 231) The Gangwere Company has assembled the following data pertaining to certain costs that cannot be easily identified as either fixed or variable. Gangwere Company has heard about a method of measuring cost functions called the high-low method and has decided to use it in this situation.

231) _____

<u>Month</u>	<u>Cost</u>	<u>Hours</u>
January	\$40,000	3,500
February	24,400	2,000
March	31,280	2,450
April	36,400	3,000
May	44,160	3,900
June	42,400	3,740

Required:

Using the high-low method determine the forecasted cost for July if the number of hours used is expected to be 3,200.

TRUE/FALSE. Write 'T' if the statement is true and 'F' if the statement is false.

- 232) The intercept-coefficient in regression analysis yields the fixed cost portion of the total costs.

232) _____

- 233) The X Variable 1 Coefficient in regression analysis yields the variable cost per unit of activity. 233) _____
- 234) A high R-square statistic of +1 indicates a perfect level of correlation between costs and the cost driver. 234) _____
- 235) The cost equation determined using the high-low method should be the same as the cost equation determined using regression analysis. 235) _____
- 236) The line determined by regression analysis is sometimes referred to as the "line of best fit." 236) _____
- 237) The "intercept coefficient" determined by regression analysis is sometimes referred to as the "goodness-of-fit" statistic. 237) _____
- 238) The cost equation determined by regression analysis is usually less accurate than the line determined by the high-low method. 238) _____
- 239) In a regression output, the "intercept coefficient" represents the fixed cost component of a mixed cost equation. 239) _____
- 240) In a regression output, the "X variable 1 coefficient" represents the fixed cost component of a mixed cost equation. 240) _____
- 241) A "perfect" straight line would render an R-square value of zero. 241) _____
- 242) If the data points were randomly scattered, the R-square value would be closer to 1 than 0. 242) _____
- 243) An R-square value over .80 generally indicates that the cost equation is very reliable for predicting costs at other volumes within the relevant range. 243) _____
- 244) Regression analysis can be used in ABC implementations to help managers select the primary cost driver for an activity cost pool. 244) _____
- 245) An R-square value of 1.0 indicates a perfect relationship between the volume of activity and the cost being analyzed. 245) _____
- 246) Regression analysis uses all data points, not just the highest and lowest volume data points. 246) _____
- 247) Regression analysis uses only two of the historical data points for estimating a cost equation. 247) _____
- 248) In regression analysis, the R-square statistic measures the goodness of fit of the regression line. 248) _____
- 249) In regression analysis, an R-square statistic of 0.3 indicates that the relationship between the cost driver and the total cost is weak. 249) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

250) A regression equation's variable cost per unit is represented by the _____ on the regression analysis output. 250) _____

- A) Intercept coefficient
B) X variable 1 coefficient
C) R-square
D) Residual

251) A regression equation's fixed cost component is represented by the _____ on the regression analysis output. 251) _____

- A) Intercept coefficient
B) X variable 1 coefficient
C) R-square
D) Residual

252) A regression equation's "goodness of fit" is represented by the _____ on the regression analysis output. 252) _____

- A) Intercept coefficient
B) X variable 1 coefficient
C) R-square
D) Residual

253) The slope of a mixed cost line is represented by the _____ on the regression analysis output. 253) _____

- A) Intercept coefficient
B) X variable 1 coefficient
C) R-square
D) Residual

254) Your client's company wants to determine the relationship between its monthly operating costs and potential cost driver. The output of regression analysis showed the following information: 254) _____

Intercept Coefficient = 89,620
X Variable 1 Coefficient = 62.53
R-square = 0.9852

What is the company's monthly cost equation?

- A) $y = \$62.53x + \$89,620$
B) $y = \$98.52x + \$89,620$
C) $y = \$89,620x + \98.52
D) $y = \$89,620x + \62.98

255) Your client's company wants to determine the relationship between its monthly operating costs and potential cost driver. The output of regression analysis showed the following information: 255) _____

Intercept Coefficient = 89,620
X Variable 1 Coefficient = 62.53
R-square = 0.9852

What is the company's monthly fixed cost?

- A) \$0.9852
B) \$89,683 (rounded)
C) \$89,620
D) \$62.53

256) Your client's company wants to determine the relationship between its monthly operating costs and potential cost driver. The output of regression analysis showed the following information: 256) _____

Intercept Coefficient = 89,620
X Variable 1 Coefficient = 62.53
R-square = 0.9852

What is the company's variable cost per unit?

- A) \$89,683 B) \$0.9852 C) \$62.53 D) \$89,620

257) Your client's company wants to determine the relationship between its monthly operating costs and potential cost driver. The output of regression analysis showed the following information: 257) _____

Intercept Coefficient = 89,620
X Variable 1 Coefficient = 62.53
R-square = 0.9852

Should your client use this information to predict monthly operating costs?

- A) Yes, because R-square is so high.
B) Yes, because regression analysis can be relied upon.
C) No, because R-square is so high.
D) There is not enough information to make this prediction.

258) If a regression analysis shows an R factor of 0.13, it is safe to assume 258) _____

- A) a strong positive relationship between cost and volume.
B) a very weak relationship between cost and volume.
C) a perfect positive relationship between cost and volume
D) a strong negative relationship between cost and volume.

259) If a regression analysis shows an R squared of .85 exists, it is safe to assume 259) _____

- A) a strong positive relationship between cost and volume.
B) no relationship between cost and volume.
C) a strong negative relationship between cost and volume.
D) a perfect positive relationship between cost and volume.

Answer the following question(s) using the information below.

Vanco Industries wanted to determine the relationship between its monthly operating costs and a potential cost driver, machine hours. The output of a regression analysis showed the following information (Note: only a portion of the regression analysis is presented here.)

SUMMARY OUTPUT					
<i>Regression Statistics</i>					
Multiple R	0.975786544				
R Square	0.952159379				
Adjusted R Square	0.940199223				
Standard Error	143.9824153				
Observations	6				
ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	1650409.59	1650410	79.61095	0.000872
Residual	4	82923.74363	20730.94		
Total	5	1733333.333			
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>
Intercept	2413.21376	413.6628873	5.833769	0.004303	1264.701
X Variable 1	0.897286837	0.100564543	8.922497	0.000872	0.618075

- 260) At Vanco Industries, what is the variable cost per machine hour (rounded to the nearest cent)? 260) _____
A) \$2,413.21 B) \$143.98 C) \$0.90 D) \$0.98
- 261) At Vanco Industries, what is the fixed cost (round to nearest cent)? 261) _____
A) \$2,413.21 B) \$0.98 C) \$143.98 D) \$0.90
- 262) At Vanco Industries, what is the cost equation based upon the results of the regression analysis? 262) _____
A) $y = \$2,413.21x + \0.90 B) $y = \$0.90 + \$2,413.21$
C) $y = \$0.90x$ D) $y = \$2,413.21 + \$0.90x$
- 263) At Vanco Industries, what is closest to the total cost if the firm uses 4,000 machine hours? 263) _____
A) \$9,652,855.04 B) \$3,589.15 C) \$2,413.21 D) \$6,002.36
- 264) At Vanco Industries, what is closest to the total cost if the firm uses 5,000 machine hours? 264) _____
A) \$4,486.43 B) \$2,413.21 C) \$6,899.65 D) \$12,066,068.80

- 265) Pam's Stables used two different independent variables (trainer hours and number of horses) in two different equations to evaluate the cost of training horses. The most recent results of the two regressions are as follows: 265) _____

Trainer's hours:

	Coefficient	Standard Error	t-Stat
Intercept	\$913.32	\$198.12	4.61
X Variable 1	\$20.90	\$2.94	7.11

$$r^2 = 0.56$$

Number of horses:

	Coefficient	Standard Error	t-Stat
Intercept	\$4,764.50	\$1,073.09	4.44
X Variable 1	\$864.98	\$247.14	3.50

$$r^2 = 0.63$$

What is the estimated total cost for the coming year if 16,000 trainer hours are incurred and the stable has 400 horses to be trained, based on the best cost driver?

- A) \$350,756.50 B) \$335,313.32 C) \$84,233.50 D) \$99,929.09

- 266) Craig's Cola was to manufacture 1,000 cases of cola next week. The accountant provided the following analysis of total manufacturing costs. 266) _____

	Coefficient	Standard Error	t-Stat
Intercept	100	71.94	1.39
X Variable 1	200	91.74	2.18

$$r^2 = 0.82$$

What is the estimated cost of producing the 1,000 cases of cola?

- A) \$200,100 B) \$91,812 C) \$72,032 D) \$100,200

- 267) C. M. Chain was to manufacture 1,000 chain saws next month. Its accountant has provided the following analysis of the total manufacturing costs. 267) _____

	Coefficient	Standard Error	t-Stat
Intercept	200	143.88	1.39
X Variable 1	400	183.49	2.18

$$r^2 = 0.71$$

What is the estimated cost of producing the 1,000 chain saws?

- A) \$284,142 B) \$200,400 C) \$400,200 D) \$18,000

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

- 268) Pam's Stables used two different independent variables (trainer hours and number of horses) and two different equations to evaluate the cost of training horses. The most recent results of the two regressions are as follows: 268) _____

Trainer's hours:

	Coefficient		
Intercept	\$1,925.00		
X Variable 1	\$22.90		

$$r^2 = 0.83$$

Number of horses:

	Coefficient		
Intercept	\$5,765.00		
X Variable 1	\$865.00		

$$r^2 = 0.63$$

Required:

- 1 Write the cost equation using the Trainer's Hours as the cost driver.
- 2 Write the cost equation using number of horses as the cost driver.
- 3 Which Variable is the best to use to determine a cost equation? Why?
- 4 Using the better cost formula, determine the total cost if Pam's expects to use 15,000 trainer hours and train 300 horses.

ESSAY. Write your answer in the space provided or on a separate sheet of paper.

- 269) What are three methods used to estimate cost behaviour? What are the advantages and disadvantages of each method?

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

- 270) Sisler Company would like to estimate its total manufacturing costs using regression analysis but is unsure whether machine hours or units produced would be a better predictor of total manufacturing costs. 270) _____

Output from regression analysis using machine hours as the volume (cost driver) follows.
(Note: the results are excerpts so not all of the regression analysis results are presented.)

SUMMARY OUTPUT					
<i>Regression Statistics</i>					
Multiple R	0.817721				
R Square	0.668667				
Adjusted R Square	0.585834				
Standard Error	90916.979				
Observations	6				
ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	6.6726E+10	6.673E+10	8.07246	0.04681
Residual	4	3.3064E+10	8.266E+09		
Total	5	9.979E+10			
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>
Intercept	54009.184	207558.596	0.260	0.808	-522266
X Variable 1	25.150	8.852	2.841	0.047	0.573269

Output from a regression analysis using units produced as the volume (cost driver) follow (Again, the results are excerpts so not all of the regression analysis results are presented.)

SUMMARY OUTPUT					
<i>Regression Statistics</i>					
Multiple R	0.987126				
R Square	0.974418				
Adjusted R Square	0.968022				
Standard Error	25262.780323				
Observations	6				
ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	9.7237E+10	9.724E+10	152.3592	0.000248
Residual	4	2552832279	638208070		
Total	5	9.979E+10			
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>
Intercept	115618.3968	43261.9001	2.6725	0.0557	-4495.89
X Variable 1	8.3052	0.6728	12.3434	0.0002	6.4371

Required:

1. What is the cost equation if machine hours is used as the volume (cost driver)?
2. Predict total manufacturing costs using machine hours as the volume (cost driver) if S Company uses 18,000 hours.

3. What is the cost equation if units produced is used as the volume (cost driver)?
4. Predict total manufacturing costs using units produced as the volume (cost driver) if Company produces 65,000 units.
5. Which volume (cost driver) is a better predictor of total manufacturing costs? Why?

271) Maxwell Corporation is trying to predict its manufacturing overhead costs for the upcoming year; they are debating the use of the high-low method versus the use of regression analysis. They have gathered information about their manufacturing overhead costs in each of the past six months. A table containing their cost data and the associated machine hours in each month (the cost driver) follows.

271) _____

Month	Manufacturing overhead costs	Number of machine hours
April	\$22,000	12,250
May	\$22,860	12,510
June	\$21,600	11,280
July	\$21,800	11,410
August	\$21,250	10,980
September	\$21,930	11,670

The company performed a regression analysis using the above data and had the following results. (Note: the results are excerpts so not all of the regression analysis results are present)

SUMMARY OUTPUT					
<i>Regression Statistics</i>					
Multiple R	0.91562				
R Square	0.83836				
Adjusted R Square	0.79794				
Standard Error	242.46101				
Observations	6				
<i>ANOVA</i>					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	1,219,584	1,219,584	20.74569	0.01038015
Residual	4	235,149	58,787		
Total	5	1,454,733			
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>
Intercept	12116.1401	2151.8009	0.9834	0.004	6141.7
X Variable 1	0.8380	0.1840	4.5547	0.0104	0.3272

Required:

1. What is the cost equation if the high-low method is used to estimate costs?
2. Using the high-low method, predict total manufacturing overhead costs if Maxwell Corporation uses 12,000 hours.
3. What is the cost equation if regression analysis is used to estimate costs (use the result from the regression analysis provided)?
4. Using regression analysis, predict total manufacturing overhead costs if Maxwell

Corporation uses 12,000 hours.

5. Which method is generally the best predictor of costs? Justify your answer.

272) Review the following report of the results of a simple regression program for cost estimation. 272) _____

	<u>Coefficient</u>	<u>Standard Error</u>	<u>t-Stat</u>
Intercept	24.88	17.90	1.39
X Variable 1	444.70	179.31	2.48

$r^2 = 0.72$

Required:

- What is the cost estimation equation according to the report?
- What is the goodness of fit? What does it tell about the estimating equation?

273) The new cost analyst in your accounting department has just received a computer-generated report that contains the results of a simple regression program for cost estimation. The summary results of the report appear as follows: 273) _____

	<u>Coefficient</u>	<u>Standard Error</u>	<u>t-Stat</u>
Intercept	\$35.92	\$16.02	2.24
X Variable 1	\$563.80	\$205.40	2.74

$r^2 = 0.75$

Required:

- What is the cost estimation equation according to the report?
- What is the goodness of fit? What does it tell about the estimating equation?

ESSAY. Write your answer in the space provided or on a separate sheet of paper.

274) What are some concerns managers should have with respect to using historical data to predict future costs?

TRUE/FALSE. Write 'T' if the statement is true and 'F' if the statement is false.

275) For retailers and service companies, operating income is the same whether a traditional income statement or a contribution margin income statement is prepared. 275) _____

276) Revenue less cost of goods sold equals contribution margin. 276) _____

277) When preparing a traditional income statement, fixed costs are subtracted from gross margin to arrive at operating income. 277) _____

278) The traditional income statement is considered by most companies to be a better management tool than the contribution margin income statement. 278) _____

279) Companies can estimate separate cost equations for each of their expenses, or for all of their expenses lumped together. 279) _____

- 280) Traditional income statements provide managers with a great deal of cost behaviour information. 280) _____
- 281) Traditional income statements are organized by FUNCTION, not by cost behaviour. 281) _____
- 282) The cost of goods sold is a variable cost for a retailer, but contains a mixture of variable and fixed production costs for manufacturers. 282) _____
- 283) Traditional income statements distinguish fixed operating costs from variable operating costs. 283) _____
- 284) GAAP allows companies to use the contribution margin format for external reporting purposes if they so choose. 284) _____
- 285) Contribution margin income statements organize costs by behaviour rather than by function. 285) _____
- 286) Managers can use contribution margin income statements to predict how changes in volume will affect operating income. 286) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 287) On a traditional income statement, sales revenue less cost of goods sold equals 287) _____
 A) contribution margin. B) operating income.
 C) gross profit. D) operating expenses.
- 288) On a contribution margin income statement, sales revenue less variable expenses equals 288) _____
 A) expenses. B) contribution margin.
 C) gross profit. D) operating income.
- 289) Traditional income statements organize costs by 289) _____
 A) revenues less discretionary expenses. B) discretionary vs. committed.
 C) function. D) behaviour.
- 290) On a traditional income statement, all costs related to the production or purchases stage of the value chain that are associated with units sold, are listed 290) _____
 A) above the contribution margin line. B) above the gross profit line.
 C) above the sales line. D) below the operating income line.
- 291) The contribution margin is equal to 291) _____
 A) sales minus operating expenses. B) sales minus fixed expenses.
 C) sales minus variable expenses. D) sales minus cost of goods sold.

- 292) The contribution margin income statement presents _____ above the contribution margin line. 292) _____
 A) only variable expenses relating to selling and administrative activities
 B) all variable expenses
 C) only fixed expenses relating to selling and administrative activities
 D) all fixed expenses
- 293) The contribution margin income statement presents _____ below the contribution margin line. 293) _____
 A) all fixed expenses
 B) all variable expenses
 C) only variable expenses relating to selling and administrative activities
 D) only fixed expenses relating to selling and administrative activities

Answer the following question(s) using the information below.

Suzy's Cool Treatz is a snow cone stand near the local park. To plan for the future, the owner wants to determine her cost behavior patterns. She has the following information available about her operating costs and the number of snow cones served.

Month	Number of snow cones	Total operating costs
January	3,500	\$5,000
February	3,800	\$4,800
March	5,000	\$6,800
April	3,600	\$5,450
May	4,700	\$6,200
June	4,250	\$5,950

Suzy uses the high-low method to determine her operating cost equation and sells 4,500 cones in a month for \$3.00 each.

- 294) What would Suzy's Cool Treatz contribution margin be if Suzi prepared a contribution margin income statement for the month? 294) _____
 A) \$18,900 B) \$8,100 C) \$13,500 D) \$5,400
- 295) What would Suzy's Cool Treatz operating income be if Suzi prepared a contribution margin income statement for the month? 295) _____
 A) \$5,400 B) \$7,300 C) \$8,100 D) \$13,500
- 296) What would Suzy's Cool Treatz operating income be if Suzi prepared a traditional income statement for the month? 296) _____
 A) \$8,100 B) \$7,300 C) \$13,500 D) \$5,400

Answer the following question(s) using the information below.

Fresno Home Oil Services wants to determine a fuel surcharge to add to its customers' bills based on the number of kilometre driven to each area. It wants to separate the fixed and variable portion of the truck's operating costs so it has a better idea of how distance affects these costs. Fresno Home Oil Services has the following data available.

Month	Kilometres driven	Total operating costs
January	15,900	\$9,000
February	17,300	\$9,860
March	14,500	\$8,600
April	16,100	\$8,800
May	17,100	\$8,600
June	15,500	\$8,100

Fresno Home Oil Services uses the high-low method to determine its operating cost equation and charges its customers \$0.60 per kilometre. Last month Fresno drove 18,000 kilometres.

- 297) What would Fresno's contribution margin be if the company prepared a contribution margin income statement for the month? 297) _____
 A) \$2,700 B) \$900 C) \$8,100 D) \$9,000
- 298) What would Fresno's operating income (loss) be for a month if the company prepared a contribution margin income statement for the month? 298) _____
 A) \$9,000 B) (\$1,125) C) \$625 D) \$900
- 299) What would Fresno's operating income (loss) be for a month if the company prepared a traditional income statement for a month? 299) _____
 A) \$625 B) (\$1,175) C) \$900 D) \$8,100

Answer the following question(s) using the information below.

Toby's Farm Store buys portable generators for \$500 and sells them for \$800. He pays a sales commission of 5% of sales revenue to his sales staff. Toby pays \$2,000 a month rent for his store, and also pays \$1,800 a month to his staff in addition to the commission. Toby sold 200 generators in June.

- 300) If Toby prepares a contribution margin income statement for the month of June, what would be his contribution margin? 300) _____
 A) \$108,000 B) \$160,000 C) \$268,000 D) \$52,000
- 301) If Toby prepares a traditional income statement for the month of June, what would be his gross profit? 301) _____
 A) \$60,000 B) \$260,000 C) \$100,000 D) \$160,000
- 302) If Toby prepares a traditional income statement for the month of June, what would be his operating income? 302) _____
 A) \$60,000 B) \$72,000 C) \$160,000 D) \$48,200

- 303) If Toby prepares a contribution margin income statement for the month of June, what would be his operating income? 303) _____
- A) \$160,000 B) \$56,000 C) \$108,000 D) \$48,200

Answer the following question(s) using the information below.

Flavio's Fitness Club provides monthly memberships as well as personal training sessions. The personal trainers earn 50% of the revenue for all personal training sessions. The Fitness Club also sells nutrition products. Flavio's general ledger accounts indicate the following for the year. The front desk staff wages expense remains the same throughout the year.

Account	Amount	Account	Amount
Membership revenue	\$125,000	Personal trainer wages expense	?
Personal training revenue	\$60,000	Space rental expense	\$12,000
Product sales	\$65,000	Straight line depreciation expense	\$6,000
Cost of product sold	\$40,000	Rental insurance expense	\$3,000
Front desk staff wages expense	\$12,000		

- 304) If a contribution margin income statement is prepared for the year, what is the amount of total revenue at Flavio's Fitness Club? 304) _____
- A) \$250,000 B) \$125,000 C) \$290,000 D) \$185,000
- 305) If a contribution margin income statement is prepared for the year, what is the contribution margin at Flavio's Fitness Club? 305) _____
- A) \$320,000 B) \$180,000 C) \$250,000 D) \$70,000
- 306) If a traditional income statement is prepared for the year, what is gross profit at Flavio's Fitness Club? 306) _____
- A) \$290,000 B) \$250,000 C) \$180,000 D) \$210,000
- 307) If a traditional income statement is prepared for the year, what is operating income at Flavio's Fitness Club? 307) _____
- A) \$147,000 B) \$227,000 C) \$180,000 D) \$250,000
- 308) If a contribution margin income statement is prepared for the year, what is operating income at Flavio's Fitness Club? 308) _____
- A) \$180,000 B) \$250,000 C) \$147,000 D) \$353,000

Answer the following question(s) using the information below.

Jean's Fitness Club provides monthly memberships as well as personal training sessions. The personal trainers earn 50% of the revenue for all personal training sessions. The Fitness Club also sells nutrition products. Jean's general ledger accounts indicate the following for the year. The front desk staff wages expense remains the same throughout the year.

Account	Amount	Account	Amount
Membership revenue	\$140,000	Personal trainer wages expense	?
Personal training revenue	\$75,000	Space rental expense	\$11,000
Product sales	\$65,000	Straight line depreciation expense	\$6,000
Cost of product sold	\$35,000	Rental insurance expense	\$3,000
Front desk staff wages expense	\$12,000		

- 309) If a contribution margin income statement is prepared for the year, what is the amount of total revenue at Jean's Fitness Club? 309) _____
 A) \$280,000 B) \$315,000 C) \$215,000 D) \$140,000
- 310) If a contribution margin income statement is prepared for the year, what is the contribution margin at Jean's Fitness Club? 310) _____
 A) \$207,500 B) \$280,000 C) \$352,500 D) \$72,500
- 311) If a traditional income statement is prepared for the year, what is Gross Profit at Jean's Fitness Club? 311) _____
 A) \$315,000 B) \$207,500 C) \$245,000 D) \$280,000
- 312) If a traditional income statement is prepared for the year, what is operating income at Jean's Fitness Club? 312) _____
 A) \$280,000 B) \$207,500 C) \$245,500 D) \$175,500
- 313) If a contribution margin income statement is prepared for the year, what is operating income? 313) _____
 A) \$175,500 B) \$280,000 C) \$207,500 D) \$384,500
- 314) Sugartown Corporation has total sales revenues of \$225,000. If their total fixed costs are \$40,000 and their total variable costs are \$65,000, then the total contribution margin is 314) _____
 A) total revenue minus total fixed costs.
 B) total variable costs minus total fixed costs.
 C) equal to operating income.
 D) total revenue minus total variable costs.
- 315) Cotown Corporation has total sales revenues of \$300,000. If their total fixed costs are \$50,000 and their total variable costs are \$175,000, the contribution margin is 315) _____
 A) \$225,000. B) \$125,000. C) \$475,000. D) 250,000.
- 316) Zucca Company has a contribution margin per unit of \$54. If 6,000 more items are sold, and fixed expenses remain the same, the net change in operating income will be 316) _____
 A) \$324,000. B) \$6,000. C) \$111. D) \$(324,000).

Answer the following question(s) using the information below.

Atwood Dairy Bar sells its famous soft-serve ice cream cones near a marina and resort area. The owner, Theresa, wants to determine the cost behaviour patterns to help planning for the next summer season. She has the following information available about the operating costs and the number of soft-serve cones served.

Month	Number of soft-serve cones	Total operating costs
April	8,200	\$5,200
May	8,600	\$5,500
June	7,500	\$4,500
July	9,700	\$6,000
August	8,900	\$5,900
September	5,700	\$5,000

Theresa uses the high-low method to determine the operating cost equation and sells 8,000 cones in a month for \$2.00 each.

- 317) What would the contribution margin be at Atwood Dairy Bar if the owner prepared a contribution margin income statement for that month? 317) _____
 A) \$14,000 B) \$2,000 C) \$18,000 D) \$16,000
- 318) What would the operating income be at Atwood Dairy Bar if the owner prepared a contribution margin income statement for that month? 318) _____
 A) \$2,000 B) \$14,000 C) \$16,000 D) \$10,425
- 319) What would the operating income be at Atwood Dairy Bar if the owner prepared a traditional income statement for the month? 319) _____
 A) \$10,425 B) \$16,000 C) \$14,000 D) \$2,000

Answer the following question(s) using the information below.

Wendell's Bicycles store buys bicycles on average for \$500 and sells them on average for \$800. He pays a sales commission of sales revenue to his sales staff. Wendell pays \$1,500 a month rent for his store, and also pays \$3,000 a month to his staff in addition to the commissions. Wendell sold 100 bicycles in June.

- 320) If Wendell prepares a contribution margin income statement for the month of June, what would be his contribution margin? 320) _____
 A) \$58,000 B) \$22,000 C) \$138,000 D) \$80,000
- 321) If Wendell prepares a traditional income statement for the month of June, what would be his gross profit? 321) _____
 A) \$80,000 B) \$30,000 C) \$50,000 D) \$130,000
- 322) If Wendell prepares a traditional income statement for the month of June, what would be his operating income? 322) _____
 A) \$42,500 B) \$30,000 C) \$17,500 D) \$80,000

- 323) If Wendell prepares a contribution margin income statement for the month of June, what would be his operating income? 323) _____
- A) \$26,500 B) \$80,000 C) \$17,500 D) \$58,000

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

- 324) Debby's Gift Baskets sells gift baskets, on average, for \$100. Each gift basket costs, on average, \$55. Debby pays salaries each month of \$1,500, and her store rent is \$1,000 per month. She pays sales commissions of 10% of the sales price. In May, 150 gift baskets were sold. 324) _____

Required:

1. Prepare a traditional income statement for the month of May.
2. Prepare a contribution margin income statement for the month of May.

- 325) Sally's Gift Baskets sells gift baskets, on average, for \$125; each gift basket costs, on average, \$55. Debby pays salaries each month of \$1,300 and her store rent is \$1,000 per month. She also pays sales commissions of 5% of the sales price. In May, 140 gift baskets were sold. 325) _____

Required:

- a. Prepare a traditional income statement for the month of May.
- b. Prepare a contribution margin income statement for the month of May.

- 326) Ava's Chapeaus is a small e-tail business specializing in the hand crocheted hats for infants and toddlers over the web. The business is owned by a sole proprietor and operated out of her home. Results for last year are as follows: 326) _____

AVA'S CHAPEAUS	
Income Statement	
For the Year Ended December 31	
Sales revenue	\$394,800
Cost of goods sold	<u>(266,000)</u>
Gross profit	128,800
Operating expenses:	
Selling and marketing expenses	\$24,400
Website maintenance expenses	22,400
Other operating expenses	<u>6,800</u>
Total operating expenses	<u>(53,600)</u>
Operating income.	<u><u>\$75,200</u></u>

For internal planning and decision-making purposes, the owner of Ava's Chapeaus would like to translate the company's income statement into the contribution margin format. Since Ava's Chapeaus is an e-tailer, all of its cost of goods sold was variable. A large portion of the selling and marketing expenses consisted of freight-out charges (\$7,600), which were also variable. Only 25% of the remaining selling and marketing expenses and 20% of the website expenses were variable. Of the other operating expenses, 80% were fixed.

Based on this information, prepare Ava's Chapeaus' contribution margin income statement for last year.

- 327) Harry's Hats is a retail business selling men's hats. The business is owned by a sole proprietor and operated out of a mall kiosk. Results for last year are as follows:

327) _____

Harry's Hats		
Income Statement		
For the Year Ended December 31		
Sales revenue		\$300,000
Cost of goods sold		<u>(125,000)</u>
Gross profit		175,000
Operating expenses:		
Selling Costs	\$38,000	
Kiosk Rental	27,000	
Other operating expenses	<u>18,000</u>	
Total operating expenses		<u>(83,000)</u>
Operating income.		<u><u>\$92,000</u></u>

For internal planning and decision-making purposes, the owner of Harry's Hats would like to translate the company's income statement into the contribution margin format. Since Harry's Hats is a retailer, all of its cost of goods sold was variable. A large portion of the selling and marketing expenses consisted of commissions (\$30,000), which were also variable. The Kiosk Rental is made up of base rent of \$24,000 plus 1% of sales. One third of the other operating expenses were variable and the remaining two thirds were fixed costs.

Based on this information, prepare Harry's Hats contribution margin income statement for last year.

- 328) Harry's Hats is a retail business selling men's hats. The business is owned by a sole proprietor and operated out of a mall kiosk. Results for last year are as follows:

328) _____

Harry's Hats		
Income Statement		
For the Year Ended December 31		
Sales revenue		\$250,000
Cost of goods sold		<u>(125,000)</u>
Gross profit		125,000
Operating expenses:		
Selling Costs	\$42,500	
Kiosk Rental	23,000	
Other operating expenses	<u>12,000</u>	
Total operating expenses		<u>(77,500)</u>
Operating income.		<u><u>\$47,500</u></u>

For internal planning and decision-making purposes, the owner of Harry's Hats would like to translate the company's income statement into the contribution margin format. Since Harry's Hats is a retailer, all of its cost of goods sold was variable. A large portion of the selling and marketing expenses consisted of commissions (earned at 5% of sales), which were also variable. The Kiosk Rental is made up of base rent plus 2% of sales. One third of the other operating expenses include variable costs of 1.6% of sales with the remainder being fixed.

Based on this information, prepare Harry's Hats contribution margin income statement for last year.

329) Harry's Hats is a retail business selling men's hats. The business is owned by a sole proprietor and operated out of a mall kiosk. Results for last year are as follows:

329) _____

Harry's Hats		
Income Statement		
For the Year Ended December 31		
Sales revenue		\$250,000
Cost of goods sold		<u>(125,000)</u>
Gross profit		125,000
Operating expenses:		
Selling Costs	\$42,500	
Kiosk Rental	23,000	
Other operating expenses	<u>12,000</u>	
Total operating expenses		<u>(77,500)</u>
Operating income.		<u><u>\$47,500</u></u>

Since Harry's Hats is a retailer, all of its cost of goods sold was variable. A large portion of selling costs expenses consisted of commissions (earned at 5% of sales), which were also variable. The remainder of the selling costs are fixed. The Kiosk Rental is made up of base rent plus variable costs of 1.6% of sales. One third of the other operating expenses include variable costs of 1.6% of sales with the remainder being fixed.

Determine Harry's Hats' operating income if sales increase by 20%.

330) Ava's Needlework is a small e-tail business specializing in the hand crocheted hats for infants and toddlers over the web. The business is owned by a sole proprietor and operated out of her home. Results for last year are as follows:

330) _____

AVA'S NEEDLEWORK
Income Statement
For the Year Ended December 31

Sales revenue		\$789,600
Cost of goods sold.		<u>(532,000)</u>
Gross profit		257,600
Operating expenses:		
Selling and marketing expenses	\$48,800	
Website maintenance expenses	44,800	
Other operating expenses	<u>13,600</u>	
Total operating expenses		<u>(107,200)</u>
Operating income		<u><u>\$150,400</u></u>

For internal planning and decision-making purposes, the owner of Ava's Needlework would like to translate the company's income statement into the contribution margin format. Since Ava's Needlework is an e-tailer, all of its cost of goods sold was variable. A large portion of the selling and marketing expenses consisted of freight-out charges (\$15,200), which were also variable. Only 20% of the remaining selling and marketing expenses and 25% of the website expenses were variable. Of the other operating expenses, 80% were fixed.

Based on this information, prepare Ava's Needlework's contribution margin income statement for last year.

- 331) Ava's Hats is a small e-tail business specializing in the hand crocheted hats for infants and toddlers over the web. The business is owned by a sole proprietor and operated out of her home. Results for last year are as follows:

331) _____

AVA'S HATS
Income Statement
For the Year Ended December 31

Sales revenue		\$852,300
Cost of goods sold		<u>(498,900)</u>
Gross profit		353,400
Operating expenses:		
Selling and marketing expenses	\$56,700	
Website maintenance expenses	53,600	
Other operating expenses	<u>17,200</u>	
Total operating expenses		<u>(127,500)</u>
Operating income		<u><u>\$225,900</u></u>

For internal planning and decision-making purposes, the owner of Ava's Hats would like to translate the company's income statement into the contribution margin format. Since Ava's Hats is an e-tailer, all of its cost of goods sold was variable. A large portion of the selling and marketing expenses consisted of freight-out charges (\$16,500), which were also variable. Only 25% of the remaining selling and marketing expenses and 20% of the website expenses were variable. Of the other operating expenses, 90% were fixed.

Based on this information, prepare Ava's Hats' contribution margin income statement for last year.

332) Ava's Boutique is a small e-tail business specializing in the hand crocheted hats for infants and toddlers over the web. The business is owned by a sole proprietor and operated out of her home. Results for last year are as follows:

332) _____

AVA'S BOUTIQUE
Income Statement
For the Year Ended December 31

Sales revenue		\$289,300
Cost of goods sold		<u>(201,100)</u>
Gross profit		88,200
Operating expenses:		
Selling and marketing expenses	\$18,900	
Website maintenance expenses	17,400	
Other operating expenses.	<u>5,900</u>	
Total operating expenses		<u>(42,200)</u>
Operating income		<u><u>\$46,000</u></u>

For internal planning and decision-making purposes, the owner of Ava's Boutique would like to translate the company's income statement into the contribution margin format. Since Ava's Boutique is an e-tailer, all of its cost of goods sold was variable. A large portion of the selling and marketing expenses consisted of freight-out charges (\$9,600), which were also variable. Only 10% of the remaining selling and marketing expenses and the website expenses were variable. Of the other operating expenses, 60% were fixed.

Based on this information, prepare Ava's Boutique's contribution margin income statement last year.

333) Spadina Carriage Company offers guided mini-bus tours through downtown Toronto. The tour business is highly regulated by the city. Spadina Carriage Company has the following operating costs during July: 333) _____

Monthly depreciation expense on non-automotive equipment. \$3,625

Fee paid to the City of Toronto 15% of ticket revenue

Cost of souvenir set of postcards given to each passenger \$1.00/set of postcards

Brokerage fee paid to independent ticket brokers:
(60% of tickets are issued through these brokers; 40% are sold
directly by the Spadina Carriage Company) \$1.25/ticket sold by broker

Monthly cost of leasing automotive equipment \$60,000

Bus drivers (tour guides) are paid on a per passenger basis \$5.00 per passenger

Monthly payroll costs of non-tour guide employees \$9,375

Marketing, website, telephone, and other monthly fixed costs \$5,000

During July (a month during peak season) Spadina Carriage Company had 16,240 passengers. Eighty-five percent of passengers were adults (\$30 fare) while 15% were children (\$20 fare).

Required:

1. Prepare the company's contribution margin income statement for the month of April. Round all figures to the nearest dollar.
2. Assume that passenger volume increases by 20% in August. Which figures on the income statement would you expect to change, and by what percentage would they change? Which figures would remain the same as in July?

334) Waterfront Tours Company offers guided mini-bus tours through downtown Toronto. The tour business is highly regulated by the city. Waterfront Tours Company has the following operating costs during July: 334) _____

Monthly depreciation expense on non-automotive equipment \$5,250

Fee paid to the City of Toronto 15% of ticket revenue

Cost of souvenir set of postcards given to each passenger \$1.00/set of postcards

Brokerage fee paid to independent ticket brokers:
(60% of tickets are issued through these brokers; 40% are sold
directly by the Spadina Carriage Company) \$1.25/ticket sold by broker

Monthly cost of leasing automotive equipment \$76,000

Bus drivers (tour guides) are paid on a per passenger basis \$5.00 per passenger

Monthly payroll costs of non-tour guide employees \$12,375

Marketing, website, telephone, and other monthly fixed costs \$14,500

During July (a month during peak season) Waterfront Tours Company had 28,020 passengers. Eighty-five percent of passengers were adults (\$30 fare) while 15% were children (\$20 fare).

Required:

1. Prepare the company's contribution margin income statement for the month of April. Round all figures to the nearest dollar.
2. Assume that passenger volume increases by 15% in August. Which figures on the income statement would you expect to change, and by what percentage would they change? Which figures would remain the same as in July?

335) Jetboat Tours Company offers guided jet boat rides on the Ottawa River. The tour business is highly regulated by the municipal government. Jetboat Tours Company has the following operating costs during July:

Monthly depreciation expense on equipment \$7,625

Fee paid to the Municipal Government for docking etc 15% of ticket revenue

Cost of souvenir set of postcards given to each passenger \$2.50/set of postcards

Brokerage fee paid to independent ticket brokers:
(60% of tickets are issued through these brokers; 40% are sold directly by the Spadina Carriage Company) \$1.50/ticket sold by broker

Monthly cost of leasing jet boats \$53,000

Boat operators (tour guides) are paid on a per passenger basis. \$5.00 per passenger

Monthly payroll costs of non-tour guide employees \$15,650

Marketing, website, telephone, and other monthly fixed costs \$13,480

During July (a month during peak season) Jetboat Tours Company had 31,060 passengers. Eighty-five percent of passengers were adults (\$35 fare) while 15% were children (\$22 fare).

Required:

1. Prepare the company's contribution margin income statement for the month of April. Round all figures to the nearest dollar.
2. Assume that passenger volume increases by 12% in August. Which figures on the income statement would you expect to change, and by what percentage would they change? Which figures would remain the same as in July?

336) Jetboat Tours Company offers guided jet boat rides on the Magnetewan River. The tour business is highly regulated by the municipal government. Jetboat Tours Company has the following operating costs during July: 336) _____

Monthly depreciation expense on equipment. \$2,135

Fee paid to the Municipal Government for docking etc 15% of ticket revenue

Cost of souvenir set of postcards given to each passenger \$1.50/set of postcards

Brokerage fee paid to independent ticket brokers:
(60% of tickets are issued through these brokers; 40% are sold directly by the Jetboat Tours Company) 2.00/ticket sold by broker

Monthly cost of leasing jet boats \$12,000

Boat operators (tour guides) are paid on a per passenger basis. 5.00 per passenger

Monthly payroll costs of non-tour guide employees \$1,275

Marketing, website, telephone, and other monthly fixed costs \$3,840

During July (a month during peak season) Jetboat Tours Company had 6,440 passengers. Eighty-five percent of passengers were adults (\$25 fare) while 15% were children (\$15 fare)

Required:

1. Prepare the company's contribution margin income statement for the month of April. Round all figures to the nearest dollar.
2. Assume that passenger volume increases by 8% in August. Which figures on the income statement would you expect to change, and by what percentage would they change? Which figures would remain the same as in July?

ESSAY. Write your answer in the space provided or on a separate sheet of paper.

337) Explain the main difference between a traditional income statement and a contribution margin income statement.

MATCHING. Choose the item in column 2 that best matches each item in column 1.

Match the following:

338) A statistical procedure for determining the line that best fits the data by using <i>all of the historical data points, not just the high and low data points</i>	A) Mixed costs	338) _____
	B) Regression analysis	

339) Costs that change, but NOT in direct proportion to changes in volume	339) _____
---	------------

- | | | |
|--|------------------------|------------|
| 340) A cost behaviour that is not linear (not a straight line) | A) Variable costs | 340) _____ |
| | B) Cost behaviour | |
| 341) A method for determining cost behaviour that is based on two historical data points: the highest and lowest volume of activity | C) Account analysis | 341) _____ |
| | D) High-low | |
| 342) Costs that do not change in total despite wide changes in volume | E) Cost equation | 342) _____ |
| | F) Contribution margin | |
| 343) A cost behaviour that is fixed over a small range of activity and then jumps to a different fixed level with moderate changes in volume | G) Outliers | 343) _____ |
| | H) Curvilinear costs | |
| 344) Sales revenue minus variable expenses | I) Step costs | 344) _____ |
| | J) Fixed costs | |
| 345) Abnormal data points; data points that do not fall in the same general pattern as the other data points | | 345) _____ |
| | | |
| 346) A method for determining cost behaviour that is based on a manager's judgment in classifying each account as to its cost behaviour | | 346) _____ |
| | | |
| 347) Describes how costs change as volume changes | | 347) _____ |
| | | |
| 348) A mathematical equation for a straight line that expresses how a cost behaves | | 348) _____ |
| | | |
| 349) Costs that change in total in direct proportion to changes in volume | | 349) _____ |

TRUE/FALSE. Write 'T' if the statement is true and 'F' if the statement is false.

- | | |
|---|------------|
| 350) When a manufacturer prepares a contribution margin income statement, Cost of Goods Sold is always a variable cost. | 350) _____ |
| 351) When a company produces more units than it sells, absorption costing operating income will be less than variable costing operating income. | 351) _____ |

- 352) When a company produces more units than it sells, absorption costing operating income will be greater than variable costing operating income. 352) _____
- 353) If the number of units produced equals the number of units sold for a manufacturer, both variable costing and absorption costing income statements will yield the same operating income. 353) _____
- 354) Under absorption costing, fixed manufacturing costs are not expensed until the units are sold. 354) _____
- 355) Under variable costing, fixed manufacturing costs are held in inventory until the units are sold. 355) _____
- 356) Under absorption costing, variable manufacturing costs are treated as period costs. 356) _____
- 357) Under variable costing, variable manufacturing costs are treated as period costs. 357) _____
- 358) Under absorption costing, fixed manufacturing costs are treated as inventoriable product costs. 358) _____
- 359) Under absorption costing, all nonmanufacturing costs are treated as period costs. 359) _____
- 360) Under variable costing, variable manufacturing costs are treated as inventoriable product costs. 360) _____
- 361) Under variable costing, fixed manufacturing costs are treated as inventoriable product costs. 361) _____
- 362) Under variable costing, all nonmanufacturing costs are treated as inventoriable product costs. 362) _____
- 363) If inventory has grown, operating income will be higher under variable costing than it is under absorption costing. 363) _____
- 364) If inventory has declined, operating income will be higher under variable costing than it is under absorption costing. 364) _____
- 365) If inventory has not increased or decreased, but has stayed the same, operating income will be higher under variable costing than it is under absorption costing. 365) _____
- 366) Managers whose bonuses are based on operating income have more incentive to increase inventory levels when variable costing is used than when absorption costing is used. 366) _____
- 367) Managers whose bonuses are based on operating income have more incentive to increase inventory levels when absorption costing is used than when variable costing is used. 367) _____
- 368) Variable costing considers fixed manufacturing costs as inventoriable product costs. 368) _____
- 369) In variable costing only the cost of direct materials and direct labour form the cost of inventory. 369) _____

370) IFRS and ASPE require variable costing for reporting.

370) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

371) When the number of units produced is less than the number of units sold, how does operating income under variable costing differ from operating income under absorption costing?

371) _____

- A) It is higher than operating income under absorption costing.
- B) It is the same as operating income under absorption costing.
- C) It is lower than operating income under absorption costing.
- D) It depends upon the amount of decline.

372) If production exceeds units sold, which of the following is TRUE concerning income?

372) _____

- A) A lower operating income will result under an absorption costing income statement.
- B) A higher operating income will result under an absorption costing income statement.
- C) The same operating income will result under both a variable costing and absorption costing income statement.
- D) A higher operating income will result under a variable costing income statement.

373) If the number of units sold exceeds the number of units produced, how is operating income affected?

373) _____

- A) Operating income would be the same under both a variable costing and absorption costing income statement.
- B) Operating income would be lower under a variable costing income statement.
- C) Operating income would be higher under a variable costing income statement.
- D) Operating income would be higher under an absorption costing income statement.

374) Which type of costing system is required for external financial reporting?

374) _____

- A) Prime costing
- B) Out-of-pocket costing
- C) Variable costing
- D) Absorption costing

375) A basic tenet of variable costing is that fixed manufacturing overhead costs be currently expensed. What is the rationale behind this?

375) _____

- A) Fixed manufacturing costs change as production changes.
- B) Fixed manufacturing overhead costs occur regardless of level of production.
- C) Fixed manufacturing overhead costs are generally immaterial in amount.
- D) Allocation of fixed manufacturing costs are arbitrary at best.

376) Net income reported under absorption costing will exceed net income reported under variable costing for a given period if

376) _____

- A) sales exceed production for that period.
- B) production exceeds sales for that period.
- C) production equals sales for that period.
- D) variable overhead exceeds fixed overhead for that period.

- 377) Net income reported under variable costing will exceed net income reported under absorption costing for a given period if 377) _____
- A) variable overhead exceeds fixed overhead for that period.
 - B) sales exceed production for that period.
 - C) production equals sales for that period.
 - D) production exceeds sales for that period.
- 378) Under absorption costing, the income statement is organized by 378) _____
- A) product and period costs.
 - B) fixed costs only.
 - C) period costs only.
 - D) variable costs only.
- 379) If fixed costs related to a product increase, while variable costs and sales price remain constant, what will happen to the contribution margin? 379) _____
- A) It will decrease to zero.
 - B) It will increase.
 - C) It will decrease.
 - D) It will not change.
- 380) What factor related to manufacturing costs causes the difference in operating income computed using absorption costing and operating income computed using variable costing? 380) _____
- A) Absorption costing "inventories" include all direct manufacturing costs.
 - B) Absorption costing "inventories" include all fixed manufacturing costs.
 - C) Absorption costing expenses all costs, whether fixed or variable.
 - D) Absorption costing "inventories" include all fixed manufacturing and period costs.
- 381) A manager can increase income under absorption costing by increasing 381) _____
- A) variable costs.
 - B) leased assets.
 - C) fixed costs.
 - D) production.
- 382) Absorption costing is required by 382) _____
- A) external financial reports, but not income taxes.
 - B) federal income tax reports.
 - C) both external financial reports and income tax reports.
 - D) neither external financial reports nor income tax reports.
- 383) The use of either absorption or variable costing will make little difference in companies 383) _____
- A) with high fixed costs.
 - B) with high variable costs.
 - C) with large inventories.
 - D) using just-in-time inventory methods.
- 384) Which of the following does not appear on an income statement prepared using variable costing? 384) _____
- A) Fixed production costs
 - B) Variable production costs
 - C) Gross margin
 - D) Contribution margin

Answer the following question(s) using the information below.

Preston Racquets manufactures tennis racquets. The following data are available for last month.

Units in beginning inventory	0
Units produced during year	1,200 racquets
Units in ending inventory	200 racquets
Sales commissions per racquet	\$10.00
Fixed manufacturing overhead	\$48,000
Fixed marketing expenses	\$12,000
Selling price per racquet	\$200
Variable manufacturing cost per racquet	\$110

- 385) Using variable costing, what is the variable cost of goods available for sale at Preston Racquets for last month? 385) _____
 A) \$12,000 B) \$110,000 C) \$240,000 D) \$132,000
- 386) Using variable costing, what is variable cost of goods sold at Preston Racquets for last month? 386) _____
 A) \$22,000 B) \$110,000 C) \$132,000 D) \$10,000
- 387) Using variable costing, what is the contribution margin at Preston Racquets for last month? 387) _____
 A) \$80,000 B) \$320,000 C) \$110,000 D) \$200,000
- 388) Using variable costing, what is the operating income at Preston Racquets for last month? 388) _____
 A) \$140,000 B) \$20,000 C) \$80,000 D) \$200,000
- 389) Using absorption costing, what is cost of goods available for sale at Preston Racquets for last month? 389) _____
 A) \$180,000 B) \$48,000 C) \$150,000 D) \$200,000
- 390) Using absorption costing, what is cost of goods sold at Preston Racquets for last month? 390) _____
 A) \$40,000 B) \$150,000 C) \$200,000 D) \$180,000
- 391) Using absorption costing, what is gross profit at Preston Racquets for last month? 391) _____
 A) \$90,000 B) \$50,000 C) \$350,000 D) \$200,000
- 392) Using absorption costing, what is operating income at Preston Racquets for last month? 392) _____
 A) \$72,000 B) \$328,000 C) \$28,000 D) \$200,000
- 393) Bryon Catering produces box lunches, which it sells for \$20 each. During the current month, the company produced 2,800 meals, but only sold 2,700 meals. The variable cost per meal was \$12 and the sales commissions per meal were \$1. Total fixed manufacturing costs were \$1,400 and total fixed marketing and administrative costs were \$1,200. What is the product cost per meal under absorption costing? 393) _____
 A) \$12.00 B) \$12.50 C) \$14.00 D) \$20.50

394) During the current period, 10,000 units were produced and 12,000 units were sold. Fixed manufacturing costs incurred amounted to \$120,000. The fixed manufacturing cost per unit was the same as in the previous period. An absorption costing income statement would report fixed manufacturing costs as which of the following?

394) _____

- A) Overhead of \$120,000 as a deduction from sales revenue to obtain gross profit
- B) Costs of \$144,000 as a deduction from gross profit to obtain operating income
- C) Costs of \$120,000 as a deduction from sales revenue to obtain contribution margin
- D) Cost of goods sold of \$144,000 as a deduction from sales revenue to obtain gross profit

Answer the following question(s) using the information below.

Jeppson Company manufactures computer hard drives. The following data is related to sales and production of the computer drives for last year.

Selling price per unit	\$100.00
Variable manufacturing costs per unit	\$45.00
Variable selling and administrative expenses per unit	\$6.00
Fixed manufacturing overhead (in total)	\$30,000
Fixed selling and administrative expenses (in total)	\$8,000
Units produced during year	1,500
Units sold during year	1,200
Units in beginning inventory	0

395) Using variable costing, what is the variable cost of goods available for sale at Jeppson Company for last month?

395) _____

- A) \$9,000
- B) \$67,500
- C) \$54,000
- D) \$150,000

396) Using variable costing, what is variable cost of goods sold at Jeppson Company for last month?

396) _____

- A) \$13,500
- B) \$54,000
- C) \$67,500
- D) \$7,200

397) Using variable costing, what is the contribution margin at Jeppson Company for last month?

397) _____

- A) \$54,000
- B) \$58,800
- C) \$181,200
- D) \$120,000

398) Using variable costing, what is the operating income at Jeppson Company for last month?

398) _____

- A) \$58,800
- B) \$20,800
- C) \$96,800
- D) \$120,000

399) Using absorption costing, what is cost of goods available for sale at Jeppson Company for last month?

399) _____

- A) \$97,500
- B) \$120,000
- C) \$78,000
- D) \$30,000

400) Using absorption costing, what is cost of goods sold at Jeppson Company for last month?

400) _____

- A) \$78,000
- B) \$24,000
- C) \$120,000
- D) \$97,500

401) Using absorption costing, what is gross profit at Jeppson Company for last month?

401) _____

- A) \$120,000
- B) \$198,000
- C) \$42,000
- D) \$72,000

- 402) Using absorption costing, what is operating income at Jeppson Company for last month? 402) _____
 A) \$26,800 B) \$57,200 C) \$182,800 D) \$120,000

Answer the following question(s) using the information below.

Xenna Company manufactures coffee tables. The following data is related to sales and production of the tables for last year.

Selling price per unit	\$450.00
Variable manufacturing costs per unit	\$200.00
Variable selling and administrative expenses per unit	\$27.00
Fixed manufacturing overhead (in total)	\$135,000
Fixed selling and administrative expenses (in total)	\$36,000
Units produced during year	6,750
Units sold during year	5,400
Units in beginning inventory	0

- 403) Using variable costing, what is the variable cost of goods available for sale at Xenna Company for last month? 403) _____
 A) \$1,225,800 B) \$1,080,000 C) \$1,350,000 D) \$1,532,250
- 404) Using variable costing, what is the variable cost of goods sold at Xenna Company for last month? 404) _____
 A) \$1,225,800 B) \$1,080,000 C) \$1,532,250 D) \$1,350,000
- 405) Using variable costing, what is the contribution margin at Xenna Company for last month? 405) _____
 A) \$1,350,000 B) \$1,204,200 C) \$1,069,200 D) \$1,215,000
- 406) Using variable costing, what is the operating income at Xenna Company for last month? 406) _____
 A) \$1,168,200 B) \$1,204,200 C) \$1,033,200 D) \$1,069,200
- 407) Using absorption costing, what is cost of goods available for sale at Xenna Company for last month? 407) _____
 A) \$1,188,000 B) \$1,485,000 C) \$1,386,000 D) \$1,620,000
- 408) Using absorption costing, what is cost of goods sold at Xenna Company for last month? 408) _____
 A) \$1,188,000 B) \$1,152,000 C) \$1,215,000 D) \$1,485,000
- 409) Using absorption costing, what is gross profit at Xenna Company for last month? 409) _____
 A) \$1,278,000 B) \$945,000 C) \$1,242,000 D) \$1,215,000
- 410) Using absorption costing, what is operating income at Xenna Company for last month? 410) _____
 A) \$1,242,000 B) \$1,096,200 C) \$1,060,200 D) \$1,206,000

Answer the following question(s) using the information below.

Neon Company manufactures widgets. The following data is related to sales and production of the widgets for last year.

Selling price per unit	\$130.00
Variable manufacturing costs per unit	\$62.00
Variable selling and administrative expenses per unit	\$5.00
Fixed manufacturing overhead (in total)	\$30,000
Fixed selling and administrative expenses (in total)	\$8,000
Units produced during the year	1,500
Units sold during year	1,100

- 411) Using variable costing, what is the contribution margin for last year at Neon Company? 411) _____
 A) \$143,000 B) \$216,700 C) \$68,200 D) \$69,300
- 412) Using variable costing, what is the operating income for last year at Neon Company? 412) _____
 A) \$107,300 B) \$143,000 C) \$69,300 D) \$31,300
- 413) Using absorption costing, what is gross profit for last month at Neon Company? 413) _____
 A) \$143,000 B) \$104,800 C) \$52,800 D) \$233,200
- 414) Using absorption costing, what is operating income for last year at Neon Company? 414) _____
 A) \$66,300 B) \$39,300 C) \$143,000 D) \$219,700

ESSAY. Write your answer in the space provided or on a separate sheet of paper.

- 415) Discuss and compare absorption costing income statements with variable costing income statements. In your discussion, address the following questions:
- What is the main difference between the two methods?
 - Under what circumstances will the operating income under each method be the same?
 - What situation will cause the absorption costing income to be higher than the variable costing income?
 - What situation will cause the absorption costing income to be lower than the variable costing income?
 - Why would a company use absorption costing to prepare its income statements?
 - Why would a company use variable costing to prepare its income statements?

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

416) The following data is related to sales and production of the Welch Corporation for last year 416) _____

Selling price per unit	\$50.00
Variable manufacturing cost per unit	\$24.00
Variable selling and administrative expense per unit	\$4.00
Fixed manufacturing overhead (in total)	\$50,000
Fixed selling and administrative expenses (in total)	\$8,000
Units produced during year	10,000
Units sold during year	9,000
Units in beginning inventory	0
Units in ending inventory	1,000

Required:

1. Prepare an income statement for last year using absorption costing.
2. Calculate the value of the ending inventory using absorption costing.
3. Prepare an income statement for last year using variable costing.
4. Calculate the value of the ending inventory using variable costing.

417) The following data is related to sales and production of the Tauro Corporation for last year 417) _____

Selling price per unit	\$60.00
Variable manufacturing cost per unit	\$25.00
Variable selling and administrative expense per unit	\$6.00
Fixed manufacturing overhead (in total)	\$50,000
Fixed selling and administrative expenses (in total)	\$8,000
Units produced during year	10,000
Units sold during year	8,000
Units in beginning inventory	0
Units in ending inventory	2,000

Required:

- a. Prepare an income statement for last year using absorption costing.
- b. Calculate the value of the ending inventory using absorption costing.
- c. Prepare an income statement for last year using variable costing.
- d. Calculate the value of the ending inventory using variable costing.

418) Sandy Valley Company has the following selected data for the past year:

418) _____

Units sold during year	30,000
Units produced during year	40,000
Units in ending inventory	10,000
Variable manufacturing cost per unit	\$5.50
Fixed manufacturing overhead (in total)	\$20,000
Selling price per unit	\$10.00
Variable selling and administrative expense per unit	\$1.00
Fixed selling and administrative expenses (in total)	\$4,000

There were no units in beginning inventory.

Required:

1. Prepare an income statement for last year using absorption costing.
2. Calculate the value of the ending inventory using absorption costing.
3. Prepare an income statement for last year using variable costing.
4. Calculate the value of the ending inventory using variable costing.

419) Halifax Frozen Pizza Company has the following selected data for the past year:

419) _____

Units sold during year	35,000
Units produced during year	40,000
Units in ending inventory	5,000
Variable manufacturing cost per unit	\$3.50
Fixed manufacturing overhead (in total)	\$80,000
Selling price per unit	\$11.00
Variable selling and administrative expense per unit	\$1.00
Fixed selling and administrative expenses (in total)	\$40,000

There were no units in beginning inventory.

Required:

1. Prepare an income statement for last year using variable costing.
2. Calculate the value of the ending inventory using variable costing.
3. Calculate the manufacturing cost per unit using absorption costing.
4. Prepare an income statement for last year using absorption costing.
5. Calculate the value of the ending inventory using absorption costing.

420) Halifax Frozen Donair Company has the following selected data for the past year:

420) _____

Units sold during year	38,000
Units produced during year	42,000
Variable manufacturing cost per unit	\$2.50
Fixed manufacturing overhead (in total)	\$50,000
Selling price per unit	\$8.00
Variable selling and administrative expense per unit	\$0.75
Fixed selling and administrative expenses (in total)	\$40,000

There were no units in beginning inventory.

Required:

1. Prepare an income statement for last year using variable costing.
2. Calculate the value of the ending inventory using variable costing.
3. Calculate the manufacturing cost per unit using absorption costing.
4. Prepare an income statement for last year using absorption costing.
5. Calculate the value of the ending inventory using absorption costing.

421) Andréa's Bakery produces frozen pizzas, which it sells for \$10 each. The company uses the FIFO inventory costing method and it computes a new monthly fixed manufacturing overhead rate based on the actual number of meals produced that month. All costs and production levels are exactly as planned. The following data are from Andréa's Bakery first two months in business:

421) _____

	July	August
Sales	1,500	1,800
Production	2,100	1,500
Variable manufacturing expense per pizza	\$6	\$6
Sales commission expense per pizza	\$1.50	\$1.50
Total fixed manufacturing overhead	\$1,050	\$1,050
Total fixed marketing and administrative expenses	\$900	\$900

Required:

1. Compute the product cost per meal produced under absorption costing and under variable costing. Do this first for July and then for August.
2. Prepare separate monthly income statements for July and for August, using (a) absorption costing and (b) variable costing.
3. Is operating income higher under absorption costing or variable costing in July? In August? Explain the pattern of differences in operating income based on absorption costing versus variable costing.

- 422) Halifax Frozen Donairs (HFD) produces frozen donairs (a favourite food in Halifax), which it sells for \$9 each. The company uses the FIFO inventory costing method and it computes a new monthly fixed manufacturing overhead rate based on the actual number of meals produced that month. All costs and production levels are exactly as planned. The following data are from HFD's first two months in business:

422) _____

	July	August
Sales	1,200	1,800
Production	2,000	1,500
Variable manufacturing expense per donair	\$4	\$4
Sales commission expense per box of 10 donairs	\$2.50	\$2.50
Total fixed manufacturing overhead	\$1,200	\$1,200
Total fixed marketing and administrative expenses	\$800	\$800

Required:

1. Compute the product cost per meal produced under absorption costing and under variable costing. Do this first for July and then for August.
2. Prepare separate monthly income statements for July and for August, using (a) absorption costing and (b) variable costing.
3. Is operating income higher under absorption costing or variable costing in July? In August? Explain the pattern of differences in operating income based on absorption costing versus variable costing.

TRUE/FALSE. Write 'T' if the statement is true and 'F' if the statement is false.

- 423) The segment margin is the result of subtracting all of the variable costs and the traceable fixed costs for a segment.

423) _____

- 424) Traceable fixed costs are costs that can be directly traced to a specific segment.

424) _____

- 425) Traceable fixed costs would be eliminated if the segment disappeared.

425) _____

- 426) Common fixed costs are costs that can be directly traced to a specific segment.

426) _____

- 427) Common fixed costs would continue if a segment disappeared.

427) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 428) Traceable fixed costs

428) _____

- A) are allocated across all segments of a business.
- B) are also called common fixed costs.
- C) always account for all fixed costs.
- D) are directly related to a specific segment of a business.

429) Common fixed costs 429) _____
A) always account for all fixed costs.
B) are directly related to a specific segment of a business.
C) are allocated across all segments of a business.
D) are also called traceable fixed costs.

430) Segment Margin 430) _____
A) is calculated by taking the segment's sales less its variable expenses and allocated fixed costs.
B) is calculated by taking the segment's sales less the company's total costs.
C) is calculated by taking the segment's sales less its variable expenses and traceable fixed costs.
D) is calculated by taking the segment's sales less the segment's variable expenses.

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

431) Grand River Cruises (GRC) offers nightly dinner cruises on the lower Grand River. Regular dinner cruise tickets sell for \$40 per passenger. GRC also provides executive dinner cruises: price of \$100. The variable cost of providing the dinner is \$16 for the regular cruise and \$3 for the executive cruise. The fixed cost of operating the vessels (depreciation, salaries, docking and other expenses) is \$160,000 per month. During the month of June GRC sold 6,500 regular cruises and 3,000 executive cruises. Assume that \$60,000 of the fixed cost is traceable to regular cruises while \$75,000 of the fixed cost is traceable to executive cruises. Prepare a segmented income statement using the contribution margin format. 431) _____

432) Birdy Sports Corporation (BSC) manufactures two styles of badminton racquets, Sportsman and Professional. The Sportsman racquet sells for \$38 and the Professional sells for \$110. The variable costs to produce and sell the racquets are \$24 per racquet for the Sportsman and \$8 per racquet for the Professional. BSC incurred total fixed expenses for the month of \$210,000. Assume \$45,000 of the fixed costs is traceable to the sportsman model while \$95,000 is traceable to the Professional model. During the month 5,000 Sportsman racquets and 3,000 Professional racquets were produced and sold. BSC regards each style as a separate business segment. Prepare a segmented income statement using the contribution margin format. 432) _____

433) Grand River Cruises (GRC) offers nightly dinner cruises on the lower Grand River. Regular dinner cruise tickets sell for \$55 per passenger. GRC also provides executive dinner cruises: price of \$125. The variable cost of providing the dinner is \$25 for the regular cruise and \$40 for the executive cruise. The fixed cost of operating the vessels (depreciation, salaries, docking and other expenses) is \$210,000 per month. During the month of June GRC sold 7,500 regular cruises and 4,000 executive cruises. Assume that \$65,000 of the fixed cost is traceable to regular cruises while \$85,000 of the fixed cost is traceable to executive cruises. Prepare a segmented income statement using the contribution margin format. 433) _____

434) Birdy Sports Corporation (BSC) manufactures two styles of badminton racquets, Sportsman and Professional. The Sportsman racquet sells for \$18 and the Professional sells for \$75. The variable costs to produce and sell the racquets are \$12 per racquet for the Sportsman and \$15 per racquet for the Professional. BSC incurred total fixed expenses for the month of \$178,000. Assume \$35,000 of the fixed costs is traceable to the sportsman model while \$95,000 is traceable to the Professional model. During the month 8,000 Sportsman racquets and 5,000 Professional racquets were produced and sold. BSC regards each style as a separate business segment. Prepare a segmented income statement using the contribution margin format.

435) Birdy Sports Corporation (BSC) manufactures three styles of badminton racquets, Sportsman, Professional, and Masters. The Sportsman racquet sells for \$25, the Professional sells for \$60, and the Masters for \$95. The variable costs to produce and sell the racquets are \$11.50 per racquet for the Sportsman; \$37 per racquet for the Professional; and \$48 per racquet for the Masters. BSC incurred total fixed expenses for the month of \$230,000. Assume \$65,000 of the fixed costs is traceable to the sportsman model, \$55,000 is traceable to the Professional model, and \$75,000 is traceable to the Masters model. During the month 6,000 Sportsman racquets, 5,000 Professional racquets, and 2,500 Masters racquets were produced and sold. BSC regards each style as a separate business segment.

Prepare a segmented income statement using the contribution margin format.

Answer Key

Testname: UNTITLED3

- 1) FALSE
- 2) FALSE
- 3) TRUE
- 4) FALSE
- 5) TRUE
- 6) TRUE
- 7) FALSE
- 8) FALSE
- 9) TRUE
- 10) FALSE
- 11) FALSE
- 12) TRUE
- 13) FALSE
- 14) TRUE
- 15) FALSE
- 16) FALSE
- 17) TRUE
- 18) TRUE
- 19) TRUE
- 20) TRUE
- 21) D
- 22) D
- 23) D
- 24) B
- 25) C
- 26) B
- 27) D
- 28) D
- 29) B
- 30) C
- 31) D
- 32) C
- 33) B
- 34)

Part A	
Total costs (fixed and variable)	\$500,000
Total fixed costs	\$(400,000)
Total variable cost	\$100,000
Total variable cost	\$100,000
Divide by	Divide by
Original level of production	100,000
Variable cost per unit	\$1.00

Answer Key

Testname: UNTITLED3

Variable cost per unit	\$1.00
------------------------	--------

Part B	
Total fixed costs	\$400,000
Divide by	Divide by
Part b level of production	80,000
Fixed cost per unit	\$5.00

Part C	
Total costs (fixed and variable)	\$500,000
Total fixed costs	\$(400,000)
Total variable cost	\$100,000
Total variable cost	\$100,000
Divide by	Divide by
Original level of production	100,000
Variable cost per unit	\$1.00
Variable cost per unit	\$1.00
Part c level of production	150,000
Total variable cost at new level of production	\$150,000

Part D	
Total costs (fixed and variable)	\$500,000
Total fixed costs	\$(400,000)
Total variable cost	\$100,000
Total variable cost	\$100,000
Divide by	Divide by
Original level of production	100,000
Variable cost per unit	\$1.00
Variable cost per unit	\$1.00
Part d level of production	200,000
Total variable cost at new level of production	\$200,000
Total fixed costs	\$400,000
	\$600,000

35)

	At 10,000 units		At 20,000 units		
	Total cost	Cost per Unit	Total cost	Cost per Unit	Cost behaviour
Cost A	\$ 80,000	\$ 8.00	\$ 80,000	\$ 4.00	Fixed
Cost B	\$ 80,000	\$ 8.00	\$ 160,000	\$ 8.00	Variable
Cost C	\$ 80,000	\$ 8.00	\$ 120,000	\$ 6.00	Mixed

Answer Key

Testname: UNTITLED3

36)

<i>At 10,000 units</i>			<i>At 20,000 units</i>		Cost behaviour
	Total cost	Cost per Unit	Total cost	Cost per Unit	
Cost A	\$ 12,000	\$ 3.00	\$ 12,000	\$ 2.00	Fixed
Cost B	\$ 12,000	\$ 3.00	\$ 15,000	\$ 2.50	Mixed
Cost C	\$ 12,000	\$ 3.00	\$ 18,000	\$ 3.00	Variable

37)

<i>At 10,000 units</i>			<i>At 20,000 units</i>		Cost behaviour
	Total cost	Cost per Unit	Total cost	Cost per Unit	
Cost A	\$ 6,300	\$ 0.90	\$ 6,750	\$ 0.75	Mixed
Cost B	\$ 6,300	\$ 0.90	\$ 8,100	\$ 0.90	Variable
Cost C	\$ 6,300	\$ 0.90	\$ 6,300	\$ 0.70	Fixed

38)

<i>At 10,000 units</i>			<i>At 20,000 units</i>		Cost behaviour
	Total cost	Cost per Unit	Total cost	Cost per Unit	
Cost A	\$12,000	\$ 4.00	\$ 20,000	\$ 4.00	Variable
Cost B	\$12,000	\$ 4.00	\$ 17,500	\$ 3.50	Mixed
Cost C	\$12,000	\$ 4.00	\$ 12,000	\$ 2.40	Fixed

39) $(\$15,000 \times 2) - (\$3,000 \times 2) - \$4,000 = \$20,000$

40) Mixed costs are costs that change in total but not in direct proportion to changes in volume. Generally mixed costs contain a portion that is fixed and a portion that is variable. An example would be a monthly cell phone bill. You pay a basic amount every month but then pay for data usage or the number of text messages sent.

41) TRUE

42) TRUE

43) TRUE

44) TRUE

45) FALSE

46) FALSE

47) TRUE

48) TRUE

49) FALSE

50) FALSE

51) TRUE

52) TRUE

53) TRUE

54) FALSE

55) A

56) D

57) C

58) A

59) C

60) C

Answer Key

Testname: UNTITLED3

- 61) A
- 62) D
- 63) A
- 64) A
- 65) B
- 66) B
- 67) C
- 68) A
- 69) D
- 70) C
- 71) B
- 72) A
- 73) A
- 74) B
- 75) B
- 76) D
- 77) D
- 78) C
- 79) B
- 80) D
- 81) C
- 82) D
- 83) A
- 84) A
- 85) B
- 86) B
- 87) B
- 88) D
- 89) A
- 90) C
- 91) A
- 92) C
- 93) A
- 94) D
- 95) A
- 96) D
- 97) C
- 98) B
- 99) B
- 100) B
- 101) C
- 102) C

Answer Key

Testname: UNTITLED3

103) C

104) A

105) C

106) A

107) B

108) B

109) B

110) C

111) C

112) A

113) B

114) B

115) C

116) B

117) B

118) D

119) $y = \$2.00x + \$250,000$

120) D

121) D

122) $y = \$2.00x + \$250,000$

123) B

124) A

125) B

126) C

127) $y = \$2.00x + \$200,000$

128) D

129) D

130) A

131) A

132) D

133) $y = \$2.75x + \$750,000$

134) $y = \$2.00x + \$750,000$

$$y = \$2.00(50,000) + \$750,000$$

$$y = \$850,000$$

135) C

136) C

137) 1. A cost equation takes the form of $y = vx + f$, where:

y = total costs

v = variable cost per unit

x = activity level

f = fixed costs

A cost equation is the mathematical model for how costs behave (over a relevant range).

2. $Y = \$2x + \$1,000$

3. A company would use a cost equation to predict costs at various activity levels.

Answer Key

Testname: UNTITLED3

- 138) a. $\$20 + (3 \times 60 \times \$0.03) = \$25.40$
 b. $\$20 + (12 \times 60 \times \$0.03) + (40 \times \$0.03) = \42.80
 c. $\$20 + (6 \times 60 \times \$0.03) = \$30.80$

139) \$112.50

$$\$80.00 + (\$0.10 \times 100) + (\$0.50 \times 45) = \$112.50$$

140) \$232.50

$$\$90.00 + (\$0.15 \times 150) + (\$0.75 \times 160) = \$232.50$$

141) \$305.00

$$\$85.00 + (\$0.25 \times 160) + (\$0.90 \times 200) = \$305.00$$

142)

Part 1	
Production level used to calculate average cost	2,000
Average cost per unit	\$300.00
Total costs	\$600,000

Part 2	
Production level used to calculate average cost	2,000
Average cost per unit	\$300.00
Total costs	\$600,000
Total costs	\$600,000
Total fixed cost	\$(200,000)
Total variable cost	\$400,000
Divide by	Divide by
Production level used to calculate average cost	2,000
Variable cost per unit	\$200.00

Part 3	
Average cost per unit	\$300.00
Predicted volume level	3,000
Total cost when using average cost to predict	\$900,000

Part 4	
Production level used to calculate average cost	2,000
Average cost per unit	\$300.00
Total costs	\$600,000
Total costs	\$600,000
Total fixed cost	\$(200,000)
Total variable cost	\$400,000
Divide by	Divide by
Production level used to calculate average cost	2,000
Variable cost per unit	\$200.00

Answer Key

Testname: UNTITLED3

Variable cost per unit (v)	\$200.00
Predicted volume level (x)	3,000
Total variable cost	\$600,000
Total fixed cost (f)	\$200,000
Total cost at forecasted production (y)	\$800,000

Part 5

There is a difference between the cost prediction using average cost and the cost prediction using the cost equation. The difference is the fixed costs. Average costing spreads the fixed costs over a specified number of units. When making a prediction at a level different from that initial level, either more fixed costs will be estimated or less fixed costs; either way, the fixed costs with average costing appear to change in total, which they do not.

143)

Part a.	
Production level used to calculate average cost	1,000
Average total cost per unit	\$ 225.00
Total costs	\$ 225,000

Part b.	
Production level used to calculate average cost	1,000
Average cost per unit	\$ 225.00
Total costs	\$ 225,000
Total costs	\$ 225,000
Total fixed cost	\$ (80,000)
Total variable cost	\$ 145,000
Divide by	Divide by
Production level used to calculate average cost	1,000
Variable cost per unit	\$ 145.00

Part c.	
Average cost per unit	\$ 225.00
Predicted volume level	2,500
Total cost when using average cost to predict	\$562,500

Answer
Testna

Part c.	
Average cost per unit	\$ 225.00
Predicted volume level	2,500
Total cost when using average cost to predict	\$562,500

Part d.	
Production level used to calculate average cost	1,000
Average cost per unit	\$ 225.00
Total costs	\$ 225,000
Total costs	\$ 225,000
Total fixed cost	\$ (80,000)
Total variable cost	\$ 145,000
Divide by	Divide by
Production level used to calculate average cost	1,000
Variable cost per unit	\$ 145.00
Variable cost per unit (v)	\$ 145.00
Predicted volume level (x)	2,500
Total variable cost	\$ 362,500
Total fixed cost (f)	\$ 80,000
Total cost at forecasted production	\$ 442,500

Part e.

There is a difference between the cost prediction using average cost and the cost prediction using the cost equation. The difference is the fixed costs. Average costing spreads the fixed costs over a specified number of units. When making a prediction at a level different from that initial level, either more fixed costs will be estimated or less fixed costs; either way fixed costs with average costing appear to change in total, which they do not.

- 144) 1. $(5,000 \times \$189.50) = \$947,500$
 2. $\$947,500 - \$500,000 = \$447,500$
 Total cost = $\$500,000 + (X \times \$89.50)$
 Where X is the number of wheels produced and
 variable cost per unit is $\$447,500/5,000 = \89.50
 3. $y = \$89.50(x) + \$500,000$
 4. $\$500,000 + (7,000 \times \$89.50) = \$1,126,500$
- 145) 1. $(2,000 \times \$160.00) = \$320,000$
 2. $\$320,000 - \$100,000 = \$220,000$
 Total cost = $\$100,000 + (X \times \$110.00)$
 Where X is the number of wheels produced and
 variable cost per unit is $\$220,000/2,000 = \110.00
 3. $y = \$110(x) + \$100,000$
 4. $\$100,000 + (3,000 \times \$110.00) = \$430,000$
- 146) 1. $(6,000 \times \$350.00) = \$2,100,000$
 2. $\$2,100,000 - \$750,000 = \$1,350,000$
 Total cost = $\$750,000 + (X \times \$225.00)$
 Where X is the number of seats produced and
 variable cost per unit is $\$1,350,000/6,000 = \225.00
 3. $y = \$225(x) + \$750,000$
 4. $\$750,000 + (7,000 \times \$225.00) = \$2,325,000$

Answer Key

Testname: UNTITLED3

- 147) 1. $(2,500 \times \$450.00) = \$1,125,000$
2. $\$1,125,000 - \$425,000 = \$700,000$
Total cost = $\$425,000 + (X \times \$280.00)$
Where X is the number of seats produced and
variable cost per unit is $\$700,000/2,500 = \280.00
3. $y = \$280(x) + \$425,000$
4. $\$425,000 + (3,500 \times \$280.00) = \$1,405,000$
- 148) 1. Variable cost per bill under the current paper-based system.
 $(\$130,325 + \$133,600 + \$134,710 + \$136,890)/(112,670 + 113,900 + 114,970 + 115,620) = \1.17
2. $\$150,000 - ((30\% \times 460,000) \times \$1.17) = \$11,460$ more net operating income
3. Anything reasonable such as corporate image.
- 149) TRUE
150) FALSE
151) TRUE
152) TRUE
153) FALSE
154) TRUE
155) TRUE
156) FALSE
157) FALSE
158) TRUE
159) TRUE
160) FALSE
161) TRUE
162) A
163) C
164) A
165) D
166) B
167) D
168) B
169) D
170) B
171) D
172) D
173) D
174) A
175) Variable - the costs increase in direct proportion to changes in activity.
176) Mixed - the costs increase but not in direct proportion to changes in activity.
177) Fixed - the costs do not change with changes in activity.
178) The scattergraph method involves plotting cost/activity data with the activity on the x-axis (horizontal) and the related cost on the y-axis (vertical) for a period of time. Once the data is plotted, a line is drawn through the data points in which half of the data points are above the line and half are below the line. The equation for that line is calculated; the slope of that line is the variable cost per activity-unit and the y-intercept represents the fixed costs.

Answer Key

Testname: UNTITLED3

- 179) TRUE
- 180) TRUE
- 181) TRUE
- 182) FALSE
- 183) FALSE
- 184) FALSE
- 185) FALSE
- 186) TRUE
- 187) A
- 188) C
- 189) D
- 190) D
- 191) A
- 192) C
- 193) C
- 194) A
- 195) B
- 196) D
- 197) C
- 198) A
- 199) A
- 200) A
- 201) D
- 202) A
- 203) D
- 204) A
- 205) A
- 206) D
- 207) B
- 208) A
- 209) B
- 210) C
- 211) B
- 212) A
- 213) B
- 214) A
- 215) B
- 216) A
- 217) B
- 218) A
- 219) C
- 220) A

Answer Key

Testname: UNTITLED3

221) D

222) D

223) A

224)

Part 1	
High cost	\$16,000
Low cost	\$(14,500)
Change in cost	\$1,500
High activity	10,200
Low activity	(8,200)
Change in activity	2,000
Change in cost	\$1,500
Divide by	Divide by
Change in activity	2,000
Variable cost per call	\$0.75
Now, using high point data:	
Total variable cost at high point:	
High activity	10,200
Variable cost per call	\$0.75
Total variable cost at high point	\$7,650
Total cost at high point	\$16,000
Less total variable cost at high point	\$(7,650)
Fixed cost	\$8,350
Part 2 $y = \$0.75x + \$8,350$	

Part 3	
Total cost at new volume:	
Anticipated number of calls	9,500
Variable cost per call	\$0.75
Total variable cost at new volume	\$7,125
Fixed cost	\$8,350
Monthly operating cost at new volume	\$15,475

Answer Key

Testname: UNTITLED3

225)

Parts 1 and 2	
High cost	\$22,500
Low cost	\$(19,500)
Change in cost	\$3,000
High activity	31,200
Low activity	(25,200)
Change in activity	6,000
Change in cost	\$3,000
Divide by	Divide by
Change in activity	6,000
Variable cost per unit	\$0.50
Now, using high point data:	
Total variable cost at high point:	
High activity	31,200
Variable cost per unit	\$0.50
Total variable cost at high point	\$15,600
Total cost at high point	\$22,500
Less total variable cost at high point	\$(15,600)
Fixed cost	\$6,900

Part 3: $y = \$0.50x + \$6,900$

Part 4	
Total cost at new volume:	
Anticipated production volume	28,000
Variable cost per unit	\$0.50
Total variable cost at new volume	\$14,000
Fixed cost	\$6,900
Monthly operating cost at new volume	\$20,900

226) $y = \$1900 + \$0.35X$

Step 1	
High cost	\$5,400
Low cost	\$(4,000)
Change in cost	\$1,400
High activity	10,000
Low activity	(6,000)
Change in activity	4,000

Answer Key

Testname: UNTITLED3

Change in cost	\$1,400
Divide by	Divide by
Change in activity	4,000
Variable cost per unit	\$0.35

Step 2	
High cost	\$5,400
Low cost	\$(4,000)
Change in cost	\$1,400
High activity	10,000
Low activity	(6,000)
Change in activity	4,000
Change in cost	\$1,400
Divide by	Divide by
Change in activity	4,000
Variable cost per unit	\$0.35
Now, using high point data:	
Total variable cost at high point:	
High activity	10,000
Variable cost per unit	\$0.35
Total variable cost at high point	\$3,500
Total cost at high point	\$5,400
Less total variable cost at high point	\$(3,500)
Fixed cost	\$1,900

Answer Key

Testname: UNTITLED3

227) $y = \$3,600 + \$20.00X$

Step 1	
High cost	\$40,600
Low cost	\$(33,600)
Change in cost	\$7,000
High activity	1,850
Low activity	(1,500)
Change in activity	350
Change in cost	\$7,000
Divide by	Divide by
Change in activity	350
Variable cost per unit	\$20.00

Step 2	
Now, using high point data:	
Total variable cost at high point:	
High activity	1,850
Variable cost per unit	\$20.00
Total variable cost at high point	\$37,000
Total cost at high point	\$40,600
Less total variable cost at high point	\$(37,000)
Fixed cost	\$3,600

Answer Key

Testname: UNTITLED3

228) $y = \$3,000 + \$18.50X$

Step 1	
High cost	\$38,150
Low cost	\$(25,200)
Change in cost	\$12,950
High activity	1,900
Low activity	(1,200)
Change in activity	700
Change in cost	\$12,950
Divide by	Divide by
Change in activity	700
Variable cost per unit	\$18.50

Step 2	
Now, using high point data:	
Total variable cost at high point:	
High activity	1,900
Variable cost per unit	\$18.50
Total variable cost at high point	\$35,150
Total cost at high point	\$38,150
Less total variable cost at high point	\$(35,150)
Fixed cost	\$3,000

Answer Key

Testname: UNTITLED3

229) \$34,425

Step 1	
Cost at High Level of Activity	\$38,000
Cost at Low level of activity	\$(36,375)
Change in cost	\$1,625
High level of activity	1,900
Low level of activity	(1,400)
Change in activity	500
Change in cost	\$1,625
Divide by	Divide by
Change in activity	500
Variable cost per unit	\$3.25

Step 2	
Now, using high point data:	
Total variable cost at high point:	
High activity	1,900
Variable cost per unit	\$3.25
Total variable cost at high point	\$6,175
Total cost at high point	\$38,000
Less total variable cost at high point	\$(6,175)
Fixed cost	\$31,825

Step 3 - Determine the cost equation:

$$y = \$3.25x + \$31,825$$

Step 4 - Set the variable to 800 units (customers)

$$y = \$3.25(800) + \$31,825$$

$$y = \$34,425$$

230) \$6,040

$$v = (\$8,840 - \$4,024) / (7,500 - 3,200) = \$1.12$$

$$\$8,840 = f + (\$1.12 \times 7,500)$$

$$f = \$440$$

$$\text{Cost function is } y = \$440 + \$1.12x$$

$$y = \$440 + (\$1.12 \times 5,000 \text{ units}) = \$6,040$$

231) \$36,880

$$v = (\$44,160 - \$24,400) / (3,900 - 2,000) = \$10.40$$

$$\$44,160 = f + \$10.40 \times 3,900$$

$$f = \$3,600$$

$$y = \$3,600 + (\$10.40 \times 3,200 \text{ hours}) = \$36,880$$

Answer Key

Testname: UNTITLED3

- 232) TRUE
- 233) TRUE
- 234) TRUE
- 235) FALSE
- 236) TRUE
- 237) FALSE
- 238) FALSE
- 239) TRUE
- 240) FALSE
- 241) FALSE
- 242) FALSE
- 243) TRUE
- 244) TRUE
- 245) TRUE
- 246) TRUE
- 247) FALSE
- 248) TRUE
- 249) TRUE
- 250) B
- 251) A
- 252) C
- 253) B
- 254) A
- 255) C
- 256) C
- 257) A
- 258) B
- 259) A
- 260) C
- 261) A
- 262) D
- 263) D
- 264) C
- 265) A
- 266) A
- 267) C
- 268)
 - 1 $y = \$22.90x + \$1,925.00$
 - 2 $y = \$865.00x + \$5.765.00$
 - 3 Trainer's hours as the r-squared indicates a better correlation among the data points
 - 4 \$345,425
 $y = \$22.90 \times 15,000 \text{ hours} + \$1,925$

Answer Key

Testname: UNTITLED3

269)

Method	Advantages	Disadvantages
1. Scattergraph	Quick; visual representation of behaviour; easy to identify outliers	Subjective
2. High-low	Objective	Only uses two data points
3. Regression analysis	Uses all data points	Complicated to use well

270) 1. $y = \$25.15x + \$54,009.18$

2.

Variable cost per machine hour	\$25.15
Machine hours used	18,000
Total variable cost	\$452,700
Fixed cost	\$54,009
Total predicted cost	\$506,709

3. $y = \$8.31x + \$115,618.40$

4.

Variable cost per unit	\$8.3052
Units produced	65,000
Total variable cost	\$539,838
Fixed cost	\$115,618
Total predicted cost	\$655,456

5. Using units produced as the cost driver appears to be the better choice in this case, because the R-square for the units produced model is .97 versus the R-square for the machine hours model of .67.

Answer Key

Testname: UNTITLED3

271)

1. Solution using high-low	
High cost	\$22,860
Low cost	\$(21,250)
Change in cost	\$1,610
High activity	12,510
Low activity	(10,980)
Change in activity	1,530
Change in cost	\$1,610
Divide by	Divide by
Change in activity	1,530
Variable cost per unit	\$1.05

Now, using high point data:

Total variable cost at high point:	
High activity	12,510
Variable cost per unit	\$1.05
Total variable cost at high point	\$13,136
Total cost at high point	\$22,860
Less total variable cost at high point	(13,136)
Fixed cost	\$9,724

$$y = \$1.05x + \$9,724$$

$$2. (\$1.05 \times 12,000 \text{ hours}) + \$9,724 = \$22,324$$

$$3. y = \$0.84x + \$12,116.14$$

4.

Anticipated number of machine hours	12,000
Variable cost per machine hour	\$0.84
Total variable cost	\$10,080
Fixed cost	\$12,116
Total anticipated cost	\$22,196

5. The regression analysis will generally be a better predictor of total costs than the high-low method because the regression analysis considers ALL data points when arriving at the cost estimates while the high-low method uses only the highest activity point and the lowest activity point.

272) a. $y = \$24.88 + \$444.70x$

b. Goodness of fit is 0.72. It measures how well the predicted values match the actual observations. In this case the e passes the goodness of fit test because it is substantially above 0.30, the threshold of acceptance.

273) a. $y = \$35.92 + \$563.80X$

b. Goodness of fit is 0.75. It measures how well the predicted values match the actual observations. In this case, the e passes the goodness of fit test because it is substantially above 0.30, the threshold of acceptance.

Answer Key

Testname: UNTITLED3

274) Cost equations are only as good as the data on which they are based.

There may be seasonality in some costs

Inflation may be a concern

Outliers

275) TRUE

276) FALSE

277) FALSE

278) FALSE

279) TRUE

280) FALSE

281) TRUE

282) TRUE

283) FALSE

284) FALSE

285) TRUE

286) TRUE

287) C

288) B

289) C

290) B

291) C

292) B

293) A

294) B

295) B

296) B

297) A

298) C

299) A

300) D

301) A

302) D

303) D

304) A

305) B

306) D

307) A

308) C

309) A

310) A

311) C

312) D

313) A

Answer Key

Testname: UNTITLED3

314) D

315) B

316) A

317) A

318) D

319) A

320) B

321) B

322) C

323) C

324)

Part 1	
Unit sale price	\$100
Units sold	150
Sales	\$15,000
Unit cost	\$55
Units sold	150
Cost of goods sold	\$8,250
Unit sale price	\$100
Commission % of sales	10%
Commission per unit	\$10
Commission per unit	\$10
Units sold	150
Total commission	\$1,500
Rent	\$1,000
Salaries	\$1,500
Operating expenses	\$4,000
Sales	\$15,000
Cost of goods sold	\$(8,250)
Gross profit	\$6,750
Operating expenses	\$(4,000)
Operating income	\$2,750

Part 2	
Unit sale price	\$100
Units sold	150
Sales	\$15,000
Unit sale price	\$100
Commission % of sales	10%
Commission per unit	\$10

Answer Key

Testname: UNTITLED3

Unit cost	\$55
Commission per unit	\$10
Variable cost per unit	\$65
Units sold	150
Total variable costs	\$9,750
Rent	\$1,000
Salaries	\$1,500
Fixed costs	\$2,500
Sales	\$15,000
Total variable costs	\$(9,750)
Contribution margin	\$5,250
Fixed costs	\$(2,500)
Operating income	\$2,750

325)

Part a.	
Unit sale price	\$ 125
Units sold	140
Sales	\$ 17,500
Unit cost	\$ 60
Units sold	140
Cost of goods sold	\$ 8,400
Unit sale price	\$ 125
Commission % of sales	5%
Commission per unit	\$ 6.25
Commission per unit	\$ 6.25
Units sold	140
Total commission	\$ 875
Rent	\$ 1,000
Salaries	\$ 1,300
Operating expenses	\$ 3,175
Sales	\$ 17,500
Cost of goods sold	\$ (8,400)
Gross profit	\$ 9,100
Operating expenses	\$ (3,175)
Operating income	\$ 5,925

Answer
Testna

Operating expenses	\$ 3,175
Sales	\$ 17,500
Cost of goods sold	\$ (8,400)
Gross profit	\$ 9,100
Operating expenses	\$ (3,175)
Operating income	\$ 5,925

Part b.	
Unit sale price	\$ 125
Units sold	140
Sales	\$ 17,500
Unit sale price	\$ 125
Commission % of sales	5%
Commission per unit	\$ 6.25
Unit cost	\$ 60
Commission per unit	\$ 6.25
Variable cost per unit	\$ 66.25
Units sold	140
Total variable costs	\$ 9,275
Rent	\$ 1,000
Salaries	\$ 1,300
Fixed costs	\$ 2,300
Sales	\$ 17,500
Total variable costs	\$ (9,275)
Contribution margin	\$ 8,225
Fixed costs	\$ (2,300)
Operating income	\$ 5,925

Answer Key

Testname: UNTITLED3

326)

Ava's Chapeaus
Contribution Margin Income Statement
For the Year Ended December 31

Sales revenue		\$394,800
Variable expenses:		
Cost of goods sold	\$266,000	
Selling and marketing expenses	11,800	
Website maintenance expenses	5,600	
Other variable operating expenses	1,360	
Total variable expenses		284,760
Fixed expenses:		
Selling and marketing expenses	\$12,600	
Website maintenance expenses	16,800	
Other fixed expenses	5,440	
Total fixed expenses		34,840
Net operating income		\$75,200

Calculations for selling and marketing expenses:

Total selling and marketing expenses	\$24,400
Variable freightout	(7,600)
Remaining selling and marketing expenses	\$16,800

Variable: $\$16,800 \times 25\% = \$4,200 + \$7,600$ (freight out) = \$11,800

Fixed: $\$16,800 \times 75\% = \$12,600$

Calculations for website maintenance expenses:

Variable: $\$22,400 \times 25\% = \$5,600$

Fixed: $\$22,400 \times 75\% = \$16,800$

Calculations for other operating expenses:

Variable: $\$6,800 \times 20\% = \$1,360$

Fixed: $\$6,800 \times 80\% = \$5,440$

Answer Key

Testname: UNTITLED3

- 327) Harry's Hats
Contribution Margin Income Statement
For the Year Ended December 31

Sales revenue \$300,000
Variable expenses:
Cost of goods sold \$125,000
Selling costs 30,000
Kiosk Rental 3,000
Other variable operating expenses 6,000
Total variable expenses 164,000
Fixed expenses:
Selling costs \$8,000
Kiosk Rental 24,000
Other fixed expenses 12,000
Total fixed expenses 44,000
Net operating income \$92,000

Calculations for selling costs:
Total selling costs \$38,000
Commissions (30,000)
Remaining selling and marketing expenses \$8,000

Calculations for kiosk rental:
Variable: $\$300,00 \times 1\% = \$3,000$
Fixed: $\$27,000 - \$3,000 = \$24,000$

Calculations for other operating expenses:
Variable: $\$18,000 \times 1/3 = \$6,000$
Fixed: $\$18,000 \times 2/3 = \$12,000$

Answer Key

Testname: UNTITLED3

328)

Harry's Hats
Contribution Margin Income Statement
For the Year Ended December 31

Sales revenue		\$ 250,000
Variable expenses:		
Cost of goods sold	\$ 125,000	
Selling costs	\$ 12,500	
Kiosk Rental	\$ 5,000	
Other variable operating expenses	\$ 4,000	
Total variable expenses	164,000	\$ 146,500
Fixed expenses:		
Selling costs	\$ 30,000	
Kiosk Rental	\$ 18,000	
Other fixed expenses	\$ 8,000	
Total fixed expenses		\$ 56,000
Net operating income		\$ 47,500

Calculations for selling costs:

Total selling costs	\$ 42,500
Commissions ($\$250,000 \times 5\%$)	-\$ 12,500
Remaining selling and marketing expenses	\$ 30,000

Calculations for kiosk rental:

Variable: $\$250,000 \times 2\%$ \$5,000
Fixed: $\$24,000 - \$6,000 = \$18,000$

Calculations for other operating expenses:

Variable: $\$250,000 \times 1.6\%$ \$4,000
Fixed: $\$12,000 - \$4,000 = \$8,000$

Answer Key

Testname: UNTITLED3

329) IF sales increase by 20%, all variable expenses will increase by 20% and fixed costs won't change.

Step 1 - Determine Variable and Fixed Costs:

Cost of Goods Sold- all variable

Calculations for selling costs:

Variable: $\$250,000 \times 5\%$ \$12,500

Fixed: $\$42,500 - \$12,500 = \$30,000$

Calculations for kiosk rental:

Variable: $\$250,000 \times 2\%$ \$5,000

Fixed: $\$24,000 - \$6,000 = \$18,000$

Calculations for other operating expenses:

Variable: $\$250,000 \times 1.6\%$ \$4,000

Fixed: $\$12,000 - \$4,000 = \$8,000$

Total Variable Costs:

$\$125,000 + \$12,500 + \$5,000 + \$4,000$ \$ 146,500

Total Fixed Costs:

$\$30,000 + \$18,000 + \$8,000$ \$ 56,000

Step 2 - Calculate Operating Income

Sales increase $\$250,000 \times 120\% =$ \$300,000

Variable Expense increase $\$146,500 \times 120\%$ \$175,800

Contribution Margin \$124,200

Fixed Costs \$ 56,000

Operating Income \$ 68,200

Answer Key

Testname: UNTITLED3

330)

Ava's Needlework
Contribution Margin Income Statement
For the Year Ended December 31

Sales revenue		\$789,600
Variable expenses:		
Cost of goods sold	\$532,000	
Selling and marketing expenses	21,920	
Website maintenance expenses	11,200	
Other variable operating expenses	2,720	
Total variable expenses		567,840
Fixed expenses:		
Selling and marketing expenses	\$26,880	
Website maintenance expenses	33,600	
Other fixed expenses	10,880	
Total fixed expenses		71,360
Net operating income		\$150,400

Calculations for selling and marketing expenses:

Total selling and marketing expenses	\$48,800
Variable freightout	(15,200)
Remaining selling and marketing expenses	\$33,600

Variable: $\$33,600 \times 20\% = \$6,720 + \$15,200$ (freight out) = \$21,920

Fixed: $\$33,600 \times 80\% = \$26,880$

Calculations for website maintenance expenses:

Variable: $\$44,800 \times 25\% = \$11,200$

Fixed: $\$44,800 \times 75\% = \$33,600$

Calculations for other operating expenses:

Variable: $\$13,600 \times 20\% = \$2,720$

Fixed: $\$13,600 \times 80\% = \$10,880$

Answer Key

Testname: UNTITLED3

331)

Ava's Hats
Contribution Margin Income Statement
For the Year Ended December 31

Sales revenue		\$852,300
Variable expenses:		
Cost of goods sold	\$498,900	
Selling and marketing expenses	26,550	
Website maintenance expenses	10,720	
Other variable operating expenses	1,720	
Total variable expenses		537,890
Fixed expenses:		
Selling and marketing expenses	\$30,150	
Website maintenance expenses	42,880	
Other fixed expenses	15,480	
Total fixed expenses		88,510
Net operating income		\$225,900

Calculations for selling and marketing expenses:

Total selling and marketing expenses	\$56,700
Variable freightout	<u>16,500</u>
Remaining selling and marketing expenses	40,200

Variable: $\$40,200 \times 25\% = \$10,050 + \$16,500 \text{ (freight out)} = \$26,550$

Fixed: $\$40,200 \times 75\% = \$30,150$

Calculations for website maintenance expenses:

Variable: $\$53,600 \times 20\% = \$10,720$

Fixed: $\$53,600 \times 80\% = \$42,880$

Calculations for other operating expenses:

Variable: $\$17,200 \times 10\% = \$1,720$

Fixed: $\$17,200 \times 90\% = \$15,480$

Answer Key

Testname: UNTITLED3

332)

Ava's Boutique
Contribution Margin Income Statement
For the Year Ended December 31

Sales revenue		\$289,300
Variable expenses:		
Cost of goods sold	\$201,100	
Selling and marketing expenses	10,530	
Website maintenance expenses	4,350	
Other variable operating expenses	2,360	
Total variable expenses		218,340
Fixed expenses:		
Selling and marketing expenses	\$8,370	
Website maintenance expenses	13,050	
Other fixed expenses	3,540	
Total fixed expenses		24,960
Net operating income		\$46,000

Calculations for selling and marketing expenses:

Total selling and marketing expenses	\$18,900
Variable freightout	9,600
Remaining selling and marketing expenses	9,300

Variable: $\$9,300 \times 10\% = \$930 + \$9,600 \text{ (freight out)} = \$10,530$

Fixed: $\$9,300 \times 90\% = \$8,370$

Calculations for website maintenance expenses:

Variable: $\$17,400 \times 25\% = \$4,350$

Fixed: $\$17,400 \times 75\% = \$13,050$

Calculations for other operating expenses:

Variable: $\$5,900 \times 40\% = \$2,360$

Fixed: $\$5,900 \times 60\% = \$3,540$

Answer Key

Testname: UNTITLED3

333) Requirement 1:

Spadina Carriage Company		
Contribution Margin Income Statement		
For the Month Ended July 31		
Sales revenue $(16,240 \times 85\% \times \$30.00) +$		
$(16,240 \times 15\% \times \$20.00)$		\$462,840
Variable expenses:		
Fee paid to city $(15\% \times \$462,840)$	\$69,426	
Complimentary postcards $(16,240 \times \$1.00)$	16,240	
Brokerage fee $(16,240 \times 60\% \times \$1.25)$	12,180	
Bus driver wages $(16,240 \times \$5.00)$	81,200	
Total variable expenses		179,046
Contribution margin		\$283,794
Fixed expenses:		
Leasing of automotive equipment	\$60,000	
Non-tour guide payroll expense	9,375	
Depreciation expense	3,625	
Other fixed operating expenses	9,000	
Total fixed expenses		82,000
Operating income		\$201,794

Requirement 2:

If passenger volume increases by 20% in August, we would expect revenue and all variable expenses to increase by 20% because revenues and variable costs change in direct proportion to changes in volume. As a result, the contribution would also increase by 20%. However, assuming that a 20% increase in volume is still in the same relevant range, we expect all fixed costs to remain at their present level.

Answer Key

Testname: UNTITLED3

334) Requirement 1:

Waterfront Tours Company		
Contribution Margin Income Statement		
For the Month Ended July 31		
Sales revenue ($28,020 \times 85\% \times \30.00) +		
($28,020 \times 15\% \times \20.00)		\$798,570
Variable expenses:		
Fee paid to city ($15\% \times \$462,840$)	\$119,786	
Complimentary postcards ($28,020 \times \$1.00$)	28,020	
Brokerage fee ($28,020 \times 60\% \times \1.25)	21,015	
Bus driver wages ($28,020 \times \$5.00$)	140,100	
Total variable expenses		308,921
Contribution margin		\$489,649
Fixed expenses:		
Leasing of automotive equipment	\$76,000	
Non-tour guide payroll expense	12,375	
Depreciation expense	5,250	
Other fixed operating expenses	14,500	
Total fixed expenses		108,125
Operating income		\$381,524

Requirement 2:

If passenger volume increases by 15% in August, we would expect revenue and all variable expenses to increase by 15% because revenues and variable costs change in direct proportion to changes in volume. As a result, the contribution would also increase by 15%. However, assuming that a 15% increase in volume is still in the same relevant range, we expect all fixed costs to remain at their present level.

Answer Key

Testname: UNTITLED3

335) Requirement 1:

Jetboat Tours Company Contribution Margin Income Statement For the Year Ended July 31

Sales revenue		\$1,026,533
Variable expenses:		
Fee paid to city	\$ 153,980	
Postcards	77,650	
Brokerage fees	27,954	
Bus driver wages	155,300	
Total variable expenses		414,884
Fixed expenses:		
Leasing jet boats	\$ 53,000	
Non-tour guide payroll expense	15,650	
Depreciation expense	7,625	
Other fixed operating expenses	13,480	
Total fixed expenses		89,755
Net operating income		\$ 521,894

Requirement 2:

If passenger volume increases by 12% in August, we would expect revenue and all variable expenses to increase by 12% because revenues and variable costs change in direct proportion to changes in volume. As a result, the contribution would also increase by 12%. However, assuming that a 12% increase in volume is still in the same relevant range, we expect all fixed costs to remain at their present level.

Answer Key

Testname: UNTITLED3

336) Requirement 1:

Jetboat Tours Company Contribution Margin Income Statement For the Year Ended July 31

Sales revenue		\$151,340
Variable expenses:		
Fee paid to city	\$22,701	
Postcards	9,660	
Brokerage fees	7,728	
Bus driver wages	32,200	
Total variable expenses		72,289
Fixed expenses:		
Leasing jet boats	\$12,000	
Non-tour guide payroll expense	1,275	
Depreciation expense	2,135	
Other fixed operating expenses	3,840	
Total fixed expenses		89,755
Net operating income		\$59,801

Requirement 2:

If passenger volume increases by 8% in August, we would expect revenue and all variable expenses to increase by 8%. because revenues and variable costs change in direct proportion to changes in volume. As a result, the contribution margin would also increase by 8%. However, assuming that a 8% increase in volume is still in the same relevant range, we would expect all fixed costs to remain at their present level.

337) A traditional income statement groups expenses based on their function (Cost of Sales; General and Administration). A contribution margin income statement groups expenses based on their behaviour (Variable; Fixed). A traditional income statement calculates Gross Profit (Sales minus Cost of Sales). A contribution margin income statement calculates a Contribution Margin (Sales minus variable costs).

338) B

339) A

340) H

341) D

342) J

343) I

344) F

345) G

346) C

347) B

348) E

349) A

350) FALSE

351) FALSE

352) TRUE

353) TRUE

Answer Key

Testname: UNTITLED3

- 354) TRUE
- 355) TRUE
- 356) FALSE
- 357) FALSE
- 358) TRUE
- 359) TRUE
- 360) TRUE
- 361) FALSE
- 362) FALSE
- 363) FALSE
- 364) TRUE
- 365) FALSE
- 366) FALSE
- 367) TRUE
- 368) FALSE
- 369) FALSE
- 370) FALSE
- 371) A
- 372) B
- 373) C
- 374) D
- 375) B
- 376) B
- 377) B
- 378) A
- 379) D
- 380) B
- 381) D
- 382) C
- 383) D
- 384) C
- 385) D
- 386) B
- 387) A
- 388) B
- 389) A
- 390) B
- 391) B
- 392) C
- 393) B
- 394) D
- 395) B

Answer Key

Testname: UNTITLED3

396) B

397) B

398) B

399) A

400) A

401) C

402) A

403) C

404) B

405) B

406) C

407) B

408) A

409) C

410) C

411) D

412) D

413) C

414) B

- 415) a. Fixed manufacturing overhead is expensed in its entirety under variable costing, while fixed overhead is added as part of cost of each unit under absorption costing. If all units are not produced and sold within a period, some of the fixed manufacturing overhead is either deferred to the next period or it is released (expensed) from a prior period.
- b. If the units produced equals the units sold, the operating income under absorption costing will be equal to the operating income under variable costing.
- c. Absorption costing operating income will be higher in any period when more units are produced than sold.
- d. Absorption costing operating income will be lower in a period when more units are sold than produced (when units in beginning inventory are sold).
- e. Absorption costing is required by GAAP.
- f. Variable costing is useful for short-term decision-making by managers.

416)

Part 1	
Units sold during year	9,000
Selling price per unit	\$50.00
Sales revenue	\$450,000
Fixed manufacturing overhead (in total)	\$50,000
Divide by	Divide by
Units produced during year	10,000
Fixed manufacturing overhead per unit	\$5.00
Variable manufacturing cost per unit	\$24.00
Fixed manufacturing overhead per unit	\$5.00
Product cost per unit	\$29.00
Product cost per unit	\$29.00

Answer Key

Testname: UNTITLED3

Product cost per unit	\$29.00
Units sold during year	9,000
Cost of goods sold	\$261,000
Variable selling and administrative expense per unit	\$4.00
Units sold during year	9,000
Variable selling and administrative expenses	36,000
Sales revenue	\$450,000
Cost of goods sold	\$(261,000)
Gross margin	\$189,000
Variable selling and administrative expenses	(36,000)
Fixed selling and administrative expenses (in total)	\$(8,000)
Operating income	\$145,000

Part 2	
Fixed manufacturing overhead (in total)	\$50,000
Divide by	Divide by
Units produced during year	10,000
Fixed manufacturing overhead per unit	\$5.00
Variable manufacturing cost per unit	\$24.00
Per unit cost	\$29.00
Units in ending inventory	1,000
Value in ending inventory (absorption costing)	29,000

Part 3	
Units sold during year	9,000
Selling price per unit	\$50.00
Sales revenue	\$450,000
Units sold during year	9,000
Variable manufacturing cost per unit	\$24.00
Variable manufacturing costs	\$216,000
Units sold during year	9,000
Variable selling and administrative expense per unit	\$4.00
Variable selling and administrative expenses	\$36,000
Sales revenue	\$450,000
Variable manufacturing costs	\$(216,000)
Variable selling and administrative expenses	\$(36,000)
Contribution margin	\$198,000
Fixed manufacturing overhead (in total)	\$(50,000)
Fixed selling and administrative expenses (in total)	\$(8,000)
Operating income	\$140,000

Part 4	
Variable manufacturing cost per unit	\$24.00

Answer Key

Testname: UNTITLED3

Variable manufacturing cost per unit	\$24.00
Units in ending inventory	1,000
Value in ending inventory (variable costing)	24,000

417)

Part a.	
Solution	
Units sold during year	8,000
Selling price per unit	\$ 60.00
Sales revenue	\$ 480,000
Fixed manufacturing overhead (in total)	\$ 50,000
Divide by	Divide by
Units produced during year	10,000
Fixed manufacturing overhead per unit	\$ 5.00
Variable manufacturing cost per unit	\$ 25.00
Fixed manufacturing overhead per unit	\$ 5.00
Product cost per unit	\$ 30.00
Product cost per unit	\$ 30.00
Units sold during year	8,000
Cost of goods sold	\$ 240,000
Variable selling and administrative expense per unit	\$ 6.00
Units sold during year	8,000
Variable selling and administrative expenses	48,000
Sales revenue	\$ 480,000
Cost of goods sold	\$ (240,000)
Gross margin	\$ 240,000
Variable selling and administrative expenses	(48,000)
Fixed selling and administrative expenses (in total)	\$ (8,000)
Operating income	\$ 184,000
Part b.	
SOLUTION	
Fixed manufacturing overhead (in total)	\$ 50,000
Divide by	Divide by
Units produced during year	10,000
Fixed manufacturing overhead per unit	\$ 5.00
Variable manufacturing cost per unit	\$ 25.00
Per unit cost	\$ 30.00
Units in ending inventory	2,000
Value in ending inventory (absorption costing)	60,000

Answer
Testna

Fixed manufacturing overhead (in total)	\$ 50,000
Divide by	Divide by
Units produced during year	10,000
Fixed manufacturing overhead per unit	\$ 5.00
Variable manufacturing cost per unit	\$ 25.00
Per unit cost	\$ 30.00
Units in ending inventory	2,000
Value in ending inventory (absorption costing)	60,000

Part c.	
Solution	
Units sold during year	8,000
Selling price per unit	\$ 60.00
Sales revenue	\$ 480,000
Units sold during year	8,000
Variable manufacturing cost per unit	\$ 25.00
Variable manufacturing costs	\$ 200,000
Units sold during year	8,000
Variable selling and administrative expense per unit	\$ 6.00
Variable selling and administrative expenses	\$ 48,000
Sales revenue	\$ 480,000
Variable manufacturing costs	\$ (200,000)
Variable selling and administrative expenses	\$ (48,000)
Contribution margin	\$ 232,000
Fixed manufacturing overhead (in total)	\$ (50,000)
Fixed selling and administrative expenses (in total)	\$ (8,000)
Operating income	\$ 174,000

Part d.	
SOLUTION	
Variable manufacturing cost per unit	\$ 25.00
Units in ending inventory	2,000
Value in ending inventory (variable costing)	50,000

418)

Part 1	
Units sold during year	30,000
Selling price per unit	\$10.00
Sales revenue	\$300,000
Fixed manufacturing overhead (in total)	\$20,000
Divide by	Divide by
Units produced during year	40,000
Fixed manufacturing overhead per unit	\$0.50
Variable manufacturing cost per unit	\$5.50
Fixed manufacturing overhead per unit	\$0.50
Product cost per unit	\$6.00
Product cost per unit	\$6.00
Units sold during year	30,000
Cost of goods sold	\$180,000
Variable selling and administrative expense per unit	\$1.00
Units sold during year	30,000
Variable selling and administrative expenses	30,000

Answer Key

Testname: UNTITLED3

Variable selling and administrative expenses	30,000
Sales revenue	\$300,000
Cost of goods sold	\$(180,000)
Gross margin	\$120,000
Variable selling and administrative expenses	(30,000)
Fixed selling and administrative expenses (in total)	\$(4,000)
Operating income	\$86,000

Part 2	
Fixed manufacturing overhead (in total)	\$20,000
Divide by	Divide by
Units produced during year	40,000
Fixed manufacturing overhead per unit	\$0.50
Variable manufacturing cost per unit	\$5.50
Per unit cost	\$6.00
Units in ending inventory	10,000
Value in ending inventory (absorption costing)	60,000

Part 3	
Units sold during year	30,000
Selling price per unit	\$10.00
Sales revenue	\$300,000
Units sold during year	30,000
Variable manufacturing cost per unit	\$5.50
Variable manufacturing costs	\$165,000
Units sold during year	30,000
Variable selling and administrative expense per unit	\$1.00
Variable selling and administrative expenses	\$30,000
Sales revenue	\$300,000
Variable manufacturing costs	\$(165,000)
Variable selling and administrative expenses	\$(30,000)
Contribution margin	\$105,000
Fixed manufacturing overhead (in total)	\$(20,000)
Fixed selling and administrative expenses (in total)	\$(4,000)
Operating income	\$81,000

Part 4	
Variable manufacturing cost per unit	\$5.50
Units in ending inventory	10,000
Value in ending inventory (variable costing)	55,000

Answer Key

Testname: UNTITLED3

419) PART 1			
Revenue (35,000 × \$11.00)			\$ 385,000
Variable Costs			
Variable Cost of Goods Sold			
Beginning Inventory	\$ -		
Variable Cost of Goods Manufactured (\$3.50 × 40,000)	\$ 140,000		
Less: Ending Inventory (\$3.50 × 5,000)	\$ 17,500		
Variable Cost of Goods Sold		\$ 122,500	
Variable Selling and Admin (\$1.00 × 35,000)		\$ 35,000	
Total Variable Costs			\$ 157,500
Contribution Margin			\$ 227,500
Fixed Costs:			
Fixed Manufacturing		\$ 80,000	
Fixed Selling and Admin		\$ 40,000	
Total Fixed Costs			\$ 120,000
Operating Income			\$ 107,500
PART 2			
Ending Inventory (5,000 units at \$3.50)	\$ 17,500		
PART 3			
Variable Cost of Manufacturing $3.50 \times 40,000$		\$ 140,000	
Fixed Manufacturing Cost		\$ 80,000	
Total Manufacturing Cost		\$ 220,000	
divide by number of units		40,000	
Absorption Cost per unit		\$ 5.50	
PART 4			
Revenue (35,000 × \$11.00)			\$ 385,000
Cost of Goods Sold			
Beginning Inventory		\$ -	
Cost of Goods Manufactured (\$5.50 × 40,000)		\$ 220,000	
Less: Ending Inventory (\$5.50 × 5,000)		\$ 27,500	
Cost of Goods Sold			\$ 192,500
Gross Margin			\$ 192,500
General and Admin Expenses			
Variable Selling and Admin (\$1 × 35,000)		\$ 35,000	
Fixed Selling and Admin		\$ 40,000	
Total Fixed Costs			\$ 75,000
Operating Income			\$ 117,500
PART 5			
Ending Inventory (5,000 units at \$5.50)	\$ 27,500		

Answer Key

Testname: UNTITLED3

420) PART 1			
Revenue (38,000 × \$8.00)			\$ 304,000
Variable Costs			
Variable Cost of Goods Sold			
Beginning Inventory	\$ -		
Variable Cost of Goods Manufactured (\$2.50 × 42,000)	\$ 105,000		
Less: Ending Inventory (\$2.50 × 4,000)	\$ 10,000		
Variable Cost of Goods Sold		\$ 95,000	
Variable Selling and Admin (\$0.75 × 38,000)		\$ 28,500	
Total Variable Costs			\$ 123,500
Contribution Margin			\$ 180,500
Fixed Costs:			
Fixed Manufacturing		\$ 50,000	
Fixed Selling and Admin		\$ 40,000	
Total Fixed Costs			\$ 90,000
Operating Income			\$ 90,500
PART 2			
Ending Inventory (42,000 - 38,000) × \$2.50	\$ 10,000		
PART 3			
Variable Cost of Manufacturing \$2.50 × 42,000		\$ 105,000	
Fixed Manufacturing Cost		\$ 50,000	
Total Manufacturing Cost		\$ 155,000	
divide by number of units		42,000	
Absorption Cost per unit		\$ 3.690	
PART 4			
Revenue (38,000 × \$8.00)			\$ 304,000
Cost of Goods Sold			
Beginning Inventory		\$ -	
Cost of Goods Manufactured (\$2.5 × 42,000)	\$ 105,000	\$ 155,000	
Less: Ending Inventory (\$3.69 × 4,000)		\$ 14,760	
Cost of Goods Sold			\$ 140,240
Gross Margin			\$ 163,760
General and Admin Expenses			
Variable Selling and Admin (\$0.75 × 38,000)		\$ 28,500	
Fixed Selling and Admin		\$ 40,000	
Total Fixed Costs			\$ 68,500
Operating Income			\$ 95,260
PART 5			
Ending Inventory (4,000 units at \$3.69)	\$ 14,760		

Answer Key

Testname: UNTITLED3

421) Requirement 1:

	<u>July</u>		<u>August</u>	
	<u>Absorption</u>	<u>Variable</u>	<u>Absorption</u>	<u>Variable</u>
	<u>Costing</u>	<u>Costing</u>	<u>Costing</u>	<u>Costing</u>
Variable manufacturing expenses....	\$6.00	\$6.00	\$6.00	\$6.00
Fixed manufacturing expenses.....	.50 ^a	--	.70	--
Total.....	\$6.50	\$6.00	\$6.70	\$6.00

$$^a \text{Fixed overhead per meal} = \frac{\text{Fixed manufacturing overhead}}{\text{Number of meals produced}}$$

$$\begin{aligned} \text{In July:} &= \frac{\$1,050}{2,100} \\ &= \underline{\underline{\$0.50 \text{ per pizza}}} \end{aligned}$$

$$\begin{aligned} \text{In August:} &= \frac{\$1,050}{1,500} \\ &= \underline{\underline{\$0.70 \text{ per pizza}}} \end{aligned}$$

Requirement 2a:

Andrea's Bakery Income Statement (Absorption Costing) Month Ended July 31

Sales revenue (1,500 × \$10)		\$15,000
Less: Cost of goods sold:		
Beginning finished goods inventory	\$ 0	
Cost of goods manufactured (2,100 × \$6.70)	<u>13,650</u>	
Cost of goods available for sale	13,650	
Ending finished goods inventory (600 × \$6.50) ^a	<u>(3,900)</u>	
Cost of goods sold:		<u>(9,750)</u>
Gross profit		5,250
Less: Operating expenses:		
Marketing and administrative expenses		
[(1,500 × \$1.50) + \$900]		<u>(3,150)</u>
Operating income		<u><u>\$2,100</u></u>

	<u>Units</u>
^a Beginning inventory	0
Units produced	<u>2,100</u>
Units available	2,100
Units sold	<u>(1,500)</u>
Ending inventory	<u><u>600</u></u>

Andrea's Bakery Income Statement (Absorption Costing) Month Ended August 31

Answer Key

Testname: UNTITLED3

Month Ended August 31

Sales revenue (1,800 × \$10)		\$18,000
Less: Cost of goods sold:		
Beginning finished goods inventory	\$3,900 ^b	
Cost of goods manufactured (1,500 × \$6.70)	<u>10,050</u>	
Cost of goods available for sale	13,950	
Ending finished goods inventory (300 ^c × \$6.70) ^d	<u>(2,010)</u>	
Cost of goods sold:		<u>(11,940)</u>
Gross profit		6,060
Less: Operating expenses:		
Fixed marketing and administrative expenses		
[(1,800 × \$1.50) + \$900]		<u>(3,600)</u>
Operating income		<u>\$2,460</u>

^b Ending inventory in January's absorption costing income statement.

	<u>Units</u>
^c Beginning inventory	600
Units produced	1,500
Units available	2,100
Units sold	(1,800)
Ending inventory	300

^d Under FIFO, ending inventory is costed at the current period's cost (\$6.70).

Requirement 2b:

Andrea's Bakery
Income Statement (Variable Costing)
Month Ended July 31

Sales revenue (1,800 × \$10)		\$15,000
Less: Variable expenses:		
Beginning finished goods inventory	\$ 0	
Variable cost of goods manufactured		
(2,100 × \$6)	<u>12,600</u>	
Variable cost of goods available for sale	12,600	
Ending finished goods inventory (600 × \$6)	<u>(3,600)</u>	
Variable cost of goods sold	9,000	
Sales commission expense (1,500 × \$1.50)	<u>2,250</u>	
Total variable expenses		<u>(6,750)</u>
Contribution margin		8,250
Less: Fixed expenses:		
Fixed manufacturing overhead	1,050	
Fixed marketing and administrative expenses	<u>900</u>	
Total fixed expenses		<u>(1,950)</u>
Operating income		<u>\$ 7,300</u>

Answer Key

Testname: UNTITLED3

Andrea's Bakery Income Statement (Variable Costing) Month Ended August 31

Sales revenue (1,800 × \$10)		\$18,000
Less: Variable expenses:		
Beginning finished goods inventory	\$3,600 ^d	
Variable cost of goods manufactured		
(1,500 × \$6)	<u>9,000</u>	
Variable cost of goods available for sale	12,600	
Ending finished goods inventory (300 × \$6)	<u>(1,800)</u>	
Variable cost of goods sold	10,800	
Sales commission expense (1,800 × \$1.50)	<u>2,700</u>	
Total variable expenses		<u>(12,900)</u>
Contribution margin		5,100
Less: Fixed expenses:		
Fixed manufacturing overhead	1,050	
Fixed marketing and administrative expenses	<u>900</u>	
Total fixed expenses		<u>(1,950)</u>
Operating income		\$ 3,150

^d Ending inventory in January's variable costing income statement.

Requirement 3:

In July, absorption costing operating income exceeds variable costing income. This is because production exceeds sales. Absorption costing defers some of July's fixed manufacturing overhead costs in the 600 units of ending inventory. The costs will not be expensed until those units are sold. Deferring some of July's fixed manufacturing overhead costs to the future increases July's absorption costing income.

In August, absorption costing operating income is less than variable costing operating income. This is because fewer units were produced than are sold. As inventory declines, July's fixed manufacturing overhead costs that absorption costing assigned to that inventory are expensed in August. This decreases August's absorption costing income.

422) Requirement 1:

	<u>July</u>		<u>August</u>	
	<u>Absorption Costing</u>	<u>Variable Costing</u>	<u>Absorption Costing</u>	<u>Variable Costing</u>
Variable manufacturing expenses....	\$4.00	\$4.00	\$4.00	\$4.00
Fixed manufacturing expenses.....	<u>.60^a</u>	<u>--</u>	<u>.80</u>	<u>--</u>
Total.....	\$4.60	\$4.00	\$4.80	\$4.00

$$^a \text{Fixed overhead per meal} = \frac{\text{Fixed manufacturing overhead}}{\text{Number of donairs produced}}$$

$$\begin{aligned} \text{In July:} &= \frac{\$1,200}{2,000} \\ &= \underline{\underline{\$0.60 \text{ per donair}}} \end{aligned}$$

$$\text{In August:} = \frac{\$1,200}{1,500}$$

Answer Key

Testname: UNTITLED3

$$\begin{aligned} \text{In August:} &= \frac{\$1,200}{1,500} \\ &= \underline{\underline{\$0.80 \text{ per donair}}} \end{aligned}$$

Requirement 2a:

Halifax Frozen Donair Income Statement (Absorption Costing) Month Ended July 31

Sales revenue (1,200 × \$9)		\$10,800
Less: Cost of goods sold:		
Beginning finished goods inventory	\$ 0	
Cost of goods manufactured (2,000 × \$4.60)	<u>9,200</u>	
Cost of goods available for sale	9,200	
Ending finished goods inventory (800 × \$4.60) ^a	<u>(3,680)</u>	
Cost of goods sold:		<u>(5,520)</u>
Gross profit		5,280
Less: Operating expenses:		
Marketing and administrative expenses		
[(1,200/10 × \$2.50) + \$800]		<u>(1,100)</u>
Operating income		<u><u>\$4,180</u></u>

	<u>Units</u>
^a Beginning inventory	0
Units produced	<u>2,000</u>
Units available	2,000
Units sold	<u>(1,200)</u>
Ending inventory	<u><u>800</u></u>

Halifax Frozen Donair Income Statement (Absorption Costing) Month Ended August 31

Sales revenue (1,800 × \$9)		\$16,200
Less: Cost of goods sold:		
Beginning finished goods inventory	\$3,680 ^b	
Cost of goods manufactured (1,500 × \$4.80)	<u>7,200</u>	
Cost of goods available for sale	10,880	
Ending finished goods inventory (500 ^c × \$4.80) ^d	<u>(2,400)</u>	
Cost of goods sold:		<u>(8,480)</u>
Gross profit		7,720
Less: Operating expenses:		
Marketing and administrative expenses		
[(1,800/10 × \$2.50) + \$800]		<u>(1,250)</u>
Operating income		<u><u>\$6,470</u></u>

^b Ending inventory in January's absorption costing income statement.

Units

Answer Key

Testname: UNTITLED3

	<u>Units</u>
c Beginning inventory	800
Units produced	1,500
Units available	2,300
Units sold	(1,800)
Ending inventory	500

d Under FIFO, ending inventory is costed at the current period's cost (\$4.75).

Requirement 2b:

Halifax Frozen Donair Income Statement (Variable Costing) Month Ended July 31

Sales revenue (1,200 × \$9)		\$10,800
Less: Variable expenses:		
Beginning finished goods inventory	\$ 0	
Variable cost of goods manufactured		
(2,000 × \$4)	<u>8,000</u>	
Variable cost of goods available for sale	8,000	
Ending finished goods inventory (800 × \$4)	<u>(3,200)</u>	
Variable cost of goods sold	4,800	
Sales commission expense (1,200/4 × \$2.50)	<u>300</u>	
Total variable expenses		<u>(5,100)</u>
Contribution margin		5,700
Less: Fixed expenses:		
Fixed manufacturing overhead	1,200	
Fixed marketing and administrative expenses	<u>800</u>	
Total fixed expenses		<u>(2,000)</u>
Operating income		<u>\$ 3,700</u>

Halifax Frozen Donair Income Statement (Variable Costing) Month Ended August 31

Sales revenue (1,800 × \$9)		\$16,200
Less: Variable expenses:		
Beginning finished goods inventory	\$3,200 ^d	
Variable cost of goods manufactured		
(1,500 × \$4)	<u>6,000</u>	
Variable cost of goods available for sale	9,200	
Ending finished goods inventory (500 × \$4)	<u>(2,000)</u>	
Variable cost of goods sold	7,200	
Sales commission expense (1,800/4 × \$2.50)	<u>450</u>	
Total variable expenses		<u>(7,650)</u>
Contribution margin		8,550
Less: Fixed expenses:		
Fixed manufacturing overhead	1,200	

Answer Key

Testname: UNTITLED3

Fixed manufacturing overhead	1,200	
Fixed marketing and administrative expenses	<u>800</u>	
Total fixed expenses		<u>(2,000)</u>
Operating income		\$ 6,550

d Ending inventory in January's variable costing income statement.

Requirement 3:

In July, absorption costing operating income exceeds variable costing income. This is because production exceeds sales. Absorption costing defers some of July's fixed manufacturing overhead costs in the 600 units of ending inventory. The costs will not be expensed until those units are sold. Deferring some of July's fixed manufacturing overhead costs to the future increases July's absorption costing income.

In August, absorption costing operating income is less than variable costing operating income. This is because fewer units produced than are sold. As inventory declines, July's fixed manufacturing overhead costs that absorption costing assigned to that inventory are expensed in August. This decreases August's absorption costing income.

423) TRUE

424) TRUE

425) TRUE

426) FALSE

427) TRUE

428) D

429) C

430) C

431)

	Regular	Executive	Total
Units	6,500	3,000	
Revenues	\$260,000	\$300,000	\$560,000
Variable Expenses	<u>104,000</u>	<u>96,000</u>	<u>200,000</u>
Contribution Margin	156,000	204,000	360,000
Traceable Fixed Exp.	<u>60,000</u>	<u>75,000</u>	<u>135,000</u>
Segment Margin	<u>\$96,000</u>	<u>\$129,000</u>	225,000
Common Costs			<u>25,000</u>
Net Income			<u>\$200,000</u>

432)

	Sportsman	Professional	Total
Units	5,000	3,000	
Revenues	\$190,000	\$330,000	\$520,000
Variable Expenses	<u>120,000</u>	<u>150,000</u>	<u>270,000</u>
Contribution Margin	70,000	180,000	250,000
Traceable Fixed Exp.	<u>45,000</u>	<u>95,000</u>	<u>140,000</u>
Segment Margin	<u>\$25,000</u>	<u>\$85,000</u>	110,000
Common Costs			<u>70,000</u>
Net Income			<u>\$40,000</u>

Answer Key

Testname: UNTITLED3

433)	Regular	Executive	Total	
Units	7,500	4,000		
Revenues	\$412,500	\$500,000	\$912,500	
Variable Expenses	<u>187,500</u>	<u>160,000</u>	<u>347,500</u>	
Contribution Margin	225,000	340,000	565,000	
Traceable Fixed Exp.	<u>65,000</u>	<u>85,000</u>	<u>150,000</u>	
Segment Margin	<u>\$160,000</u>	<u>\$255,000</u>	415,000	
Common Costs			60,000	
Net Income			<u>\$355,000</u>	
434)	Sportsman	Professional	Total	
Units	8,000	5,000		
Revenues	\$144,000	\$375,000	\$519,000	
Variable Expenses	<u>96,000</u>	<u>200,000</u>	<u>296,000</u>	
Contribution Margin	48,000	175,000	223,000	
Traceable Fixed Exp.	<u>35,000</u>	<u>95,000</u>	<u>130,000</u>	
Segment Margin	<u>\$13,000</u>	<u>\$80,000</u>	93,000	
Common Costs			48,000	
Net Income			<u>\$45,000</u>	
435)	Sportsman	Professional	Masters	Total
Units	6,000	5,000	2,500	
Revenues	\$150,000	\$300,000	\$225,000	\$675,000
Variable Expenses	<u>69,000</u>	<u>185,000</u>	<u>120,000</u>	<u>374,000</u>
Contribution Margin	81,000	115,000	105,000	301,000
Traceable Fixed Exp.	<u>65,000</u>	<u>55,000</u>	<u>75,000</u>	<u>195,000</u>
Segment Margin	<u>\$16,000</u>	<u>\$60,000</u>	<u>\$ 30,000</u>	106,000
Common Costs				35,000
Net Income				<u>\$71,000</u>