

**MIDTERM EXAM**  
**AFM 102: Introduction to Managerial Accounting**  
**Sections 001, 002, 003 and 004**  
**February 29, 2008: 4:30 – 6:00 PM**  
**Instructors: Rob Ducharme; Thomas Vance**

**STUDENT NAME:** \_\_\_\_\_

**STUDENT ID:** \_\_\_\_\_

**TUTORIAL:**

**Room: PAS 1229**

\_\_\_\_\_ 9:30-10:20 (101)  
\_\_\_\_\_ 10:30-11:30 (102)  
\_\_\_\_\_ 11:30-12:20 (103)  
\_\_\_\_\_ 12:30-1:20 (104)  
\_\_\_\_\_ 1:30-2:20 (105)  
\_\_\_\_\_ 2:30-3:20 (106)  
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\_\_\_\_\_ 8:30-9:20 (108)

**Room: HH 138**

\_\_\_\_\_ 1:30-2:20 (109)  
\_\_\_\_\_ 2:30-3:20 (110)  
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\_\_\_\_\_ 4:30-5:20 (112)

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- **Clearly label your solutions to each part of Questions 2-8 to facilitate accurate marking.**

**MARKS (Awarded / Possible)**

**Q1:** \_\_\_\_\_ / 31  
**Q2:** \_\_\_\_\_ / 8  
**Q3:** \_\_\_\_\_ / 6  
**Q4:** \_\_\_\_\_ / 14  
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**ANSWER MULTIPLE CHOICE QUESTIONS ON THE SCANTRON SHEET**

**One mark per question, unless preceded by ‘\*’, then two.**

1. Which of the following statements about overhead allocation based on volume alone is correct?
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16. Expense A is a fixed cost; expense B is a variable cost. During the current year, the activity level has increased but is still within the relevant range. In terms of cost per unit of activity, you would expect which of the following statements to be true?
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17. If company A has a higher degree of operating leverage than company B, then which of the following statements is true?
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19. Which of the following costs is often important in decision making, but is omitted from conventional accounting records?
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- A) 920 units.
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21. The following costs were incurred in January:

Direct materials	\$43,000
Direct labour	\$30,000
Manufacturing overhead	\$25,000
Selling expenses	\$12,000
Administrative expenses	\$28,000

Prime costs during the month totaled:

- A) \$98,000
  - B) \$73,000
  - C) \$55,000
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22. What is a cost driver?
- A) It is the largest single category of cost in a company.
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23. Which of the following is not a limitation of activity-based costing?
- A) Maintaining an activity-based costing system is more costly than maintaining a traditional direct labour-based costing system.
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  - C) In practice, most managers insist on fully allocating all costs to products, customers, and other costing objects in an activity-based costing system. This results in overstated costs.
  - D) More accurate product costs may result in increasing the selling prices of some products.
24. Which of the following aspects of designing a costing system is a higher-level and more subjective activity?
- A) Accumulating costs by departments.
  - B) Applying costs to cost objects.
  - C) Assessing cost/benefit trade-offs of different systems.
  - D) Assigning cost to jobs and/or process.
25. Which of the following would be classified as a product-level activity?
- A) Machine setup for a batch of a standard product.
  - B) Cafeteria facilities available to and used by all employees.
  - C) Human resource management.
  - D) Advertising a product.
26. Which of the following statements is true for a firm that uses variable costing?
- A) The unit product cost changes as a result of changes in the number of units manufactured.
  - B) Both variable selling costs and variable production costs are included in the unit product cost.
  - C) Operating income moves in the same direction as sales.
  - D) Operating income is greatest in periods when production is highest.
- \*27. Rossiter Company failed to record a credit sale at the end of the year, although the reduction in finished goods inventories was correctly recorded when the goods were shipped to the customer. Which one of the following statements is correct?
- A) Accounts receivable was not affected, inventory was not affected, sales were understated, and cost of goods sold was understated.
  - B) Accounts receivable was understated, inventory was overstated, sales were understated, and cost of goods sold was overstated.
  - C) Accounts receivable was not affected, inventory was understated, sales were understated, and cost of goods sold was understated.
  - D) Accounts receivable was understated, inventory was not affected, sales were understated, and cost of goods sold was not affected.

28. A company increased the selling price for its product from \$1.00 to \$1.10 a unit when total fixed expenses increased from \$400,000 to \$480,000 and the variable expense per unit remained unchanged. How would these changes affect the break-even point?
- A) The break-even point in units would increase.
  - B) The break-even point in units would decrease.
  - C) The break-even point in units would remain unchanged.
  - D) The effect cannot be determined from the information given.

**Q2.** (8 marks) Ayotte is a Vancouver BC-based manufacturer of acoustic drums. Management is planning production for the upcoming year and would like to know what unit product cost will be under both absorption and variable cost approaches. Fixed manufacturing overhead is expected to be \$250,000 and the forecast calls for 1,250 drums to be manufactured and 1,000 sold. Each drum is expected to use \$75 in raw materials and will require 15 hours of direct labour at \$17.00 per hour. Variable overhead per drum is \$2.00.

Determine the unit cost per drum under absorption and variable costing methods.

**Q3.** (6 Marks) Management at Black Happy Productions is conducting a comprehensive investigation of cost behavior related to production of their single product. You have been asked to evaluate the behavior of shipping costs. Activity and costs for the last seven months is listed below.

<b>Month</b>	<b>Activity</b>	<b>Cost</b>
Aug	1,000	\$24,000
Sep	1,500	\$28,000
Oct	1,240	\$26,000
Nov	1,750	\$27,500
Dec	950	\$22,000
Jan	1,100	\$21,000
Feb	1,450	\$25,500

Use the high-low method to provide management with the mixed-cost equation for the shipping activity.

**Q4.** (14 marks) On December 1, managers at Green River Industries found that 10,000 completed units were sitting in inventory. In an attempt to deal with the problem, the decision was made to scale production back in January and then increase production in the subsequent periods, to be in line with demand. The operating results from the last three months can be seen below.

	<b>December</b>	<b>January</b>	<b>February</b>
Sales	\$1,875,000	\$1,950,000	\$2,175,000
Less COGS			
Beg. FG Inv.	630,000	126,000	189,000
COGM	1,071,000	1,701,000	1,764,000
Less Ending FG Inv.	126,000	189,000	126,000
COGS	<u>\$1,575,000</u>	<u>\$1,638,000</u>	<u>\$1,827,000</u>
Under or (over) applied fixed overhead	80,000	(20,000)	(30,000)
Adjust COGS	<u>1,655,000</u>	<u>1,618,000</u>	<u>1,797,000</u>
Gross Margin	<u>220,000</u>	<u>332,000</u>	<u>378,000</u>
Less S&A	<u>150,000</u>	<u>150,000</u>	<u>150,000</u>
Operating Income	<u><u>\$70,000</u></u>	<u><u>\$182,000</u></u>	<u><u>\$228,000</u></u>

Production (units)	17,000	27,000	28,000
Sales (Units)	25,000	26,000	29,000
Sales Price (\$)	\$75.00	\$75.00	\$75.00
Absorption unit cost	\$63.00	\$63.00	\$63.00
Variable unit cost	\$53.00	\$53.00	\$53.00

To more fully understand firm performance, management has asked you to provide the following:

- a) For February only, provide a complete contribution margin-format income statement and reconcile the two operating income amounts.
- b) For December and January, provide *only* the operating income that would appear on a contribution margin format statement and show your reconciliation of the two operating income amounts. NOTE: you do not have to construct the entire statement to determine the operating income numbers.

**<This page left intentionally blank for solution to problem on previous page>**

**Q5.** (8 marks) SSSP Inc. installs drywall and other paneling in homes and businesses. The company uses an activity-based costing system for its overhead costs. The company has provided the following data concerning its annual overhead costs and its activity based costing system:

Overhead Costs	Amount
Production Overhead	\$110,000
Office Expense	\$130,000
Total	\$240,000

Distribution of resource consumption			
Activity Cost Pool	Installation	Support	Other
Production Overhead	50%	25%	25%
Office Expense	5%	65%	30%

The 'Other' activity cost pool consists of idle capacity and organization-sustaining costs.

Activity Cost Pool	Annual Activity
Installation	500 squares
Job Support	80 jobs
Other	N/A

A “square” is a measure of area that is roughly equivalent to 1,000 square feet.

Management has asked you to complete the following:

- Prepare the first-stage allocation of overhead costs to the activity cost pools.
- Calculate the activity cost driver rate for each applicable cost pool.
- Calculate the overhead cost of a 6 square job.

**<This page left intentionally blank for solution to problem on previous page>**

**Q6.** (5 marks) Lanegan Corporation uses activity-based costing to compute product costs for external reports. The company has two activity cost pools and applies overhead using predetermined overhead rates for each activity cost pool. Estimated costs and activities for the current year are presented below for the two activity centres:

Centre	Est. Overhead	Expected Activity	Rate	Actual Overhead	Actual Activity
Material Handling	\$52,800	2,400	\$22.00	\$55,260	2,480
General Factory	\$78,000	2,600	\$30.00	\$77,590	2,680

- a) What was the total overhead applied to products during the year?
- b) What was the amount of any over or underapplied overhead for each centre (be sure to clearly designate each answer as to whether the overhead was overapplied or underapplied)?

**Q7.** (12 marks) Management at Conners Corp expects operating income of \$220,000 for the month of March, based on the following sales mix and variable expenses:

	L	XL	XXL
Sales	\$500,000	\$300,000	\$900,000
Variable Expenses	\$300,000	\$210,000	\$720,000
Contribution Margin	\$200,000	\$90,000	\$180,000

Mr. Conners has asked that you provide the following:

- The break-even sales dollars for Conners Corp.
- The margin of safety.
- The degree of operating leverage.
- The total sales dollars required to double firm operating income.

NOTE: Carry any calculations out to three decimal places (i.e. 0.000).

**Q8.** (6 marks) Woods Company has a job-order costing system and applies manufacturing overhead cost to products on the basis of machine hours. For the most recent year, actual manufacturing overhead was \$1,687,500 and the following applications were made:

	<u>Amount</u>
Work in process	\$337,500
Finished goods	\$253,125
Cost of Goods Sold	\$759,375

Assume any misapplication has been deemed 'material'. Provide the necessary journal entries to allocate any under- or overapplied overhead to the appropriate accounts.

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24. Which of the following aspects of designing a costing system is a higher-level and more subjective activity?
- A) Accumulating costs by departments.
  - B) Applying costs to cost objects.
  - C) Assessing cost/benefit trade-offs of different systems.**
  - D) Assigning cost to jobs and/or process.
25. Which of the following would be classified as a product-level activity?
- A) Machine setup for a batch of a standard product.
  - B) Cafeteria facilities available to and used by all employees.
  - C) Human resource management.
  - D) Advertising a product.**
26. Which of the following statements is true for a firm that uses variable costing?
- A) The unit product cost changes as a result of changes in the number of units manufactured.
  - B) Both variable selling costs and variable production costs are included in the unit product cost.
  - C) Operating income moves in the same direction as sales.**
  - D) Operating income is greatest in periods when production is highest.
- \*27. Rossiter Company failed to record a credit sale at the end of the year, although the reduction in finished goods inventories was correctly recorded when the goods were shipped to the customer. Which one of the following statements is correct?
- A) Accounts receivable was not affected, inventory was not affected, sales were understated, and cost of goods sold was understated.
  - B) Accounts receivable was understated, inventory was overstated, sales were understated, and cost of goods sold was overstated.
  - C) Accounts receivable was not affected, inventory was understated, sales were understated, and cost of goods sold was understated.
  - D) Accounts receivable was understated, inventory was not affected, sales were understated, and cost of goods sold was not affected.**

28. A company increased the selling price for its product from \$1.00 to \$1.10 a unit when total fixed expenses increased from \$400,000 to \$480,000 and the variable expense per unit remained unchanged. How would these changes affect the break-even point?
- A) The break-even point in units would increase.
  - B) The break-even point in units would decrease.
  - C) The break-even point in units would remain unchanged.
  - D) The effect cannot be determined from the information given.**

**Q2.** (8 marks) Ayotte is a Vancouver BC-based manufacturer of acoustic drums. Management is planning production for the upcoming year and would like to know what unit product cost will be under both absorption and variable cost approaches. Fixed manufacturing overhead is expected to be \$250,000 and the forecast calls for 1,250 drums to be manufactured and 1,000 sold. Each drum is expected to use \$75 in raw materials and will require 15 hours of direct labour at \$17.00 per hour. Variable overhead per drum is \$2.00.

Determine the unit cost per drum under absorption and variable costing methods.

SOLUTION:

	variable costing	absorption costing	
DM	(1) \$75	\$75	
DL	(2) \$255	\$255	(= 15hr * \$17)
VMOH	(1) \$2	\$2	
FMOH	-	(2) \$200	(=\$250,000/1,250 units produced)
unit product cost	\$332	\$532	
	(1) correct unit cost	(1) correct unit cost	

**Q3. (6 Marks)** Management at Black Happy Productions is conducting a comprehensive investigation of cost behavior related to production of their single product. You have been asked to evaluate the behavior of shipping costs. Activity and costs for the last seven months is listed below.

Month	Activity	Cost
Aug	1,000	\$24,000
Sep	1,500	\$28,000
Oct	1,240	\$26,000
Nov	1,750	\$27,500
Dec	950	\$22,000
Jan	1,100	\$21,000
Feb	1,450	\$25,500

Use the high-low method to provide management with the mixed-cost equation for the shipping activity.

SOLUTION (correctly using high-low activity level):

	Units	Cost	
High activity level (Nov)	1,750	\$27,500	(1) for high <u>activity</u> level
Low activity level (Dec)	<u>950</u>	<u>\$22,000</u>	(1) for low <u>activity</u> level
Change	<u>800</u>	<u>\$5,500</u>	

$$\text{variable cost} = \Delta \text{ cost} / \Delta \text{ units} = \$5,500 / 800 \text{ units} = \$6.875 \text{ per unit}$$

Total cost at the high level	\$27,500.00
Less: variable cost element (1,750 units x \$6.875)	<u>\$12,031.25</u> (1)
Fixed cost element	<u>\$15,468.75</u> (1)

mixed-cost equation:

$$y = ax + b$$

$$y = \$6.875x + \$15,468.75 \quad (1)$$

\*\*\*\*\*

ALTERNATE SOLUTION (incorrectly using high-low cost level) (max available is 4/6):

	Units	Cost	
High activity level (Nov)	1,500	\$28,000	(0) for high <u>activity</u> level
Low activity level (Dec)	<u>1,100</u>	<u>\$21,000</u>	(0) for low <u>activity</u> level
Change	<u>400</u>	<u>\$7,000</u>	

$$\text{variable cost} = \Delta \text{ cost} / \Delta \text{ units} = \$7,000 / 400 \text{ units} = \$17.50 \text{ per unit}$$

Total cost at the high level	\$28,000.00
Less: variable cost element (1,500 units x \$17.50)	<u>\$26,250.00</u> (1)
Fixed cost element	<u>\$1,750.00</u> (1)

mixed-cost equation:

$$y = ax + b$$

$$y = \$17.50x + \$1,750.00 \quad (1)$$

**Q4.** (14 marks) On December 1, managers at Green River Industries found that 10,000 completed units were sitting in inventory. In an attempt to deal with the problem, the decision was made to scale production back in January and then increase production in the subsequent periods, to be in line with demand. The operating results from the last three months can be seen below.

	<b>December</b>	<b>January</b>	<b>February</b>
Sales	\$1,875,000	\$1,950,000	\$2,175,000
Less COGS			
Beg. FG Inv.	630,000	126,000	189,000
COGM	1,071,000	1,701,000	1,764,000
Less Ending FG Inv.	126,000	189,000	126,000
COGS	<u>\$1,575,000</u>	<u>\$1,638,000</u>	<u>\$1,827,000</u>
Under or (over) applied fixed overhead	80,000	(20,000)	(30,000)
Adjust COGS	<u>1,655,000</u>	<u>1,618,000</u>	<u>1,797,000</u>
Gross Margin	<u>220,000</u>	<u>332,000</u>	<u>378,000</u>
Less S&A	<u>150,000</u>	<u>150,000</u>	<u>150,000</u>
Operating Income	<u><u>\$70,000</u></u>	<u><u>\$182,000</u></u>	<u><u>\$228,000</u></u>

Production (units)	17,000	27,000	28,000
Sales (Units)	25,000	26,000	29,000
Sales Price (\$)	\$75.00	\$75.00	\$75.00
Absorption unit cost	\$63.00	\$63.00	\$63.00
Variable unit cost	\$53.00	\$53.00	\$53.00

To more fully understand firm performance, management has asked you to provide the following:

- a) For February only, provide a complete contribution margin-format income statement and reconcile the two operating income amounts.
- b) For December and January, provide *only* the operating income that would appear on a contribution margin format statement and show your reconciliation of the two operating income amounts. NOTE: you do not have to construct the entire statement to determine the operating income numbers.

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SOLUTION:

	Dec	Jan	Feb
beginning inventory (units)	10,000	2,000	3,000
production (units)	17,000	27,000	28,000
sales (units)	25,000	26,000	29,000
ending inventory (units)	2,000	3,000	2,000

### February

Sales	2,175,000			
Less VC				
		(2)	(1)	
Variable Manuf	1,537,000	\$53 x 29,000		
CM	638,000	(1)		
Less Fixed				
		(1)	(1)	(1)
Fixed Manuf*	250,000	\$10 x 28,000 - \$30,000		
Fixed S&A	150,000	(1)		
OI	238,000			

### RECONCILIATIONS

	December	January	February
Absorption OI	\$ 70,000	\$ 182,000	\$ 228,000
Change in Inventory	8,000	(1,000)	1,000
Allocated Manuf O'head	\$ 10.00	\$ 10.00	\$ 10.00
Deferred/(Released) Manuf. O'head	\$ 80,000	(\$ 10,000)	\$ 10,000
Variable OI	\$ 150,000	\$ 172,000	\$ 238,000

OR (2) (2) (2)

	December	January	February
Absorption OI	\$ 70,000	\$ 182,000	\$ 228,000
Add: FMOH released in BI**	\$ 100,000	\$ 20,000	\$ 30,000
Less: FMOH deferred in EI***	(\$ 20,000)	(\$ 30,000)	(\$ 20,000)
Variable OI	\$ 150,000	\$ 172,000	\$ 238,000

\* Production of 28,000 yielded a \$30,000 overallocation; therefore FMOH = \$250,000

\*\* Units in beginning inventory \* FMOH rate during period

\*\*\* Units in ending inventory \* FMOH rate during period

**Q5.** (8 marks) SSSP Inc. installs drywall and other paneling in homes and businesses. The company uses an activity-based costing system for its overhead costs. The company has provided the following data concerning its annual overhead costs and its activity based costing system:

Overhead Costs	Amount
Production Overhead	\$110,000
Office Expense	\$130,000
Total	\$240,000

Distribution of resource consumption			
Activity Cost Pool	Installation	Support	Other
Production Overhead	50%	25%	25%
Office Expense	5%	65%	30%

The 'Other' activity cost pool consists of idle capacity and organization-sustaining costs.

Activity Cost Pool	Annual Activity
Installation	500 squares
Job Support	80 jobs
Other	N/A

A “square” is a measure of area that is roughly equivalent to 1,000 square feet.

Management has asked you to complete the following:

- Prepare the first-stage allocation of overhead costs to the activity cost pools.
- Calculate the activity cost driver rate for each applicable cost pool.
- Calculate the overhead cost of a 6 square job.

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SOLUTION:

(a) and (b)

	Installing	Support	Other	Total
Production overhead	(.5) \$55,000	(.5) \$ 27,500	(.5) \$27,500	\$110,000
Office expense	(.5) <u>\$6,500</u>	(.5) <u>\$84,500</u>	(.5) <u>\$39,000</u>	<u>\$130,000</u>
Total	<u>\$61,500</u>	<u>\$112,000</u>	<u>\$66,500</u>	<u>\$240,000</u>

Activity level	500 squares	80 jobs
ACDR	\$123 / square	\$1,400 / job
	(1)	(1)

or (b) Activity rates (costs divided by activity)

Production overhead	\$110.00	\$ 343.75
Office expense	<u>13.00</u>	<u>1056.25</u>
Total	<u>\$123.00</u>	<u>\$1400.00</u>

(c)

overhead cost of 6 square job

Activity	Installing Floors (6 sq)	Job Support (1 job)	Total
Production overhead	\$660.00	\$ 343.75	\$ 1003.75
Office expense	<u>78.00</u>	<u>1056.25</u>	<u>1134.25</u>
Total	<u>\$738.00</u>	<u>\$1400.00</u>	<u>\$2138.00</u>
	(1) for calculation of ACDRx6	(1) for calculation of ACDRx1	(1) (ie. added up install+job and not including anything else)

(deduct 1 point if student attempts to allocate "other" activity cost pool)

**Q6.** (5 marks) Lanegan Corporation uses activity-based costing to compute product costs for external reports. The company has two activity cost pools and applies overhead using predetermined overhead rates for each activity cost pool. Estimated costs and activities for the current year are presented below for the two activity centres:

Centre	Est. Overhead	Expected Activity	Rate	Actual Overhead	Actual Activity
Material Handling	\$52,800	2,400	\$22.00	\$55,260	2,480
General Factory	\$78,000	2,600	\$30.00	\$77,590	2,680

- a) What was the total overhead applied to products during the year?
- b) What was the amount of any over or underapplied overhead for each centre (be sure to clearly designate each answer as to whether the overhead was overapplied or underapplied)?

**SOLUTION:**

Centre	given	given	calculated ACDR =est oh\$ / est activity	given (1)	given	req. (a) (2) actual applied overhead =ACDR x actual activity	req. (b) (1)-(2) amount (over) under applied
Centre	Est. Overhead	Expected Activity			Actual Overhead	Actual Activity	
Material Handling	\$52,800	2,400	\$22.00		\$55,260	2,480	(.5) (.5) \$700 under
General Factory	\$78,000	2,600	\$30.00		\$77,590	2,680	(.5) (.5) \$2,810 over
TOTAL					\$132,850		\$134,960 \$2,110 over (1) for correct number

**Q7.** (12 marks) Management at Connors Corp expects operating income of \$220,000 for the month of March, based on the following sales mix and variable expenses:

	L	XL	XXL
Sales	\$500,000	\$300,000	\$900,000
Variable Expenses	\$300,000	\$210,000	\$720,000
Contribution Margin	\$200,000	\$90,000	\$180,000

Mr. Connors has asked that you provide the following:

- The break-even sales dollars for Connors Corp.
- The margin of safety.
- The degree of operating leverage.
- The total sales dollars required to double firm operating income.

NOTE: Carry any calculations out to three decimal places (i.e. 0.000).

DRAFT SOLUTION (12 points per cover page):

(a)

sales mix	L 5/17	XL 3/17	XXL 9/17	TOTAL (=A+B+C)	
sales	\$ 500,000	\$ 300,000	\$ 900,000	\$ 1,700,000	100.000%
variable expenses	\$ 300,000	\$ 210,000	\$ 720,000	\$ 1,230,000	72.353%
CM	\$ 200,000	\$ 90,000	\$ 180,000	\$ 470,000	27.647%
fixed costs				\$ 250,000	calculated
budgeted operating income for month				\$ 220,000	given

$$\text{breakeven sales } \$ = \text{fixed costs} / \text{CM ratio} = \$250,000 / .27647 = \$904,257$$

(1) (1) (2 correct f.c.) (1 correct CM ratio)

(b)

$$\text{MOS (in sales \$)} = \text{total budgeted (or actual) sales \$} - \text{breakeven sales \$} = \\ = \$1,700,000 - \$904,257 = \$795,743$$

(1 correct total sales) (1 b/e c/f from part a)

(c)

$$\text{degree of operating leverage} = \text{CM} / \text{operating income} = \$470,000 / \$220,000 = 2.13636$$

(1 c/f CM) (1 correct op income)

(d)

$$\text{sales \$ required for target profit of } \$440,000 = (\text{fixed costs} + \text{target income}) / \text{CM ratio} \\ = (\$250,000 + \$440,000) / .27647$$

(1 c/f f.c.) (1 correct t.p.) (1 c/f CM ratio)  
= \$2,495,750

OR

$$\% \text{ change in OI} = \% \text{ change in sales} \times \text{operating leverage}$$

$$\text{thus } \% \text{ change in sales} = 100\% / 2.13636 = 46.809\% \text{ (100\% change in OI = double OI)}$$

$$\text{total sales dollars} = \% \text{ change in sales} \times \text{current sales} = 1.46809 \times \$1,700,000 = \$2,495,753$$

**Q8.** (6 marks) Woods Company has a job-order costing system and applies manufacturing overhead cost to products on the basis of machine hours. For the most recent year, actual manufacturing overhead was \$1,687,500 and the following applications were made:

	<u>Amount</u>
Work in process	\$337,500
Finished goods	\$253,125
Cost of Goods Sold	\$759,375

Assume any misapplication has been deemed 'material'. Provide the necessary journal entries to allocate any under- or overapplied overhead to the appropriate accounts.

NOTE: Carry any calculations out to three decimal places (i.e. 0.000).

SOLUTION:

(a)

POHR = budgeted overhead \$ / budgeted activity level  
 = \$1,710,000 / 95,000 mh = \$18 per mh

		MOH	
actual OH costs	\$1,687,500	\$1,350,000	applied o/h = 75000mh @ \$18
		\$337,500	underapplied overhead

OR

Calculation of over- or under-applied overhead:

actual overhead costs	\$1,687,500
overhead applied (\$337,500 + \$253,125 + \$759,375)	<u>\$1,350,000</u>
underapplied overhead	\$337,500 (1)

Allocation of underapplied overhead:

	applied o/h in ending balance	%	allocation of underapplied overhead
WIP	\$337,500	25.00%	\$84,375.00
FG	\$253,125	18.75%	\$63,281.25
COGS	<u>\$759,375</u>	<u>56.25%</u>	<u>\$189,843.75</u>
	\$1,350,000	100.00%	\$337,500.00

Journal entry:

	DR	CR	a/c name	calculation
Manufacturing Overhead		\$337,500.00	(.5)	
Work in Process	\$84,375.00		(.5)	(1)
Finished Goods	\$63,281.25		(.5)	(1)
Cost of Goods Sold	\$189,843.75		(.5)	(1)

(note: deduct 2 points if student get journal entry correct, but has debits and credits reversed)