Examination: Management Accounting 5075 **Winter semester: 2006/7**
Examiner: Luhmer

The following aids can be used: calculator, English language dictionary

A total of 120 points can be achieved. For each problem 20 points are achievable. You are advised to base your time allocation on these points.

Please write down the solution to each problem coherently. Later additions to a solution apart from the main body of the solution will not be recognized. All of the following 6 problems are to be solved. Check whether you received 3 pages with 6 problems.

Problems:

1. Rossi Skiing Goods Company manufactured 100,000 units in 2005 and reported the following costs:

Sandpaper	$ 32,000	Leasing costs — plant	$ 384,000
Materials handling	320,000	Depreciation — equipment	224,000
Coolants & lubricants	22,400	Property taxes — equipment	32,000
Indirect manufacturing labor	275,200	Fire insurance — equipment	16,000
Direct manufacturing labor	2,176,000	Sales commissions	640,000
		Sales salaries	576,000
		Advertising costs	480,000
		Administration costs	800,000

Furthermore the following information is available:

Direct material purchases	3,136,000	Sales revenue	12,800,000
Direct materials, 1/1/05	384,000	Direct materials, 12/31/05	275,200
Finished goods, 1/1/05	672,000	Finished goods, 12/31/05	1,280,000
Work-in-process, 1/1/05	96,000	Work-in-process, 12/31/05	64,000

Required:

a. What is the amount of direct materials used during 2005? (3p)
b. What manufacturing costs were added to WIP during 2005? (10p)
c. What is cost of goods manufactured for 2005? (4p)
d. What is cost of goods sold for 2005? (3p)

2. Produce Company needs to know the pounds of apples to have on hand each day. Each pound of apples costs $0.50 and can be sold for $0.80. Unsold apples are worthless at the end of the day. The following demands were found after studying the last six months' sales:

200 pounds of apples 30% of the time
300 pounds of apples 40% of the time
400 pounds of apples 30% of the time

requirements see p. 2

Required for problem 2:

a) Determine whether Produce Company should order 200, 300, or 400 pounds of apples, provided the objective is to maximize expected operating income. (5p)
b) What if management values lost sales at a penalty cost of $0.10 per pound? (5p)
c) Assuming a fixed cost of $50 per day: determine the probability of a loss for each of the alternative daily order quantities under the conditions of requirement a) (5p)
d) Same as c) under the conditions of requirement b). (5p)

3. Mount Carmel Company sells only two products, Product A and Product B.

	Product A	Product B	Total
Selling price	$40	$50	
Variable cost per unit	$24	$40	
Total fixed costs			$840,000

Mount Carmel sells two units of Product A for each unit it sells of Product B. Mount Carmel faces a tax rate of 30%.

Required:

a. What is the breakeven point in units for each product assuming the sales mix is 2 units of Product A for each unit of Product B? (6p)
b. What is the breakeven point if Mount Carmel's tax rate is reduced to 25%? (6p)
c. How many units of each product would be sold if Mount Carmel desired an after-tax net income of $73,500, facing a tax rate of 30%? (7p)

4. Part A: King Corporation has two departments, Small and Large. Central costs could be allocated to the two departments in various ways.

	Small Department	**Large Department**
Square footage	6,000	18,000
Number of employees	1,120	480
Sales	$400,000	$2,000,000

What amount of the following total costs should be allocated to the small department?

a) Advertising expense of $300,000 (3p)
b) payroll processing costs of $96,000 (3p)
c) rent expense of $120,000 (3p)

4. Part B: Cocoa Pet Corporation manufactures two models of grooming stations, a standard and a deluxe model. The following activity and cost information has been compiled:

Product	**Number of Setups**	**Number of Components**	**Number of Direct Labor Hours**
Standard	3	30	650
Deluxe	7	50	150
Overhead costs	$20,000	$60,000	

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Assume a traditional costing system applies the $80,000 of overhead costs based on direct labor hours.

a. What is the total amount of overhead costs assigned to the standard model? (3p)
b. What is the total amount of overhead costs assigned to the deluxe model? (2p)

Assume an activity-based costing system is used and that the number of setups and the number of components are identified as the activity-cost drivers for overhead.

c. What is the total amount of overhead costs assigned to the standard model? (4p)
d. What is the total amount of overhead costs assigned to the deluxe model? (2p)

5. The following data are available for Ruggles Company for the year ended September 30, 2006.

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

Required:

a. Determine operating income using the variable-costing approach. (8p)
b. Determine operating income using the absorption-costing approach. (8p)
c. Explain why operating income is not the same under the two approaches. (4p)

6. The Omega Corporation manufactures two types of vacuum cleaners: the ZENITH for commercial building use and the House-Helper for residences. Budgeted and actual operating data for the year 2006 are as follows:

Static Budget	ZENITH	House-Helper	Total
Number sold	15,000	60,000	75,000
Contribution margin	$3,750,000	$12,000,000	$15,750,000

Actual Results	ZENITH	House-Helper	Total
Number sold	16,500	38,500	55,000
Contribution margin	$6,200,000	$10,200,000	$16,400,000

Required:

Compute

a) the sales-mix variance and (10p)
b) the sales-quantity variance (10p)

by type of vacuum cleaner, and in total (in terms of the contribution margin).