Examination: Management Accounting 5075 **Winter semester: 2005/6**
Examiner: Luhmer

Candidate: Last name: First name:

Matriculation Number:

For use of examiner only →	1	2	3	4	5	6	Σ	Grade

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

Hint: 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.

Problems:

1. Breakeven Analysis

Ballpark Concessions currently sells hot dogs. During a typical month, the stand reports a profit of $9,000 with sales of $50,000, fixed costs of $21,000, and variable costs of $0.64 per hot dog.

Next year, the company plans to start selling nachos for $3 per unit. Nachos will have a variable cost of $0.72 and new equipment and personnel to produce nachos will increase monthly fixed costs by $8,808. Initial sales of nachos should total 5,000 units. Most of the nacho sales are anticipated to come from current hot dog purchasers, therefore, monthly sales of hot dogs are expected to decline to $20,000.

After the first year of nacho sales, the company president believes that hot dog sales will increase to $33,750 a month and nacho sales will increase to 7,500 units a month.

Required:

a. Determine the monthly breakeven sales in dollars before adding nachos.

b. Determine the monthly breakeven sales during the first year of nachos sales, assuming a constant sales mix of 1 hotdog and 2 units of nachos.

2. **ABC versus traditional cost system**

Brilliant Accents Company manufactures and sells three styles of kitchen faucets: Brass, Chrome, and White. Production takes 25, 25, and 10 machine hours to manufacture 1000-unit batches of brass, chrome and white faucets, respectively. The following additional data apply:

	BRASS	CHROME	WHITE
Projected sales in units	#30,000	#50,000	#40,000
PER UNIT data:			
Selling price	$40	$20	$30
Direct materials	$ 8	$ 4	$ 8
Direct labor	$15	$ 3	$ 9
Overhead cost based on direct labor hours (traditional system)	$12	$ 3	$ 9

Hours per 1000-unit batch:			
Direct labor hours	40	10	30
Machine hours	25	25	10
Setup hours	1.0	0.5	1.0
Inspection hours	30	20	20

Total overhead costs and activity levels for the year are estimated as follows:

Activity	Overhead costs	Activity levels
Direct labor hours		2,900 hours
Machine hours		2,400 hours
Setups	$465,500	95 setup hours
Inspections	$405,000	2,700 inspection hours
	$870,500	

Required:

a. Using the traditional system, determine the operating profit per unit for each style of faucet.

b. Determine the activity-cost-driver rate for setup costs and inspection costs.

c. Using the ABC system, for each style of faucet
   1. compute the estimated overhead costs per unit.
   2. compute the estimated operating profit per unit.

d. Explain the differences between the profits obtained from the traditional system and the ABC system. Which system provides a better estimate of profitability? Why?

3. Budgets and variances

Tyson's Hardware uses a flexible budget to develop planning information for its warehouse operations. For 2005, the company anticipated that it would have 96,000 sales units for 664 customer shipments. Average storage bin usage for various inventories was estimated to be 200 per day. The costs and cost drivers were determined to be as follows:

Item	Fixed	Variable	Cost driver
Product handling	$10,000	$1.25	per 100 units
Storage		3.00	per storage bin
Utilities	1,000	1.50	per 100 units
Shipping clerks	1,000	1.00	per shipment
Supplies		0.50	per shipment

During the year, the warehouse processed 90,000 units for 600 customer shipments. The workers used 225 storage bins on average each day to sort, store, and process goods for shipment. The actual costs for 2005 were:

Item	Actual costs
Product handling	$10,900
Storage	465
Utilities	2,020
Shipping clerks	1,400
Supplies	340

Required: a. Prepare a static budget for 20x3with static-budget variances.
b. Prepare a flexible budget for 20x3with flexible-budget variances.

4. Inventory valuation

The following data are available for Ruggles Company for the year ended September 30, 2004.

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

5. Sales variances

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

	TVs	VCRs
Budgeted units sold	17,640	66,360
Budgeted contribution margin per unit	$90	$156
Actual units sold	20,000	80,000
Actual contribution margin per unit	$100	$158

Required:

Compute the following variances in terms of the contribution margin.
a. Determine the total sales-mix variance.
b. Determine the total sales-quantity variance.
c. Determine the total sales-volume variance.

6. Allocation of service department costs

Campaign Printing has two service departments, S1 and S2, and two production departments, P1 and P2. The data for May were as follows:

		Services provided to:			
Activity	**Costs**	**S1**	**S2**	**P1**	**P2**
S1	$90,000		10%	40%	50%
S2	$60,000	20%		55%	25%
P1	$360,000				
P2	$520,000				

Required:

a. Set up algebraic equations in linear form for each activity.
b. Determine total costs for each department by solving the equations from part (a) using the reciprocal method.