Sauder School of Business

Practice Final Examination
Comm 294

Name: ....

Signature: ....

Student number: ....

Time: 180 minutes **Total Marks: 141**

This examination booklet contains fourteen pages (including this page). Check to ensure this paper is complete. No programmable calculators are permitted.

Please show all your calculations in an orderly format for part marks.

Time management is crucial. Be sure to answer each question and don't spend too much time on one question.

No questions regarding interpretation will be permitted during this examination. If you need to make an assumption, state it and continue. Read the questions carefully before making any assumptions.

TURN YOUR CELL PHONES OFF AND PUT THEM AWAY (IN YOUR BAG OR COAT). CELL PHONES ARE NOT PERMITTED ON THE TABLE.

Question 1 (8 marks; suggested time 10 minutes)

Budgeting

"In the midst of all of the scandals and mistrust of accounting, it is nice to have a basic tool such as a budget so that a company can always get an accurate assessment of how it is performing".

Provide a thoughtful response. Identify and fully discuss two ideas/issues. **(8 marks)**

Question 2 (14 marks; suggested time 17 minutes)

Cash Collection Budget

Royland Enterprises sells on credit and for cash. Cash sales account for 25% of its total sales. Royland's collection pattern for credit sales is as follows:

40% are collected in the month of sale,
36% are collected in the month following the sale,
24% are collected in the second month following the sale.

Sales for March are expected to be $330,000. The accounts receivable balance at February 28 is $190,350. Of that amount, $141,750 represents the balance due on February credit sales. There are no receivables from months prior to January.

Required:

a. What were January's total sales? **(5 marks)**

b. Calculate February's cash sales. **(4 marks)**

c. Estimate March's total cash collections. **(5 marks)**

Question 3 (18 marks, suggested time 21 minutes)

ROI and Residual Income

The Montross Corporation is organized into three separate divisions. Each division manager is responsible for controlling working capital and net fixed assets. Currently, the company evaluates managers based on return on investment. Information for each of the three divisions is as follows:

	Division A	**Division B**	**Division C**
Sales revenue	$400,000	$800,000	$600,000
Variable costs	225,000	370,000	360,000
Fixed costs	150,000	330,000	175,000
Average Current assets	75,000	435,000	310,000
Average Net fixed assets	125,000	650,000	685,000

The minimum required rate of return is 10%.

Required:

a. Which division is performing best based on return on investment? **(5 marks)**
b. Which division is performing best based on residual income? **(5 marks)**
c. When calculating either ROI or RI, operating income (EBIT) is used as the starting figure for determining the measure of income. If a division is to be evaluated fairly by either the ROI or residual income performance measures, why should operating income (EBIT) be used as the basis for the income measure. **(3 marks)**

d. Residual income is sometimes called EVA (Economic Value Added) or wealth creation. How is wealth creation different from earning net income? Which is more essential to the company in the long run? Fully explain your conclusion. **(5 marks)**

Question 4 (23 marks; suggested time 30 minutes)

Segmented Reporting

"Rats! We're still in the red," said Bugs Bunny, executive vice president of Cartoons Company ("Cartoons"). "I know," said Daffy Duck, the controller. "Just look at this income statement for March (a typical month). We don't need to worry at all about East District; but, we've really got to shake things up in West District." The statement to which Daffy Duck was referring is shown below:

	Total Company	**East District**	**West District**
Sales ($20 per unit)	$500,000	$300,000	$200,000
Cost of good sold ($9 per unit)	225,000	135,000	90,000
Gross margin	275,000	165,000	110,000
Less operating expenses:			
Marketing expenses:			
Shipping	26,000	11,000	15,000
Rent re: company's warehouse*	40,000	24,000	16,000
Sales salaries and commissions	56,000	34,000	22,000
District advertising	50,000	20,000	30,000
Total marketing expenses	172,000	89,000	83,000
Administrative expenses:			
District management salaries	25,000	10,000	15,000
Central office expenses*	80,000	48,000	32,000
Total admin. expenses	105,000	58,000	47,000
Total operating expenses	277,000	147,000	130,000
Operating income (loss)	$(2,000)	$18,000	$(20,000)

* Allocated based on sales dollars.

Cartoons is a "wholesaler"- an organization that sells a video cartoons to various retailers. These retailers then sell the cartoons to consumers through their video stores. Cartoons is organized into two districts (areas) as shown above. Each district has about the same number of retail customers. These retailers place orders with their district salesperson and the goods are shipped to them from the central warehouse. The salespersons work out of their own home and are responsible for their own travelling and selling expenses. Additional information on the company follows:

i. The office and warehouse are centrally located, being about the same distance from each district.
ii. Each district salesperson specifies on the sales order what shipping (delivery) method is to be used (by truck or air). (All goods are shipped to the customer from the central warehouse.) Shipping is a variable cost, and it is traceable to the districts; differences in amounts above are reflective of the different shipping methods used.
iii. All salespersons are paid a base salary of $500 per month, plus a commission of 10% of sales. There are 8 salespersons in the East District and 4 in the West District.
iv. Each district sales manager must arrange his or her own district advertising program.
v. Each district has a number of sales managers and each manager is paid the same amount.

vi. The variable costs of processing orders, which have been included in the "Central office expenses" above, amount to $17,500. During March, the East District had 3,000 orders and the West District had 500 orders. The remainder of the "Central office expenses" are fixed and relate to general administrative assistance provided to all parts of the organization.

Required:

a. Porky Pig, the president, has asked Daffy Duck to prepare a segmented income statement for the two districts. (Ignore "controllability" as information is not provided). **(14 marks)**

a. Based on the segmented income statement (prepared in a.), fully discuss **ANY THREE** points (relating to the districts) that should be brought to the attention of management? **(9 marks)**

Question 5 (19 marks; suggested time, 25 minutes)

Transfer Pricing and Responsibility Accounting

Johnson Electric Motors is a multi-divisional, decentralized company that manufactures various kinds of motors and engines. The top-management team at Johnson makes all decisions regarding purchases of capital assets within the company.

The Starter Division of Johnson Electric Motors manufactures a starter motor with the following standard costs:

Direct material	$ 5
Direct labour	30
Overhead	15
Total unit cost	$50

The direct labour standard is $10 per hour. The overhead rate is 40% variable and 60% fixed per direct labour hour. The Starter Division has a capacity of 20,000 direct labour hours.

The starter motors sell for $75, and the Starter Division is currently operating at a level of 16,000 direct labour hours for the year. All transfers within Johnson are made at market price. If mutually agreed upon, the divisional managers are permitted to negotiate a transfer price.

The Motor Division (which is the only division within Johnson that purchases starter motors from the Starter Division) currently purchases 1,000 starter motors from the Starter Division at the market price. The divisional manager of the Motor Division indicates that she can purchase the starters from a foreign supplier for $65 (translated to Canadian $ at the current exchange rate). Because she is free to select a supplier, she has indicated that she would like to negotiate a new transfer price with the Starter Division. The manager of the Starter Division (who has a reputation of being honest), believes that the foreign supplier is attempting to Abuy into@ the starter motor market by selling the starters at an excessively low price.

Required:

a. What type of Aresponsibility centre@ should the Starter Division be designated as. Provide an explanation for your answer. **(2 marks)**

b. From the perspective of Johnson Electric Motors, ignoring qualitative factors, should the Motor Division continue to purchase the starters internally or externally? SHOW YOUR CALCULATIONS. **(6 marks)**

c. From the perspective of the Starter Division, should it match the foreign supplier=s price? SHOW YOUR CALCULATIONS OR PROVIDE AN EXPLANATION. **(2 marks)**

d. What **two** qualitative factors should the Motor Division take into consideration prior to finalizing their decision? **(4 marks)**

e. What is the Aminimum transfer price@ per unit that the Starter Division should charge if the Motor Division wanted to purchase 2,000 additional starter motors from the Starter Division. (Assume that the new order is Aall or none@-i.e., Motor Division will not accept to buy any less than 2,000 starters.) **(5 marks)**

Question 6 (14 marks; suggested time 17 minutes)

Standard Costing and Flexible Budgets

Bobolina, Inc. makes a high end Italian hand bag. In December 2005, the management team collaborated on the preparation of a master budget for the year 2006. The budgeted costs were used as the basis for updating Bobolina's standard costing system. No further updates of standard costs took place in the year 2006. The budgeted and actual results for the year 2006 were:

	Master Budget	**Actual Results**
Sales revenue	$4,120,000	$4,620,375
Direct material purchases	1,200,000	1,386,482
Direct labor costs	515,200	539,181
Machine depreciation	816,500	940,000
Supervisors' salaries - plant	341,000	368,600
Selling and administrative salaries	425,000	430,000
Net income	$ 822,300	$ 956,112
Other information:		
Unit sales	80,000 bags	83,250 bags
Machine hours	33,600 hours	31,250 hours
Direct material used (sheets of leather)	4,000 sheets	4,247 sheets
Direct labor hours	22,400 hours	21,567 hours

There were no beginning or ending inventories of raw materials, WIP or finished goods.

On January 2, 2006, Bobolina received an order from Raol Loreen for a large quantity of handbags. Raol Loreen's clients are willing to pay a premium for high quality goods. Bobolina decided to ensure the quality of their handbags, so they re-trained all of their laborers and acquired new machinery. They also changed their suppliers to one that sells smaller batches of higher quality leather.

Required:

a. Compute the following variances: **(8 marks)**
   i. Material price and quantity variances
   ii. Labor rate and efficiency variances

b. Management has been given limited time at the Board of Directors meeting to discuss Bobolina's results for the year 2006. Use **3 variances** to discuss the success or failure of management's strategy in the year 2006. (Hint: Was it a good idea to change to a higher quality/higher priced product?) **(6 marks)**

Question 7 (45 marks; suggested time 60 minutes)

Relevant Cost Analysis

Tierra Lago Lodge is situated in an alpine valley. The lodge currently operates for 26 weeks each year (May to October). The lodge has been open since the spring of 2004. Revenue for the lodge is generated through the rental of its thirty (30) suites on a weekly basis. The weekly rental fee is $1,000 per suite. The owner is disappointed with the net loss and with the occupancy rate which averages 70% over the entire 26 weeks. Customers typically book several weeks in advance due to the need to arrange transportation to the remote location of the lodge. During the months of June, July and August there are typically no vacancies. The maintenance manager's salary will increase next year by $3,000 and property tax is expected to increase to $72,000 per year.

The accountant has provided the following data for the past year (2004):

Sales	$546,000
Housekeeping	83,520
Maintenance	56,380
Administration	154,600
Utilities	63,680
Property Tax	60,920
Depreciation	120,000
Advertising	55,000
Net Income	(48,100)

Additional Information:

Housekeeping: Costs are $120 per week/per suite for cleaning (based on usage) plus a manager's salary. The manager is contracted on a weekly basis- i.e., s/he is informed by the end of the week whether their services will be needed for the following week.

Maintenance: A $40,000 salary for the manager plus material costs which are traceable to usage (i.e., quick "touch up" work done when the guest vacates the suite).

Administration: Two annual salaries of $50,000 plus a commission of 10% of sales.

Utilities: The manager estimates that utility costs of $20,000 are fixed per year. The heating and electricity are turned on only when the suite is occupied. 60% of the utility costs are due to heating and 40% due to electricity.

Depreciation: Straight-line, book value $960,000, current market value $800,000.

The two administrative manager's are employed year-round. The maintenance manager is employed year-round to keep the facility in good repair.

Required:

a) It is May and the company has ten suites available for the first week of August and is negotiating with a client who wants to book all ten. What is the minimum price you would charge the client for all ten suites? **(3 marks)**

b) Would your answer (re: the minimum price) change if it was now the last week of July (and the client wants to book ten suites for the first week of August)? **(10 marks)**

c) What TWO qualitative factors should be considered when offering the “minimum price” in part b)? **(4 marks)**

d) It is the third week in October and the company has no clients booked for the last week of the season, what would they save or lose by closing for that week? **(4 marks)**

e) It is June and the company has no clients booked for the last week of the season, what would they save or lose by closing for that week? **(4 marks)**

f) The company is considering expansion to include the fall/winter months (November to April). The expansion will mean that the advertising campaign will have to change. The company has spent $30,000 developing its promotional material in 2004. There will be an additional $8,000 required to modify the material. The existing equipment, which the company will continue to use, is scheduled for regular maintenance of $12,000. New equipment will have to be bought for $45,000 and is expected to last five years. Heating costs are expected to be twice as costly in the fall/winter season as in the spring/summer season. The company will now pay the annual property tax over twelve months and not over six months. The managers take their two weeks of paid vacation in January. Tierra Lago will charge $600 per week in the fall/winter season and expects a 30% occupancy rate during the 26 weeks. They expect this 30% occupancy rate in the fall/winter season to exist for several years. As a management consultant, provide advise to the owner about expansion to a year-round operation. Show your calculations and explain. **(10 marks)**

g) The company is considering the installation of a geo-thermal heating system to replace the natural gas furnace. The installation fee will be $20,000 and the maintenance manager will spend 20 hours in this process. The existing furnace cost $40,000 and has a book value of $35,000. Its market value is currently $18,000. The geo-thermal system has a list price of $90,000 but your friend (who is the CEO of the company that makes the geo-thermal system) is willing to sell it to you for $65,000. It is estimated that the geo-thermal system will reduce heating costs by 70%. The company paid consultants $9,000 to determine if the geo-thermal system met environmental guidelines. The government is considering an $11,000 fee for operating a resort in alpine terrain. The government will provide a $4,000 annual environmental tax rebate if natural gas is not used. Should the company switch to the geo-thermal heating system? Assume year-round operation. **(10 marks)**

SOLUTION

Question 1 (8 marks) Budgeting

The following points/issues should have been made/raised:

- Departmental bias
- Padding the budget (budget slack)
- Spend it or loose it mentality (i.e., if you don't spend the budget, you won't get it next year)
- It is still an estimation prone to the vulnerabilities of market forces
  - Inflation
  - Strikes
  - Competition
  - New technologies, etc.
- It involves humans and the future. There is nothing simple about budgets and it is also very difficult to prevent manipulation.
- Inherent evaluation problems: Self interest versus corporate interest

Question 2 (14 marks) Budgeting

Required:

a. ($190,350 - $141,750)/(.75 x .24) = $48,600/.18 = $270,000

b. [$141,750/(.60 x .75)] x .25 = $78,750

c.

From January ($270,000 x .75 x .24)	$48,600
From February ($141,750/.6) x .36	85,050
From March:	
Cash sales ($330,000 x .25)	82,500
Credit sales ($330,000 x .40 x .75)	99,000
Total March collections	$315,150

Question 3 (18 marks) ROI and Residual Income

a.

Div. A $= \frac{400 - 225 - 150}{75 + 125} = \frac{25}{200} = 12.5\%$

Div. B $= \frac{800 - 370 - 330}{435 + 650} = \frac{100}{1,085} = 9.2\%$

Div. C $= \frac{600 - 360 - 175}{310 + 685} = \frac{65}{995} = 6.5\%$

Div. A performed the best as it has the highest ROI (of 12.5%)

b.

Div. A	25 - (200 x .10)	= $5,000
Div. B	100 - (1,085 x .10)	= –$8,500
Div. C	65 - (995 x .10)	= –$34,500

Based exclusively on R.I., Div. A performed the best since it is the only division with a positive residual income. If the other divisions had positive RI's as well, one can't compare RI's because they are influenced by the amount of assets invested by each division.

c.
Operating income is used as it **ignores interest expense** (EBIT means earnings before interest and taxes). **Interest expense**, being the consequence of how the operating assets are financed **does not relate to the efficiency or effectiveness of how the division is run**. **Head office makes the decision** as to how assets are to be financed. Were interest expense to be deducted in deriving the measure of income used for performance evaluation, **divisions financed with equity would show higher returns** (as equity financing does not cause interest/financing costs in deriving net income). Further, a fundamental principal in performance appraisal is that **managers should only be held accountable for matters they have control over**, as the financing decision is not make by the manager, **s/he should not be held accountable for the cost of financing**.

d.
Wealth creation means **you are earning a rate of return that exceeds the risk adjusted required rate of return**. **Net income ignores the costs of equity financing** and only deducts the cost of debt financing (interest expense). Consequently firms can have a positive net income but negative residual income (or EVA). **EVA subtracts an imputed capital charge for equity financing**. In the long run a firm must earn a rate of return which exceeds the "required rate of return", if it does not it will **eventually go bankrupt as shareholder and creditors will not provide necessary financing to keep the firm alive**.

Question 4 (23 marks)

Segmented Reporting

a.	**Total Company**		**East District**		**West District**	
Sales ($20 per unit)	$500,000	(100%)	$300,000	(100%)	$200,000	(100%)
Less variable expenses:						
Cost of good sold ($9 per unit)	225,000	(45%)	135,000	(45%)	90,000	(45%)
Shipping	26,000	(5.2%)	11,000	(3.7%)	15,000	(7.5%)
Sales commissions	50,000	(10%)	30,000	(10%)	20,000	(10%)
Order processing **(1)**	17,500	(3.5%)	15,000	(5%)	2,500	(1.25%)
Total variable expenses	318,500	(63.7%)	191,000	(63.7%)	127,500	(63.75%)
Contribution margin	181,500	(36.3%)	109,000	(36.3%)	72,500	(36.25%)
Less traceable fixed expenses:						
Sales salaries **(2)**	6,000	(1.2%)	4,000	(1.3%)	2,000	(1%)
District advertising	50,000	(10%)	20,000	(6.7%)	30,000	(15%)
District sales mgmt salaries	25,000	(5%)	10,000	(3.3%)	15,000	(7.5%)
Total traceable fixed expenses	81,000	(16.2%)	34,000	(11.3%)	47,000	(23.5%)
District segment margin	100,500	(20.1%)	75,000	(25%)	25,500	(12.75%)
Less common fixed expenses:						
Warehouse rent **(3)**	40,000	(8%)				
Central office expenses **(4)**	62,500	(12.5%)				
Total common fixed expenses	102,500	(20.5%)				
Operating income (loss)	$(2,000)	(0.4%)				

NOTE:
A percentage column is NOT required; however, calculation of selective ones that would be expected to go up/down (vary) with sales would be "attention-directing" for management.

(1) $17,500 order processing costs / 3,500 orders = $5 per order
$5 per order x 3,000 orders; and, 500 orders

(2) Each salesperson earns $500 per month. 8 salespersons; and, 4 salespersons.

(3) Avoid arbitrary cost allocations; thus, treat as common fixed expense.

(4) $80,000 - $17,500 variable order processing costs = $32,500

b.
The following points can be brought to the attention of management:

(i) Based on the analysis below, East District is taking many small orders, resulting in a contribution margin per order that is only one-fourth that of West District. Given the high variable cost of processing an order ($5 vs. $9 cost of goods sold), the sales staff should try to get customers to order less frequently in larger amounts. (Apparently, it seems possible to get fewer orders in larger amounts, as shown by the experience in West District. However, this approach is contrary to the JIT trend which emphasizes smaller, more frequent orders. A better solution may be to use process re-engineering to reduce the costs of processing an order.)

	East District	**West District**
Sales in units ($20/unit)	15,000	10,000
Number of orders	3,000	500
Units per order	5	20

	East District	**West District**
Contribution margin	$109,000	$72,500
Number of orders	3,000	500
Contribution margin per order	$36.33	$145

(ii) The salespersons in East District are far less effective than the salespersons in West District, as shown below:

	East District	**West District**
District sales	$300,000	$200,000
Number of salespersons	8	4
Sales per salesperson	$37,500	$50,000

(iii) West District's sales management salaries seem unusually high compared to East District's. Since they are paid the same amount, West District has 1.5 times ($15,000 / $10,000) the managers as East District. West District's "span of control"- i.e., the number of salespersons they supervise, is shown below:

	East District	**West District**
District sales mgmt. salaries	$10,000	$15,000
Number of salespersons	8	4
Salaries per salesperson	$12,500	$37,500

Thus, East District has a span of control 3 times that of West District. [Although having such high sales management salaries is not desirable, it may explain why West District's salespersons are far more effective than East District=s (see (ii) above)].

(iv) Although West District has the least sales, it has the highest advertising expense. This may be indicative of poorly directed or ineffective advertising. Perhaps the West District=s advertising programs should be coordinated through a company advertising manager to ensure consistency and effectiveness in overall advertising efforts.

(v) West District has very high shipping (delivery) costs as compared to East District. Shipping costs per order are:

	East District	**West District**
Shipping expense	$11,000	$15,000
Number of units sold	15,000	10,000
Shipping expense per unit	$0.73	$1.50

OR if one assumes shipping costs vary with orders (rather than units):

	East District	West District
Shipping expense	$11,000	$15,000
Number of orders	3,000	500
Shipping expense per unit	$3.67	$30

[It should also be noted that, since method of delivery is controlled by the salesperson and since they are compensated based on the sales price they do not have an incentive to control delivery costs- i.e., they have no incentive to use the cheapest delivery mode. Rather than having the salespersons specify the method of delivery, perhaps there should be a company policy as to the manner of shipment. This might avoid unnecessary shipments by the more expensive (air) method.]

(vi) Both Districts have the same contribution margins per unit (36.3%). This contribution margin does not seem to justify the high fixed costs. West District=s fixed costs are much higher as a % than East=s, therefore, the manager for the West division should review these fixed costs and look for ways of reducing them.

Common fixed costs which include warehouse rent, and central office expenses should be analyzed (using ABM) for non-value added activities and costs. These non-value added activities should be minimized or eliminated.

Question 5 (19 marks)

Transfer Pricing and Responsibility Accounting

a.

Since top-management is responsible for investments (purchases of capital assets), and since Starter Division has external sales, the Starter Division should be designated as a **profit centre**.

b.

Since it take 3 hours to produce one unit [$30 direct labour per unit / 10 per hour] and the overhead per unit is $15, the overhead per direct labour hour must be $5. 40% of this- $2- is variable and 60% of this- $5- is fixed.

Since the Starter Division has excess capacity, the minimum TP is the variable cost of $41 [$5 for DM, $30 for DL and $6 for VOH ($2 X 3 hours)]. The cost to buy the starter from the foreign supplier is $65 (maximum TP).

Thus, **Johnson is better off** by 1,000 x 24 per unit ($65 - $41) = $24,000 by the Motor Division **NOT buying from the foreign supplier**.

c.

Its **pretax income will DECREASE** by 1,000 x [75 (the current market price) - 41 (the variable cost)] = **$34,000** if the Motor Division buys from the foreign supplier. By reducing the price by $10 to $65 to keep the internal business, pretax income will only decrease by 1,000 x $10 = $10,000. Thus, the starter division is better off by $24,000. **Since there is idle capacity any price over the variable cost of $41 is better than losing the business.**

d.

i. Does the **foreign supplier's part match** the Starter Division=s part in terms of **quality**.

ii. What is the **reputation** of the foreign supplier. Is the foreign supplier reliable and dependable (re: on-time delivery, etc.).

iii. Will the foreign supplier **change the price** or is the price subject to a long-term contract. (This is especially a concern since it is believed that the foreign supplier may be charging an artificially low price to Aget into@ the market.)

iv. What will be the effect of **changes in the foreign currency** (since the $65 price is the translated price).

e.

2,000 starters would require 6,000 hours (2,000 x 3 hours per unit).

Thus, because there is only excess capacity of 4,000 hours there would be an opportunity cost involved. Specifically, sales of 667 units would be Alost@ (2,000 hours / 3 hours per unit).

Minimum transfer price = $41 variable cost + [667 (75 - 41)]/2,000] = $41 + $11.34 = **$52.34**.

Question 6 (14 marks)

Standard Costing and Flexible Budgets

(Not required, but useful)	**Actual**	**Flexible Budget**	**Static Budget**
Sales-units	**83,250**	**83,250**	**80,000**
Variable expenses			
Direct material	1,386,482	1,248,750	1,200,000
Direct labor	539,181	536,130	515,200

i) material price variance = ($1,386,482/4,247 - $1,200,000/4,000) x 4,247
= ($326.46/sheet - $300.00/sheet) x 4,247 = **$112,382 U**

Material usage var. = (4,247 sheets - (4,000/80,000 x 83,250)) x $300.00
= (4,247 sheets - 4,162.5 sheets) x $300.00 = **$25,350 U**

ii) labor rate variance = ($539,181/21,567 - 515,200/22,400) x 21,567
= ($25/hr - $23/hr) x 21,567 = **$43,134 U**

Labor efficiency var = (21,567 - (22,400/80,000 x 83,250)) x $23 = **$40,089 F**

OR: Using the following lay-out:

i. Materials price and quantity variances

Actual Given	4,247 X $300#	83,250 x X .05## X $300#
$1,386,482	$1,274,100	$1,248,750

Price $112,382 U

Eff. $25,350 U

#: Standard price per sheet: $1,200,000/4,000 = $300/sheet

##: Standard quantity per unit: 4,000 sheets/80,000 bags = .05 sheet per bag

ii Labour rate and efficiency variances.

Actual		83,250
		x
	21,567	.28@@
	x	x
Given	$23.00/hr@	$23.00/hr@
$539,181	$496,041	$536,130

	Rate	Eff.
	$43,140 U	**$40,089 F**

@: Standard price per hour: $515,200/22,400 = $23/hr
@@: Standard quantity per unit: 22,400/80,000 bags = .28 hour per bag

b.
Material price variance - When Bobolina decided to accept the order from Raol Loreen in July, they also undertook to change the emphasis on quality for their hand bags. The unfavorable material price variance of $112,382 indicates the difference in price paid to the new supplier to obtain the added quality. A more quality material may help reduce material waste and lead to favorable usage variances.

Unfavorable usage variance- This may be caused by Bobolina being extremely concerned with flaws in its leather, or, perhaps, leather of higher quality is easier to damage (like silk). Other reasons for unfavorable usage variances are poorly trained labor, or machines that are not operating properly and creating defective product. These last two reasons are unlikely, as indicated in the analysis of the labor rate variance.

The **unfavorable labor rate variance** is most likely due to the increased training of its work force. It may also be an indication of extra overtime required to produce an increased volume of sales.

Labor efficiency variance-The labor was more efficient than budgeted, most likely a result of the extra training they received. The higher quality material may also have made production run smoother.

Question 7 (45 marks) Relevant Cost Analysis

a)
Since the summer is usually full ("During the months of June, July and August there are typically no vacancies."), the minimum price would be the opportunity cost of not renting the suite- $1,000 each. NOTE: It is only May now…August is 2 months away…people will book in June and July.

b)
Since it does not appear that the season is busy we would set the minimum price at the out-of-pocket costs (variable or incremental costs). Normally, you expected that there would be no vacancies during the "busy season". However, in reality, it has turned out that you have a vacancy next week (first week of August, when, normally, the place is 100% occupied). It is unlikely that you will have any bookings since "clients book several weeks in advance…need to arrange transportation…remote location of the lodge." Thus, "at the last minute", you would be willing to accept any price that is ≥ variable costs (since there is "excess capacity").

The minimum price that company would accept is the variable costs. The Housekeeping manager is not relevant in this scenario because she would be working anyway as this is the last ten suites of 30. She is not paid on a suite-by-suite basis.

Number of suites occupied = 26 weeks x 30 suites x 70% occupancy = 546 suites

		Fixed	Variable	Per Suite	
Labor:					
Housekeeping	83,520	18,000	65,520##	120	
Maintenance	56,380	40,000	16,380	30	[16,380 ÷ 546]
Administration	154,600	100,000	54,600	100	[1,000 x 10%]
Utilities	63,680	20,000	43,680	80	[43,680 ÷ 546]
Property Tax	60,920	60,920			
Depreciation	120,000	120,000			
Advertising	55,000	55,000			
		413,920	181,180	330	

120 per suite x 546 suites

The variable costs need to be adjusted since the sales commission is a function of selling price. 330 – 100 (10% of 1,000) = 230 [VC before the 10% commission]

The minimum price = the VC. Let X = Minimum price.
Thus, Minimum price (X) = VC of 230 + 10% of X.
Thus, X – .1X = 230 and X = 230 ÷ .9 = $255.56. Thus, if charge $255.56 will have to pay $25.56 in commission which will leave just enough to cover all the other VC of $230 and Tierra Lago will breakeven.

Minimum price would be 10 @ $256 (rounded).

c) What would other customers think if they found out?
Opportunity costs,,, this is peak season, why discount.
Who is this client ,,, is it a big "catch"?
Will they expect similar treatment next time?
What will the market accept?
Industry average is 80% and you are at 70% in summer.

d) The only cost that is avoidable on a weekly basis is the housekeeping manager since s/he is "contracted on a weekly basis". [NOTE: Next week is the *final* week and there are no clients booked; thus, it is extremely unlikely that any bookings will be made since "clients book several weeks in advance…need to arrange transportation…remote location of the lodge.". Thus, there are no lost revenues; and, no variable costs will be incurred.]

Salary of 18,000 ÷ 26 weeks = $692.

e) Opportunity cost of expected sales October... if 1/2 the months are fully occupied (no vacancies during June, July, Aug.) and the average for the year is 70% then the poor months (May, Sep. Oct.) are 40% occupied. NOTE: It is June…MORE THAN 3 MONTHS before the end of the season…

(3/6)100% + (3/6)X% = 70%. Thus, X = 40%. Note, 3/6 is 3 months out of the 6 months.

Sales of $1,000 less cost of $330 = $670

units = 30 (.4) = 12   Thus, 670 x 12 = $8,040 less costs that change per week

18,000 ÷ 26 = 692 (housekeeping manager…weekly contract)
8,040 − 692 = $7,348

None of the fixed costs are avoidable.

The variable costs are "avoidable" but they are based on usage so there is no loss or savings for these either since there are no clients.

f) (.3x26x30) = 234 suites
Incremental revenue per year: ($600 x .3 x 26 x 30) =$140,400

The incremental costs would be:

Variable costs: ($230 x 234)		= 53,820
Variable selling (600 x .1)(234)		= 14,040
Extra heating ($80) (.6)(234)		= 11,232
	CM	$61,308
Additional housekeeping manager		$18,000 (extra 26 weeks)
Net annual profit		43,308

Versus One time cost of

Additional advertising costs		$ 8,000
Additional equipment costs		$45,000
	Net	53,000

53,000 / 43,308 = 1.22 years to recover one-time costs (Thus, as long as expect to be in business for at least two year, it is worth doing.)

OR 42,948 x 5 years – 53,000 = 161,740 increase in profits over 5 years

OR Increase in 1st year profits = 43,308 – 8,000 – 9,000 (45,000 / 5years) = 25,948
Increase in 2nd to 5th year profits = 43,308 – 9,000 = 33,948

g)

System cost	$65,000	
Incremental costs	$20,000	
Sale proceeds	(18,000)	
Net onetime cost	67,000	
Savings : summer	18,345	($80 x 60% = $48 per suite x 70% x 546 suites)
Savings : winter	15,724	($48 per suite x 2 = $96 x 70% x 234 suites)
Tax rebate	4,000	
Annual savings	38,069	

What should be done? Depends on how long the business will be in existence.

67,000/38,069 = 1.76 years

Thus, the costs will be “recovered” in less than 2 years. Thus, as long as expect to be in business for at least two years, it is worth doing.