

**Solutions of the midterm exam_2013Fall
ADM3346 Cost Accounting Section A&B**

Question 1 (10)

a. Petro-Canada should rent.

*This Year – the only differential item is salvage of \$50,000, the write-off is **not** relevant
Next year and on
The short way*

	Rent vs No rent	Relevant
Sales	+10% *5,000,000	+ 500,000 (1)
VC	+10%*500,000	+ 50,000(1)
CM		+ 450,000
FC operating	- 5%*2,500,000	- 125,000(1)
Equipment Depreciation	--	NR(1)
Other depreciation	--	NR(1)
Warranty	+ 50,000	+ 50,000(1)
Rent	+ 300,000	+ 300,000(1)
Income - differential		+ 225,000*(1)

*Or Next year and on
The long way*

	No rent	Rent	Relevant
Sales	\$5,000,000	+10% 5,500,000	+ 500,000
VC	500,000	+10% 550,000	+ 50,000
CM	4,500,000	4,950,000	+ 450,000
FC operating	2,500,000	2,375,000	- 125,000
Equipment Depreciation	500,000	--	NR
Other depreciation	400,000	400,000	NR
Warranty		50,000	+ 50,000
Rent	--	300,000	+ 300,000
Income	1,100,000	2,125,000	+ 225,000*

b. Relevant costs=\$225.000 (see the table) (2)
\$2,125,000 – 1,100,000 = 1,125,000 is **not** correct

Question 2 (6)

a. Average CM = $60,000/80,000 * \$80 + 4,000/80,000 * \$300 + 16,000/80,000 * \$500 = \175

BEP # returns = $\$3,990,000 / \$175 = 22,800$ (2)

b. Average CM = $5/10 * \$80 + 1/10 * \$300 + 4/10 * \$500 = \270

BEP # returns = $\$3,990,000 / \$270 = 14,778$ (2)

c. Major reason is the shift out of low CM **Individuals**(\$80) from 75%(60/80) share to 50% share and into high CM **Corporations**(\$500) from 20%(16/80) to 40%(4/10) share of sales. (2)

Question 3 (5)

	DL Cost	Applied OH at 175%	Actual Overhead	Over or (Under)
January	\$360,000	630,000	\$640,000	(10,000) (1)
February	330,000	577,500	570,400	7,100(1)
March	340,000	595,000	600,000	(5,000) (1)
				(7,900) (2)

Question 4 (7)

- a. $Y = \$1000 + \$5X$ (1)
- 1) # of shipping packages seems plausible (1)
 - 2) Adjusted R^2 of 0.56 is good; well over the guideline of 30%, so good 'fit' (1)
 - 3) t statistic of Fixed cost = $1000/300 = 3.33$ and t statistic of $X = 5/1.50 = 3.333$ well over guideline of 2.00 so significant (1)
 - 4) $DW = 2.87$ so residuals are not problematic (1)

b. Costs for Y' (6000 packages) = $\$1,000(FC) + 6,000 * \$5(VC) = \$31,000$ (2)

Question 5 (6)

a. Overapplied
(MOH Control has a **credit** balance, meaning that allocated overhead is larger than actual incurred OH. Therefore **credit** to COGS)

$$\$720,000 / (384,000 + 96,000 + 720,000) * \$66,000$$

$$\$720,000 / \$1,200,000 * \$66,000 = \$39,600$$
 (2)

$$\text{New balance of COGS} = \$720,000 - 39,600 = 680,400$$
 (1)

b. new balance of COGS = $\$720,000 - 66,000 = 654,000$ (2)

c. $\$66,000 = 66,000/300,000$ or 22% of applied so **material**
so prorate

or $\$66,000 = 66,000/720,000 = 9.1\%$ so **not material**

Immaterial so proration is **not** required; write off to the period to COGS (1)

Various answers are OK- but they must indicate the logic.

Question 6 (8)

<i>Cost item</i>	<i>Rate or direct</i>	<i>Cost</i>	<i>Charge Lundy</i>
<i>Secretary</i>	$\$3,920/160 = \24.50 per hour	$\$24.50 * 25$ hours	612.50(1.5)
<i>Copies</i>	$\$.04$ per copy	$1,450 * \$.04$	58.00(1)
<i>Telephone</i>	<i>Direct</i>		375(1.5)
<i>Rent etc (allocated)</i>	$\$7,200/120 = \60 per hour	$105 * \$60$	6,300(1.5)
<i>Total</i>			\$7,345.5
<i>Per hour</i>	$\$7,345.5/105$		\$69.96
<i>O'Brien's charge</i>	$\$90$ per hour		90.00(1)
			\$159.96
		<i>Round up</i>	\$160.00(1.5)

Question 7 (11) giving (1) to good formats

a. Traditional Costing (2)

Pre-determinant allocation rate = estimate indirect costs/estimate direct labour hours
 = $\$332,500 / (10,000 + 6,000) = \$20.78/\text{hour}$ (0.5)

Bocce Ball Set	
Direct labour	\$9.00 (0.5)
Direct materials	12.00 (0.5)
Indirect cost	$\underline{10.39(= 20.78/2)}$ (0.5)
Total	\$31.39

b. Activity-Based Costing (5)

Activity cost pools:	Estimated	Total Estimate	Budgeted Allocation	Indirect Cost Bocce Ball Sets
	Indirect Costs	Activity		
Machine setups	\$153,000	1,700	\$90.00(0.5)	\$63,000(0.5)
Purchase orders	27,500	500	55.00(0.5)	16,500(0.5)
Machine hours	128,000	16,000	8.00(0.5)	80,000(0.5)
Maintenance requests	<u>24,000</u>	500	48.00(0.5)	<u>9,600(0.5)</u>
Total	\$332,500			\$169,100
# of units				20,000
Indirect \$/unit				\$8.46(0.5)

Bocce Ball Set	
Direct labour	\$9.00
Direct materials	12.00
Indirect cost	8.46
Total	\$29.46(0.5)

c. ABC allocates indirect costs more precisely using more cost drivers. (1)

d.

1) reducing the small lots increases the number of unit for per machine set up, leading the set up costs to decrease especially for Croquet Set with more setups. (1)

2) reviewing the purchase orders and reducing the number of orders. (1)

Question 8 (11)

a. (2)

<u>Flow of Production</u>	<u>Physical units</u>	<u>Calculation</u>	<u>Conversion EU</u>
Beginning work-in-process	6,000	$6000 \times \frac{1}{3} =$	2,000 (0.5)
Started and completed(S&C)	12,000	$(6,000+24,000) - 18,000 =$	12,000 (0.5)
Work in process ending	<u>12,000</u>	$\frac{12,000}{2} =$	<u>6,000</u> (0.5)
Accounted for	<u>30,000</u>		<u>20,000</u> (0.5)

b. (4)

<u>Flow of Production</u>	<u>Physical units</u>	<u>Calculation</u>	<u>DM EU</u>
Beginning work-in-process	6,000	$6000 \times 0 =$	0 (0.5)
Started and completed(S&C)	12,000	$(6,000+24,000) - 18,000 =$	12,000 (0.5)
Work in process ending	<u>12,000</u>	$12,000 \times 100\% =$	<u>12,000</u> (0.5)
Accounted for	<u>30,000</u>		<u>24,000</u> (0.5)

Costs	Totals	Direct materials	Conversion
Costs added during period	<u>33,400</u>	<u>\$18,000</u> (0.5)	<u>\$15,400</u> (0.5)
Divided by equivalent units		<u>24,000</u>	<u>20,000</u>
Equivalent unit costs	\$1.52	<u>\$0.75</u> (0.5)	<u>\$0.77</u> (0.5)

c. (5)

Assignment of costs:	Calculation
Work in process, beginning	\$5,000 (1)
Completion of beginning inventory	
DM	0 (0.5)
CC	$(2,000 \times \$0.77)$ <u>1,540</u> (1.5)
Total beginning inventory costs	<u>\$6,540</u> (0.5)
Started and Completed	$(12,000 \times \$1.52)$ <u>18,240</u> (1.5)
Total costs assigned to completed and transferred out units	<u>\$24,780</u>