**Telfer School of Management, University of Ottawa**

**ADM2341 (Section R)**
**Management Accounting**

**Quiz # 2 – February 12, 2014**

**NAME:**_____SOLUTIONS____

**STUDENT #:**_____

**Seat #:**_____

# ***VERSION:A and B***

**Instructor: Dr. Shujun Ding**

**Instructions**

1. This is a closed book examination and no collaboration is allowed.
2. There are a total of 30 marks.
3. Write your name, student number, and pre-assigned seat number in the designated area at the top of this page.
4. It is highly recommended that you use blue or black ink for your answers. **If you do use pencil, you will not be able to submit your quiz for re-appraisal should you believe that the marking key was not applied appropriately to your answers.**
5. You have 50 minutes, no additional time provided for lateness.
6. **If you leave early, please respect your fellow students by leaving quietly.**
7. Place photo identification on your desk at the beginning of the quiz to facilitate verification.
8. Formula sheets are not allowed. You may use a calculator.
9. **Cell phones must be turned off.**
10. The class resumes at 20:00.

**Questions 1-4 (8 marks, 2 marks each)**

Please write down your answers to the multiple choice questions (questions 1 to 4) below:

Question 1 _____
Question 2 _____
Question 3 _____
Question 4 _____

**1.** Managers of for-profit organizations are primarily interested in the breakeven point because it is
a. the level of operations managers would like to achieve over the long run.
b. a reference point at which the firm neither earns profits nor suffers losses.
c. the level of operations at which income taxes are minimized.
d. the level of operations beyond which an increase in fixed costs can be expected.

ANS: B

**2.** Once sales volume exceeds the breakeven point,
a. fixed costs per unit will be constant.
b. the contribution margin ratio increases.
c. total contribution margin will go from negative to positive.
d. total contribution margin exceeds total fixed cost.

ANS: D

The Telfer Company makes Curly Cuddles, a soft, stuffed puppy. Cost information for each stuffed animal is:

| | | |
|---|---|---|
| Direct material | $1.80 | |
| Direct labour | $1.20 | |
| Variable overhead | $0.60 | |
| Variable selling & administrative expenses | $0.40 | |
| Total variable costs | | $4.00 |
| Total fixed cost | | $324,000 |

Each puppy sells for $6.00. Current annual production and sales volume is 180,000 Curly Cuddles.

3. See Telfer Company information above. What is Telfer Company's breakeven point in units?
a. 162,000
b. 141,481
c. 55,862
d. 60,000
e. None of the above

ANS: A

4. See Telfer Company information above. If Telfer Company wants to earn $60,000 in before-tax profits, how much must sales be?
a. $1,080,000
b. $1,152,000
c. $1,222,000
d. $1,210,000
e. None of the above

ANS: B
Questions 3 and 4 above are for Version A

3. See Telfer Company information above. What is Telfer Company's margin of safety in units?
a. 131,000
b. 185,334
c. 232,000
d. 262,000
e. None of the above

ANS: E

4. See Telfer Company information above. If the company's fixed costs increase by $26,000, how many units would Telfer Company need to sell to break even?
a. 149,000
b. 161,000
c. 175,000
d. 323,000
e. None of the above

ANS: C
Questions 3 and 4 above are for Version B

**Question 5 (8 marks)**
The DMS Golf Manufacturing Inc. is a family owned firm, and is headquartered in Kanata, Ontario, Canada. The company produces and sells two types of golf carts: the compact cart and the standard cart. The compact cart is sold for $2,000 per unit; variable manufacturing and period costs are $1,800 per unit. The standard cart is sold for $3,500 per unit; variable manufacturing and period costs are $3,000 per unit. Total fixed costs are $360 million per year. Out of every 3 units sold, the company typically sells 1 compact cart and 2 standard carts.

**Required:**

Determine the breakeven volume (in terms of the units sold for each product) for the company [8 marks].

**Suggested Solutions:**

| | Compact Carts | Standard Carts |
|---|---|---|
| Sales | $2,000 | $3,500 |
| Variable costs | 1,800 | 3,000 |
| CM | $ 200 | $ 500 |

[CM is worth 1.5 marks each, 3 marks in total]

X: # of units for compact
2x: # of units for standard

200x + 500*2x – 360m = 0 [2 marks for having the equation, or for using 360m/(200 + 500*2)]

$360,000,000 ÷ $1,200 = 300,000 [1 mark for this number, 300K]
In order to break even:
Compact carts = 300,000 X 1 = 300,000 units [1 mark]
Standard carts = 300,000 X 2 = 600,000 units [1 mark]

**Question 6 (14 marks)**

The Western Manufacturing Company's most recent contribution format income statement is presented below:

| | |
|---|---|
| Sales | $75,000 |
| *Less:* Variable Expenses | $45,000 |
| Contribution Margin | $30,000 |
| *Less:* Fixed Expenses | $36,000 |
| Operating Loss | $(6,000) |

The company sells its only product for $15 per unit. There were no beginning or ending inventories.

**Required:**

a) Compute the company's break-even point **in units** sold [3 marks].
b) Compute the total variable expenses at the break-even point [3 marks].
c) How many **units** would have to be sold to earn a target operating income of $9,000? [3 marks]
d) The sales manager is convinced that a $6,000 increase in the advertising budget would increase total sales by $25,000. Would you advise the increased advertising outlay? Show all your supporting calculations [5 marks].

**Suggested Solutions**

a) Contribution margin ratio = $30,000/$75,000 = 0.40 [1 mark]
$36,000/0.40 = $90,000 break-even sales [1 mark]
$90,000/$15 = 6,000 units to break even [1 mark]

b) Variable expense ratio = $45,000/$75,000 = 0.60 [1.5 marks]
$90,000 sales x 60% variable expense ratio = $54,000 [1.5 marks]

c) ($36,000 + $9,000)/0.40 = $112,500 [1 mark for using the sum of FC and Profit, 1 mark for using the CM%]
$112,500/$15 = 7,500 units [1 mark]

| | |
|---|---|
| D) Increased contribution margin: $25,000 x 0.40 | $10,000 |
| Less increased advertising cost | 6,000 |
| Incremental operating income | $4,000 |

Yes, the advertising budget should be increased.
[2 marks for determining the correct incremental CM, 1 mark for deducting incremental FC, and 1 mark for the net effect. Give 1 mark for the suggestion consistent with the calculation]