**Leeming Senior High School**

**Accounting and Finance ATAR (Year 12)**

**Unit 3**

**Task 3**

**Assessment Type:**

Test

**Total Marks:**

65 marks

**Conditions:**

**Period Allowed for Completion of the Task:**

50 minutes under invigilated conditions.

**Task Weighting**

7% of the school mark for this pair of units

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**Section 1 (5 marks)**

**Answer the first 5 questions by circling the most appropriate answer.**

Questions 1 and 2 relate to the following diagram of the costs & revenues of a firm.

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100 000 ***Sales***

 90 000

 80 000 ***Total costs***

 70 000

 60 000

 50 000

 40 000 ***Fixed costs***

 30 000

 20 000

 10 000

 0

 0 10 20 30 40 50 60 70 80 90

Output units x 1000

1. The breakeven point for this firm is

(a) Production of about 50,000 units

(b) Production of about 25,000 units

(c) Revenue of about $35,000

(d) Both b and c are correct

2 If the firm were to produce 40,000 units

(a) It would make a profit of about $60,000

(b) Total costs would be about $50,000

(c) It would make a loss of about $15,000

(d) Variable costs would be greater than fixed costs

1. Variable costs of production are

(a) costs which never change

(b) costs per unit remain the same regardless of production levels

(c) costs that change per unit depending on the time spent manufacturing

(d) costs that are likely to change in line with the number of products manufactured

1. Opportunity costs are

(a) The costs of manufacturing a new product

(b) Future potential benefits not gained as a result of selecting a particular option

(c) The costs of transferring production to another factory

(d) Costs which remain the same irrespective of output

5 Breakeven occurs when

(a) sales price less variable costs equals zero

(b) sales price less fixed costs equals zero

(c) contribution margin less total costs equals zero

(d) contribution margin less fixed costs equals zero

**Section 2 (60 marks)**

**Question 6 (26 marks)**

Simpson Ltd is a manufacturer of refrigerators in Australia, making a top of the range model called the Opal. The Opal range of refrigerators has a break-even point of 5,200 units, a contribution margin of $350 per unit and provides $1 500 000 in annual profit.

It has been suggested that a new low budget range called the Diamond be made and the following are the estimated costs associated with this new product:

Raw Materials $300 per unit

Direct Labour $150 per unit

Overheads $100 per machine hour

Machine Time 30 minutes per refrigerator

Depreciation on Machinery $200 000 per year

Other Fixed Overheads $400 000 per year

Administration Costs $500 000 per year

Selling Costs $200 000 per year

It was determined that the selling price for the Diamond refrigerator would be $800 per unit and it is anticipated that sales will be 8 500 during the year.

**Required**

1. Calculate the breakeven point in units for the new Diamond refrigerator. (10 marks)

**Workings:**

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| The breakeven point in units is: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Calculate the expected profit from the new Diamond refrigerator. (2 marks) **Workings:**

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| The expected profit is: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

1. If the target profit for the new Diamond refrigerator is $900 000 per year, what dollar value of sales would need to be achieved per year? (7 marks)

**Workings:**

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| The dollar value of sales required is: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

1. Explain the concept of margin of safety. (2 marks)

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**Workings:**The margin of safety, as a percentage, is: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(e) Based on your calculations, give three reasons why the manufacture of the new Diamond refrigerator should go ahead or not. (3 marks)

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|  |  |
| --- | --- |
| **Nature of Cost** | **$ per unit** |
| Direct Materials | 1 120 |
| Direct Labour | 680 |
| Factory Overhead | 240 |

The company has received an order from a large international hotel chain to build a batch of 500 buggies at the special price of $3 500 each. The costs would be the same as for the normal production except for an additional $50 per unit for painting the hotel chain’s logo on each buggy. It is expected that this order would be a ‘one-off’ job.**Required**(a) Calculate whether or not the company should accept the order from a profit point of view. (10 marks)**Workings:**Should the company accept the order from a profit point of view? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(b) Apart from the immediate effect on profit, what other considerations might the company have in deciding whether or not to accept the order? (2 marks)

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(c) What might the company do to enable it to accept the order without reducing normal production? (2 marks)

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**Question 8 (20 marks)**Beginners Pty Ltd is a small manufacturing business making aprons, tea-towels and oven gloves for the tourist market at its factory in Mundaring. Cost information for the three products is as follows:

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| --- | --- | --- | --- |
|  | **Aprons** | **Tea-Towels** | **Oven Gloves** |
| Variable Costs Per Unit | $7 | $5 | $9 |
| Selling Price Per Unit | $12 | $8 | $20 |
| Maximum Estimated Sales Volume | 10 000 units | 15 000 units | 6 000 units |
| Current Volume of Production | 8 000 units | 12 000 units | 4 000 units |
| Labour Hours Per Unit | 0.3 hours | 0.2 hours | 0.4 hours |

Manufacturing overheads are expected to total $80 000 and other fixed costs are estimated at $20 000 per annum. The limiting factor for production is labour, and the company estimates it will have 6 400 labour hours available each year.**Required:**(a) Calculate the sales mix at the current levels of production. (3 marks) **Workings:**Sales mix for aprons: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Sales mix for tea towels: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Sales mix for oven gloves: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(b) Calculate the weighted average contribution margin per unit. (6 marks) **Workings:**Weighted average contribution margin per unit: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(c) Calculate the breakeven point, in units, at current levels of production. (2 marks) **Workings:**  Breakeven point (in units): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(d) Calculate the contribution margin per labour hour for each of the three products. (3 marks) **Workings:**Contribution margin per labour hour for aprons: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Contribution margin per labour hour for tea towels: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Contribution margin per labour hour for oven gloves: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_1. Based on the information you have calculated and been provided with, including maximum estimated sales volumes, what should the company produce of each product in order to maximise its profit? (6 marks)

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