# Assignment Sheet

|  |  |
| --- | --- |
| **Course, instructor name & contact info** | Numeric Computing |
| **Assignment name** | Assignment 2 – Creating and Analyzing a Break Even chart |
| **Grade value** | 15%  Rubric attached |
| **Due date** | Week 6 |
| **Individual or group assignment** | Individual |
| **Submission instructions** | Show in class and submit on Blackboard or in person |
| **Targeting these learning outcomes from course outline** | * give example(s) of factors that determine selling price to help inform business decisions. * diagram a Break-Even chart to make informed business decisions. |

Complete the following exercises on paper or on a computer:

1. [4 marks] The market research for the production and sale of a new dress indicates that it can be sold for $175 per dress. The variable costs are $85 per dress and the fixed costs are $7200 per period. The production capacity is 300 units per period.
   1. Draw a detailed break-even chart showing the fixed costs line, total costs line, total revenue line, break-even point, and profit and loss areas
   2. Determine the break-even volume and break-even revenue, and compute the break-even as a percent of the production capacity.
2. [6 marks] An electronics manufacturer was selling an electronic gadget for $155 per unit. The variable costs are $65 per unit and the fixed costs are $7200 per period. The production capacity is 250 units per period
   1. Draw a detailed break-even chart showing the fixed costs line, total costs line, total revenue line, break-even point, and profit and loss areas
   2. Determine the break-even volume and break-even revenue, and compute the break-even as a percent of the production capacity.
   3. What was the amount of profit or loss if 150 gadgets were sold in a period?
   4. What is the maximum profit that can be expected in a period?
3. [5 marks] A machine manufacturing firm sells a small component for $25 per unit. The variable costs consists of two parts: the variable manufacturing costs are $12.50 per unit and the selling costs are $2.50 per unit. The fixed costs for the period are $3600. The capacity is 600 units per period.
   1. Draw a detailed break-even chart showing the fixed costs line, total costs line, total revenue line, break-even point, and profit and loss areas
   2. Determine the break-even volume and break-even revenue, and compute the break-even as a percent of the production capacity.
   3. What is the new break-even point in units if the fixed costs are decreased by $625 in a period and the variable manufacturing costs per unit are increased by 10%?