# Week 4 Pricing Assignment- Individual Assignment

You may choose to either complete this assignment in the fields provided, or print and write your answers by hand.

# Handwritten answers will be accepted, but must be clear and legible.

**Show the step by step solutions to the following questions:**

1. A firm is able to sell 10,000 units at $ 12 per piece. The company fixed cost is $30,000. Variable cost is $6 per unit.
   1. What is the contribution per unit?
   2. What is the breakeven sales in $? What is the breakeven sale in units?
   3. What is the markup on sales price? What is the mark up on total cost?

They raise the price to $15 and demand drops to 8000.

* 1. Calculate the price elasticity.
  2. What is the n ew markup (profit margin %) on the sales price ($15)? What is the new mark up ( profit margin %) on total cost?
  3. Please calculate the total profit for this company as well as the profit per each toy sold. Are they better off raising the price?

1. A firm is able to sell 10,000 units. The company fixed cost is $10,000. Variable cost is $6 per unit. Contribution margin (CM) is $4.
   1. What is the markup (profit margin %) on sales price? What is the mark up on total cost (profit margin

%)?

* 1. If the price elasticity of demand is 2, how many units they can sell if they drop the SP by $2.
  2. What is the new markup on sales price? What is the new mark up on total cost? (Hint: use the new sales)
  3. Please calculate the total profit for this company as well as the profit per each toy sold (Hint: use the new demand)

1. A company manufacturing toys has a fixed cost of $100,000. Variable cost is $6 per toy. Selling price is $10 per toy. Company target profit is $120,000.
   1. How many toys should be sold to reach the target profit?
   2. The company found that its variable cost is going to increase by $2 and plans to raise its selling price by $3 and reduced the fixed costs by $20,000. How many more(less) toys have to be sold at the new price to reach the target profit of $120,000?
   3. What is the markup (profit margin %) on sales price at this new sales volume? What is the markup (profit margin %) on total cost?
2. Sam is developing a business plan for starting Pizza business in Waltham. Sam specializes in pepperoni pizza.

Based on the secondary data he has found out that there are 20,000 families in the area and about 20% of these families are strict vegetarians. He believes that he can get 10% of the market share of the potential customers. His research reveals an average family consumes 10 pizzas per year.

It costs a total of $ 6 to make a Pepperoni pizza. Sam is planning to introduce his Pepperoni pizza at $ 8 and raise the price by $2 in the second year. Price elasticity of demand for pizza is 0.50

* 1. Estimate the demand for Sam’s pizza in the first year
  2. Calculate the % markup (profit margin %) on sales price and total cost in the first year

b. Estimate the demand for Pizza in the second year with the new price.

d. Calculate the % mark up on sales price and total cost in the second year

1. NEU is planning to replace the central A/C system for the class rooms. In response to their request for proposal, NEU received two proposals. The details of the proposal are given below.

|  |  |  |
| --- | --- | --- |
|  | Company A | Company C |
| A/C system cost including installation $ | 35,000 | 45,000 |
| Life in years | 10 | 10 |
| Insurance per year $ | 900 | 1,200 |
| Electricity charge per month $ | 800 | 450 |
| Maintenance charges per quarter $ | 350 | 300 |
| System Overhaul - number per year | 4 | 3 in two years |
| Material Cost per overhaul $ | 1,000 | 400 |
| Number of labor hours per overhaul | 8 | 3 |
| Labor rate for overhaul $/hour | 100 | 100 |

Use life cycle costs to recommend a system for NEU. Show the calculations to support your recommendations.