Micro Assignment 15: Monopoly and Efficiency

1. Consider a rural community in which only a single fast food restaurant operates. The restaurant is owned by Mary. Mary enjoys a monopoly the fast food industry in her rural community.

   a. To produce the profit maximizing quantity of hamburgers, what two pieces of information does Mary need? **Marginal Revenue** and **Marginal Cost**.

The demand curve for fast food hamburgers appears in the diagram to the right along with Mary’s marginal revenue and marginal cost curves.

   b. How many hamburgers will the profit maximizing Mary produce? **50 hamburgers**

   c. What price will Mary charge? **$1.50**

   d. What does Mary’s marginal cost equal? **$1.00**

   e. Using your answers to parts b, c, and d, summarize the current state of affairs by filling in the following blanks:

   **State of Affairs:** Q = 50  P = $1.50  MC = $1.00

   f. Define the term marginal cost. What information does Mary’s marginal cost provide us? **Marginal cost (MC) equals the change in total cost (TC) resulting from a 1 unit change in production.**

Consider a potential customer, call him Joe, who does not buy a hamburger at the present $1.50 price, but would buy a hamburger if the price were $1.40.

   g. How do we know that a person like Joe exists? Hint: The demand curve is downward sloping. **If the price were to fall from $1.50 to $1.40, the quantity of hamburgers demanded would increase. That is, if the price were to fall more people would purchase hamburgers, there must be a person like Joe.**
2. Suppose that the local government enacts a law regulating the price Mary must charge. Furthermore, the government insists that Mary produce and sell hamburgers to all those consumers who wish to purchase them at the regulated price:
- The government regulates the price of hamburgers (the government sets the price of hamburgers).
- Mary is required to produce a hamburger for all consumers that wish to purchase one at the regulated price.

The market demand curve for hamburgers and Mary’s marginal cost curve are reproduced in the diagram to the right.

a. For the moment, suppose that the regulated price equals $1.50.
   1) How many hamburgers would consumers demand? 50 hamburgers
   2) How many hamburgers would Mary produce? 50 hamburgers
   3) What would Mary’s marginal cost equal? $1.00
   4) Using your answers to parts 1), 2), and 3) summarize the current state of affairs by filling in the following blanks:

   **State of Affairs:**
   - \( Q = 50 \)
   - \( P = $1.50 \)
   - \( MC = $1.00 \)

b. Next, suppose that the regulated price equals $.75.
   1) How many hamburgers would consumers demand? 125 hamburgers
   2) How many hamburgers would Mary produce? 125 hamburgers
   3) What would Mary’s marginal cost equal? $1.75
   4) Using your answers to parts 1), 2), and 3) summarize the current state of affairs by filling in the following blanks:

   **State of Affairs:**
   - \( Q = 125 \)
   - \( P = $.75 \)
   - \( MC = $1.75 \)

Consider a consumer, call her Joan, who does purchase a hamburger at the $.75 price, but would not purchase a hamburger if the price were $1.00.

5) How do we know that a person like Joan exists? Hint: The demand curve is downward sloping.
   **If the price were to rise from $.75 to $1.00, the quantity of hamburgers demanded would decrease from 125 to 100. That is, if the price were to rise fewer people would purchase hamburgers, there must be a person like Joan.**