Ch 6 (Monopoly) Review Questions: 2, 3, 4, 8, 12
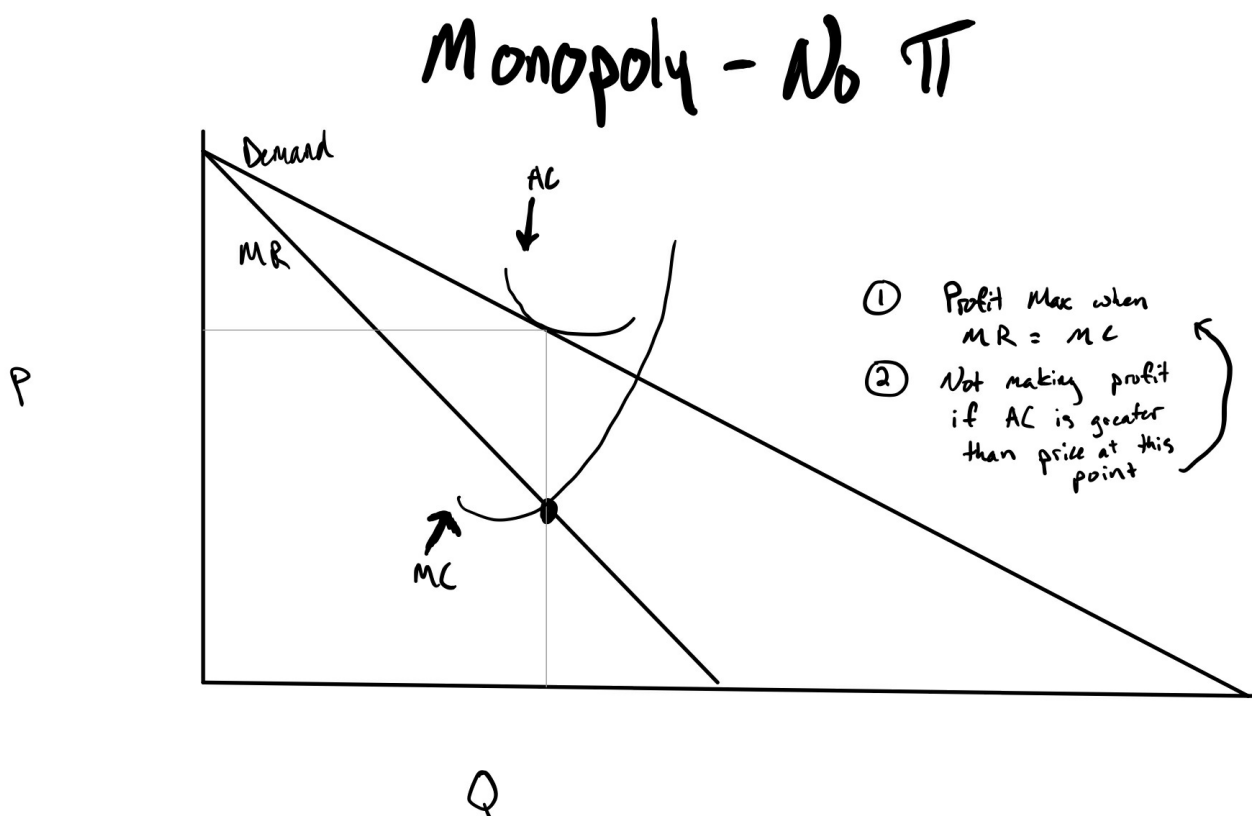
Problem 2

A textbook author sells right of book to publisher.
Publisher has a monopoly over the book.
Authors are paid a percent of total revenue.
Show that the **author** will prefer to sell more books than the **publisher**.

Answer:
The author wants to maximize revenue for the book, while the publisher wants to maximize profit for the book. The publisher would prefer to produce less quantity than is demanded in order to maintain pricing power to max profit.

Problem 3

Do unregulated monopolies **always** make positive economic profits?
Create a graph showing monopolist earning 0 economic profit in long run.

Problem 4

A monopoly producer charges 1USD for their product.
Assume that:
(1) The monopoly is maximizing profit and
(2) Price elasticity of demand at 1USD is 2. ($\eta = 2$)

Calculate MC and MR.

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In [9]:

```python
import sympy as sym
from sympy import *

L = sym.Symbol('L') # Lerner index, scale from 0 to 1
MC = sym.Symbol('MC') # Marginal cost
p = sym.Symbol('p') # Price
n = sym.Symbol('n') # Price elasticity of demand

# Parameters we were given in the problem
n = 2 #price elasticity of demand at 1 dollar is 2
p = 1

# Equation to calulate marginal cost
MC = p * (1 - (1/n))

# Solve
print("Marginal cost = ",MC)
```

Marginal cost = 0.5

Lerner Index: In monopoly, Lerner Index = $\dfrac{1}{Price\ elasticity\ of\ demand}$

As elasticity of demand goes up, market power decreases and Lerner index decreases

If the price elasticity of demand stays constant when for a small increase in price, then the firm will pass added costs onto the consumer at a greater than 1:1 rate (eg for a $1 increase in cost, the firm will rise prices greater than 1.)

The **Lerner Index** is inversely related to the **price elasticity of demand**.

Problem 8

"Learning by doing": workers & mgmt more productive as they become more familiar with experience.
When this happens, what will the slope of profit be from period one to period two?

$$\frac{\partial Profit\ period\ 2}{\partial Quantity\ period\ 1} = \frac{\partial \pi_{II}}{\partial q_I}$$

The slope of profit will be positive from period one to period two. As workers become more productive, they are able to produce the same quantity in less time and with a lower cost. This, in turn, increases their profit.

Problem 12

Consider an established monopoly firm.
How does the the behavioral concept of the **endowment effect**
relate to barriers to entry in the industry?

Answer:
When people are making a decision under uncertainty between a new vs old product, it may be difficult to get consumers to switch away from what they already know. It's easier to go with the status quo.

Endowment effects: people place greater value on what they already own
    Status quo: People prone to making decisions consistent with the current state
    Loss aversion: eople weigh losses heavier than gains