Intermediate Microeconomics
ECNS 301
Fall 2015

Homework #: 9

Due by the beginning of class on: Thursday December 3, 2015

Name: ________________________________

Instructions:
There are 2 questions worth a total of 100 points. Answer each question clearly and concisely. You must show your work to receive credit. You are allowed to work with others, but all work must be your own.

Clearly print your name above and in the space provided on the next page. You must turn in both sides of this cover sheet along with your responses. You do not need to turn in the questions, only your responses with the cover sheet. All pages must be stapled to be graded.
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Total: 100
Monopoly

1. Cigna is a patent holder on a key anti-retroviral drug in the AIDS cocktail, and therefore is a monopolist. Assume the following demand and cost functions:

\[ Q = 100 - 4P \]

and

\[ C(Q) = 20 + Q^2. \]

(a) Calculate the profit maximizing price, output level, and profits.

(b) Graph demand, \( MR(Q) \), \( MC(Q) \), and \( AC(Q) \). Indicate the area representing profits.

(c) What is the price that maximizes Total Surplus?

(d) What is the deadweight loss due to the monopoly pricing? Assume that the supply curve for the competitive industry would be given by \( P = 2Q \).

2. Suppose Cigna develops a new drug and is a patent holder. This drug has demand \( Q = 16 - 2P \) and cost function \( C(Q) = 4Q \). Calculate the monopoly output, market price, and profits.