Wilf Csaplar Jr.   Economics 476   Homework #2   **Due Monday 9/21 by 3:00 PM**

Do NOT write your name anywhere. (Canvas will tell me who turned in the assignment.) Take pictures of your written answers and use your own software or https://pdfcandy.com/ to create a single PDF size A4. (pdfcandy.com will convert many file types to PDF, resize PDF, merge PDF and many other things for free.   However, Apple phones may require using CamScanner before using pdfcandy.com.) Failure to follow these directions will cost you 10 points.

Show all work for all mathematical questions.

1A) (25 points) Suppose that a Cournot style duopoly has a demand curve $P = 300-5(Q_1+Q_2)$ and both firms have a cost function $TC_i = 10Q^2 + 20Q + 10$. Find each firm's best response function. Find the equilibrium quantities for both firms, price, and profits.
1B) (25 points) Suppose that one of the firms in Part A gets smart and becomes a Von Stackelberg leader. Find the equilibrium outputs for the two firms, the price charged, and the profits for the two firms.

2A) (25 points) Suppose that a Cournot style duopoly has a demand curve $P = 255- (Q_1+Q_2)$ and both firms have a cost function $TC_i = Q^2 + 5Q + 10$. Find each firm's best response function. Find the equilibrium quantities for both firms, price, and profits.
2B) (25 points) Suppose that one of the firms in Part A gets smart and becomes a Von Stackelberg leader. Find the equilibrium outputs for the two firms, the price charged, and the profits for the two firms.