Quiz Five

I. Partial equilibrium – Real world problem

Assume the demand curve for Sussex County peanuts is:

(1) \[ P = 120 - 10Q \]

and the supply curve for Sussex County peanuts is:

(2) \[ P = 5Q \]

when \( P \) is the price in **cents per pound** and \( Q \) is the number of pounds.

A. Draw the partial equilibrium graph for Sussex County peanuts and locate the equilibrium point.
B. What is the equilibrium price?
C. What is the equilibrium quantity?
D. What is the amount of the consumer surplus at the equilibrium point?
E. What is the amount of profits earned by the peanut farmers at the equilibrium point?

The federal government, in an attempt to subsidize the peanut industry, has agreed to buy **all peanuts grown** in for $.50 a pound.

Many farmers agreed to sell their entire crop to the government for the guaranteed price. Others decided to offer some of their peanuts in the private market and agreed to sell what was left - their excess supply - to the government for $.50 a pound.

F. What quantity of peanuts will the farmers supply? Be careful. If the government will pay more than the equilibrium price, what happens to the quantity of peanuts supplied?
G. What is the amount of consumer surplus?
H. What is the amount of profits earned by the peanut farmers?
I. What are the total government payments to those farmers who **sold their entire crop to the government**?
J. What are the total government payments to those farmers who sold only their excess supply to the governments?
K. Which group of farmers received the most for their peanuts?

Suppose a drought wipes out 75% of the total peanut crop.

E. Which group of farmers made the right choice? Explain.