Quiz - EC 11 (quiz A)

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**Please answer all 3 questions. To receive full credit, you must completely label all graphs. GOOD LUCK!**

1. One of the most visible initiatives to cut gasoline use is the promotion of electric cars. Although they are much more expensive than a traditional gasoline-powered car, consumers get back part of what they spent in significantly lower energy costs (electricity is cheaper than gasoline). The major technological obstacle to affordable electric cars is the battery which, at nearly $15,000 for many vehicles, remains one of the biggest expenses involved in the manufacturing process. Those who actively support electric vehicles hope for technological breakthroughs that will reduce this cost, and make these cars more accessible.

A. In a well-drawn supply and demand graph, illustrate equilibrium in the market for electric cars. Demonstrate what happens when the price of gasoline rises.

B. Ignoring A), demonstrate graphically what occurs if the government puts a price ceiling on electric cars in an effort to make them more affordable.

C. Ignoring A) and B), determine the new market equilibrium if there is a rise in income in the U.S., coupled with a fall in the cost of the batteries due to a technological breakthrough

D. Ignoring A), B) and C), illustrate the changes in your diagram when the price of gasoline-powered cars rises, along with a government subsidy provided to **producers** of electric vehicles.

2. Jane is a dairy/corn farmer, with 100 acres of hilly land that is suitable for grazing (and the resulting production of milk), and 100 acres of flat land upon which she plants corn. Recently, Jane has been re-evaluating the resources she devotes to the two products, since there has been a significant run-up in the price of corn, and producing more of this commodity might be profitable.

a. Draw a PPC for the trade-off between corn and milk production, and show what happens if Jane decides to produce more corn and less milk.

b. Returning to the original situation, illustrate how the PPC is affected if Jane leaves 50 acres fallow (unused) for the season to restore the soil.

c. Once again, returning to the original situation, show how the impact upon the PPC if Jane utilizes a new hybrid corn that is more productive.

-Show she can now produce both more milk and more corn

d. From the original PPC, show what happens is Jane sells half her land.

3. The maker of "Super-Clean" laundry detergent is seeking to determine how changes in price and income effect its product. The firm's economist has collected the following data for demand versus both income and price:

Price Quantity Income Quantity

1.00 300 20,000 200

1.50 250 30,000 400

2.00 200 40,000 600

a. Find the price and income elasticities for laundry detergent (**do not try to mix the two sets of numbers**).

b. Is this good price inelastic, unitary elastic or elastic?

c. Is this good income inferior, normal or superior?

d. If the firm is trying to maximize **revenue**, and it currently prices the detergent at $1.50, should the firm raise its price, lower its price, or keep it the same.