A. Multiple Choice (40 pts) Place the best of the available answers in the space that is provided.

1. C. The 'economic way of thinking' suggests that:
   A. We can better measure scarcity with the supply curve (cost) than the demand curve (value). X
   B. Water is more scarce than diamonds because water is more precious to people than diamonds. X
   C. Usually we can tell how scarce goods are by their price.
   D. When you keep a price below its equilibrium level, the good is not scarce because there is a shortage.
   E. When you keep a price above its equilibrium level, the good is not scarce because there is a surplus.

2. B. Which of the following will cause the demand curve for carrots to shift to the left?
   A. An increase in the price of fertilizer used to grow carrots. X
   B. A decrease in the price of beans (a substitute). X
   C. An increase in the price of carrots. X
   D. A decrease in the price of carrots. X
   E. A decrease in the cost of growing carrots. X

3. B. How do we measure the total gains from trade?
   A. It is equal to the price times quantity at equilibrium. X (\( TE = XP \))
   B. It is the value less the cost at equilibrium.
   C. It is the area below the demand curve at equilibrium.
   D. It is the total revenue less the cost. X
   E. It the area below the supply curve at equilibrium. X

4. B. In one hour Ben can make two times as many fish as Ann but only 50% more coconuts than Ann.
   A. Ben has the comparative advantage (has cheaper costs) in both fish and coconuts. X
   B. Ann has the comparative advantage (has cheaper costs) in coconuts but not in fish. X
   C. Ben has the comparative advantage in coconuts but not in fish. X
   D. Ann has the comparative advantage in both fish and coconuts. X
   E. There is not enough evidence above to tell who has the comparative advantage in fish or coconuts.

5. C. What happens to the market for luxury cars if there is an increase in people's income?
   A. Both demand and supply will increase (because more people will be buying cars). X
   B. Demand will increase but supply will decrease because prices will rise. X
   C. Demand, equilibrium price and quantity exchanged will all rise.
   D. The equilibrium price of cars will rise causing the demand to fall and the supply to increase.
   E. Supply and quantity exchanged will rise, but the equilibrium price will fall.

6. D. If a law keeps the price above the equilibrium level:
   A. Consumer surplus will increase more than producer surplus decreases. X
   B. The quantity exchanged will be higher than at equilibrium.
   C. The total value of the amount exchanged will increase. X
   D. The cost of producing the exchanged amount will decrease.
   E. The dead weight loss will be larger than the total gains from trade.

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A. Suppose the true cost of a good is higher than what the market thinks. (Example: the true cost of driving a car includes pollution which the driver doesn't pay for.) This means:

A. At the market equilibrium, the total gains from trade are less than they would be at a smaller output. X
B. At the optimal outcome, the cost to society of producing the good is greater than the revenue. X
C. A price ceiling definitely causes a dead weight loss (compared to the market equilibrium). X
D. At the market equilibrium the true consumer surplus is less than what consumers think their surplus is. X
E. If the government encourages more of this to be produced (above the market equilibrium) total gains to society will rise.
8. (Careful) To maximize producer surplus, a price searcher should produce all units where:
   A. The marginal revenue from producing those goods is equal to their marginal cost.
   B. The marginal revenue from producing those goods is greater than their marginal cost.
   C. The marginal revenue from producing those goods is less than their marginal cost.
   D. The marginal revenue is positive.
   E. The marginal revenue is equal to zero.

9. To a price searcher, the marginal cost is:
   A. Half of the supply curve.
   B. Twice as steep as the supply curve.
   C. The area between the demand curve and supply curve.
   D. The revenue less the cost.
   E. The change in cost as the quantity produced increases.

10. Government actions to "increase" competition by stopping mergers or preventing predatory pricing:
   A. Have succeeded in reducing the effects of monopoly.
   B. Are sometimes desired by competitors to prevent or reduce competition.
   C. May temporarily lower prices but cause little long term effect.
   D. Usually raise the profits of the companies that are prevented from merging or pricing in a predatory fashion.
   E. Only work if the government also uses regulations to control the prices of the final product.

B. Demand and Supply (39 pts) SHOW WORK CLEARLY FOR PARTIAL CREDIT!!

PRICE: 16 24 32 40 48 etc., \[ \Delta P = 8 \]
Desired Consumption: 22 20 18 16 14 etc., \[ \Delta Q_d = -2 \]
Available Production: 1 2 3 4 5 etc., \[ \Delta Q_s = 1 \]

1. \[ Q_d = -1/4 P + 26 \]
2. \[ Q_s = 1/4 P - 1 \]
3. \[ 0.5 \times (128 - 1/4 P) = 320 \]
4. \[ 0.5 \times (128 - 1/4 P) = 320 \]
5. \[ \text{min} [5, 14] = 5 \]
6. \[ 2 \times (5/2) = 5 \]
7. \[ 8 \times (5/2) = 230 \]

What is the demand equation \( Q_d = f(P) \)?
\[ 27 = 0.25 P - 11 \]
\[ P = 112 \]
What is the supply equation \( Q_s = f(P) \)?
\[ 0.25 P - 11 = 6 \]
What is the consumer surplus at equilibrium?
\[ 26 - 11 = 15 \]
\[ 6 - 11 = 5 \]

Suppose the government brings in a price ceiling at $48. What quantity traded?

At this price what is the CHANGE in the producer surplus?
Calculate the new consumer surplus if there is a price floor at \( P = 48 \).

\[ P = 104 - 4 Q \]
What is the marginal revenue curve \( MR = f(Q) \)?
\[ P = 8 + 8 Q \]
What is the marginal cost curve \( MC = f(Q) \)?
\[ 104 - Q = 96 = 6 \]
What is the \( Q \) that maximizes producer surplus for a monopoly?
\[ P = 104 - 4(6) = 80 \]
What is the \( P \) that maximizes producer surplus for a monopoly?
\[ MR = MC = 8 + 8 Q = 104 - 8 Q \]
What is the producer surplus that a monopoly will earn?
\[ 56 \]

What is the waste (dead weight loss) caused by the monopoly?
C. Comparative Statics (6 pts) Draw a quick diagram and show how the demand or supply curves (or both) will shift and what will happen to equilibrium price and quantity. Use tiny arrows to show the direction of change. Then circle the correct choice in the following sentences.

What would happen to the market for apples if the government signed an agreement with tropical countries which allowed them to sell bananas at a lower price in Canada?

- Demand will shift: \[\text{RIGHT/LEFT/NO SHIFT}\]
- Supply will shift: \[\text{RIGHT/LEFT/NO SHIFT}\]
- Equilibrium price will \[\text{RISE/FALL/UNCERTAIN CHANGE}\]
- Equilibrium quantity will \[\text{RISE/FALL/UNCERTAIN CHANGE}\]

D. Short Essay (15 pts) Only a paragraph or two is necessary. A diagram will help your answer.

Many Canadian wheat farmers are angry because even though they produce some of the world’s best (and least expensive) wheat they have trouble selling it to other countries because many other countries subsidize their wheat production. These Canadian farmers want the Canadian government to promise them a decent price (a price floor) for their hard work because they say it isn’t their fault that they can’t sell enough wheat to make a good living. What do you think would happen to the market for Canadian wheat if the government brought in a program that guaranteed Canadian farmers a good price for their wheat? Would you support such a plan? Why or why not?

It is unfortunate for Canada that foreign countries are subsidizing wheat. But anything Canada does would only make the situation worse. Better to adjust by allowing resources to move to the next best use.