Assignment 2
Partial Answers

2. Comparative advantage exists for all parties involved in trade because there must always be something in which a person/country is more productive. Is this true or false? Explain fully using an example. Is it possible that comparative advantage does not exist?

The statement is false. Being more or less productive has nothing to do with comparative advantage. CA is ability to produce something at lower opportunity cost. See textbook or lecture notes for examples demonstrating that even if someone is less productive in every activity, he or she still has comparative advantage the source of which is the difference in the opportunity costs. As long as OCs are different two parties can gain from trade. If OCs are the same two parties cannot gain from trade.

3. Consider the following statement: ''*When a genetically modified variety of corn was introduced, production of corn increased, the price of corn fell and the amount of money people spend on corn decreased.*'' Does this mean that as the quantity of corn increased both total and marginal values of corn decreased? Use diagrams and economics concepts to **fully** explain what happened in the market for corn as new variety was introduced.

Diagram: downward sloping D curve, vertical supply curve (upward sloping supply is OK); initially market is in equilibrium at P such that quantity demanded is equal to quantity supplied. New variety allows to increase quantity supplied - S shifts. In the new equilibrium Q is higher and P is lower than in the initial situation.
As Q increases MV falls (diminishing MV), which is reflected in the lower new equilibrium price. As Q increases TV increases. You also had to comment on expenditure which is PxQ, expenditure fell which can be explained using your knowledge of the elasticity of demand.

5. John's weekly demand for milk is given by $P = 6 - Q_J$ where Q is pints of milk and P is the price he is willing to pay for each pint. Mary's weekly demand for milk is given by $P = 8 - Q_M$. John has a cow that yields 9 pints of milk per week. *(6 marks, each part is worth 2 marks)*

(a) Construct a box with marginal values similar to Figure 6-2 on p. 120 of the textbook. Is it an equilibrium behavior for John to drink all his milk? Explain. Find equilibrium price and quantities of milk demanded by John and Mary.
$P=2.5$; $Q_j = 3.5$, $Q_M = 5.5$. It is not an equilibrium behaviour for John to drink all the milk. Even at zero price John does not want to consume more than 6 pints. Mary who does not have any milk has higher MV than John and is willing to pay John for milk. Since MVs are different both can gain from trade.

(b) Calculate and show on the diagram you constructed for part (a) gains from trade. Explain the logic behind your calculations. Is equilibrium that you found efficient? Explain what efficiency means in this context.
CS=TV-Expenditure=15.125.
Seller's surplus=total revenue - TV of units sold= $2.5 \times 5.5 - \frac{1}{2}2.5 \times 2.5 = 10.625$. To calculate John's gains from trade we need to subtract the value he places on the units sold. Since John can drink the milk and get some utility from that, we need to deduct TV from the TR.
In this context efficiency means that gains from trade are maximized; equilibrium is efficient - when John sells 5.5 units to Mary gains from trade are maximized. You could also argue that since in equilibrium MVs are equalized it is not possible to gain from trade any further.

(c) Redo the exercise using market demand and supply. Find and draw on a diagram John's, Mary's and market demand curves for milk. Show the supply curve. Find and show on your diagram equilibrium price of milk and quantities consumed by John and Mary.
Market demand is $P = 7 - 0.5Q$. Equilibrium price and quantities are the same.