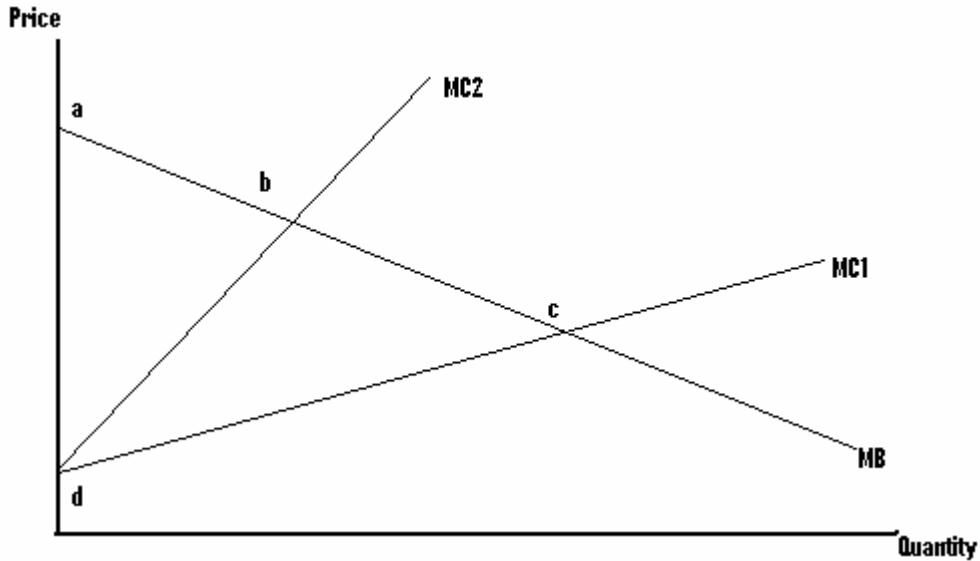


Instructions: You have 90 minutes to complete this exam. You may use a calculator but, you can NOT use your neighbor. Cheating is considered academic dishonesty and will be dealt with in the strictest manner. GOOD LUCK!

1) [10 points] Using the graph below, answer the following questions.



- Label the Supply and Demand Curve.
- Indicate the equilibrium Price and Quantity using MC1 (use P1 & Q1).
- Indicate the equilibrium Price and Quantity using MC2 (use P2 & Q2).
- Using the letters and P1 and Q1, what is Consumer Surplus when MC=MC1?
- Using the letters and P1 and Q1, what is Producer Surplus when MC=MC1?
- Using the letters and P2 and Q2, what is Consumer Surplus when MC=MC2?
- Using the letters and P2 and Q2, what is Producer Surplus when MC=MC2?
- Who is made worse off by the shift from MC1 to MC2, producers or consumers? Why?

- 2) [20 points] Suppose there are 1000 people in the world, 25% of this population are teenagers and the rest are adults. Teens have 25% likelihood of being in an accident, while adults have a 10% chance. The cost of an accident is \$10,000 for both types of drivers.
- a. What is the expected payout for the insurance company if it insures one teenager? All of the teenagers?

 - b. What is the expected payout for the insurance company if it insures one adult? All of the adults?

 - c. Suppose the government won't let the insurance company charge different rates for different drivers. What premium would the company offer?

 - d. Suppose that auto insurance was not required, would both types of drivers purchase the policy in part c? Why?

 - e. What would be necessary for a pooling equilibrium to be possible in this situation? Would a pooling equilibrium be easier if the percentage of teenagers was smaller?

 - f. Besides age, education, sex,... describe one way the insurance company could "separate" the two types of drivers. What does the separating depend on?

