

Homework 4
ECN205
Spring 2011
Wake Forest University
Instructor: McFall

1. Mikey is willing to pay \$50 for his first unit of widgets, \$40 for his second, \$25 for his third, and \$10 for his fourth unit. The price of a unit of widgets is \$20/unit. What is the consumer surplus Mikey earns from participating in this market? What happens to his consumer surplus if price rises to \$30/unit? Explain.
2. The market for cheeseburgers is in equilibrium. The demand for cheeseburgers is $Q_D = 3000 - 2.5P_c$. The supply of cheeseburgers is given by $Q_S = 3.5P_c$.
 - a) What is size of the consumer surplus earned by cheeseburger eaters and producer surplus earned by cheeseburger producers, in this market?
 - b) What is the consumer surplus earned by the consumer with the highest willingness to pay for cheeseburger? Explain.
 - c) What happens to consumer surplus after supply shifts to $Q_S = -20 + 3.5P_c$?
 - d) What is the effect on consumer surplus following the levying of a per unit tax, τ , on cheeseburgers? Does the change in CS increase or decrease with τ ? Does the change in CS increase or decrease with price elasticity of demand? (Graphs would be a great complement to your explanation.)
3. When a market reaches equilibrium, we (economists...) say that all Pareto efficient transactions have been exhausted. Explain.
4. Fred and Barney are neighbors. Fred has an endowment of 20 brontosaurus burgers and 15 pterodactyl eggs, while Barney's endowment is 15 burgers and 22 eggs. Both view the goods as imperfect substitutes. A) Build an Edgeworth box that describes the set of Pareto efficient transactions these two could make, given their endowments. B) On the Edgeworth box, show, roughly, the contract curve between these two. What does this curve show? C) Suppose that they decide that Fred will give Barney two burgers in exchange for four eggs. Show this on the Edgeworth box. D) Now suppose that they determine that the market price of a burger is one egg. How will their trade differ given this information? Show this on the Edgeworth box.