

ECON 102: Microeconomics

Homework: Solving a Perfectly Competitive Model Economy Using MS Excel Due Thursday, March 19, 2009

Directions: Using the Excel Sheet `perfectcomp.xls` posted on the class website, answer the following questions. Type all answers and print out and attach graphs.

1. Using the data in the excel sheet titled 'producers', compute columns for marginal product, total variable cost, total cost, marginal cost, average variable cost, and average total cost?
2. What will be the long run equilibrium price in this perfectly competitive economy? Why? How much will each firm produce at this price?
3. Graph the production function. Does it appear to exhibit diminishing marginal product? What about the shape of this production function brought you to your conclusion?
4. Graph the average total cost, average variable cost, and marginal cost curves all on the same graph. On the printout of the graph, indicate what the competitive equilibrium price is you found in problem 2.
5. On the sheet titled 'consumers', compute the marginal utility column.
6. Using the price you found in problem 2, compute the ratio of marginal utility per dollar.
7. If the marginal utility per dollar for all other goods for this consumer is 5, how much of the good will the consumer choose to consume?
8. Assume there are 1000 identical consumers in the economy. How many firms will there be in the economy? (Hint: use your answers to problem 2 and problem 7).