

ECO 401-002, 003  
Spring 2011  
Problem Set #2

Due: Wednesday, February 9

1. Adam consumes two goods, beer and pizza. He gets utility from beer and pizza according to the utility function  $U = 2B^{1/2}P^{1/2}$ . Hence, when Adam consumes 4 beers and 1 pizza per day, his total utility is equal to 4. How much utility does Adam get when he consumes 4 beers and 4 pizzas per day? Find four other combinations of beer and pizza that yield the same amount of utility, and graph the resulting indifference curve.
2. Suppose Adam's physician tells him that he must eat four pizzas each day, no more and no fewer. He gets to choose how many beers to drink, however. Graph Adam's marginal utility function for beer, given that his pizza consumption equals four. [Hint: if you don't want to use calculus, how much utility does Adam get if  $B=1$ ? If  $B=2$ ? If  $B=3$ ? Etc.] If beer is free, how many beers will Adam drink per day?
3. Eve consumes wine and cheese. After some experimentation, she discovers that the following bundles give her the same utility: (2W, 16C), (3W, 14C), (4W, 13C), (6W, 12C), (10W, 11C). Calculate her marginal rate of substitution between wine and cheese along this indifference curve and illustrate in a diagram with wine on the horizontal axis and cheese on the vertical axis.
4. Problem 4.4, page 139, in Besanko and Braeutigam.