Wilf Csaplar Jr.   Economics 280   Homework #3   Due Monday 2/21

Place your name on the back of this sheet of paper and nowhere else. Staple your answers face up on the front of this sheet of paper. Failure to follow these directions will cost you 1 point. Your assignment will be typed, except graphs can be drawn by hand and mathematical equations can be done by hand. Failure to type it will cost you 10 points. If you use double-sided printing or print on the back of scrap paper, I will give you one additional point.

Starting NEXT week, my Tuesday/Thursday office hours will change slightly. The 12:15 - 1:15 hours will now be 11:00 - 12:00 providing no committee meeting. I will still have office hours from 1:15 to 1:45. My office hours are posted on my web page.

1) (15 points each) For each of the following, calculate the elasticity described. For each formula, there is equation there is only one pair of lines which is usable. Explain how you chose the lines you used. What does that elasticity tell you about dogs?
A) Income elasticity of dogs using the point formula. (E_I)
B) Own-price elasticity of dogs using the point formula.(E_P)
C) Cross-price elasticity of dogs and cats using the arc formula. (E_{xy})

P_{dog}	P_{cat}	Inc.	Q_{dog}
20	25	400	10
30	15	600	12
20	25	600	12
30	25	600	8

2) (20 points) Draw an budget constraint/indifference curve diagram for shampoo and bread. Start with the price of shampoo at $4/bottle and bread is $3/loaf and an income of $36. Explain how you found the budget constraint. Illustrate the effects of an increase in the price of bread to $6/loaf. Explain why the curve(s) moved as drawn.

3) (20 points) Draw an budget constraint/indifference curve diagram for cell phones and books. Start with the price of a book being twice that of a cell phone. Explain how you found the budget constraint. Illustrate the effects of an increase in the income. Explain why the curve(s) moved as drawn.

4) (15 points) We will prove later that marginal revenue (MR) must equal marginal cost (MC) for profit maximizing. We have an equation which finds MR as a function of P and E_P. Write that equation. Prove that if MC>0 and MR = MC, then the good cannot have an inelastic demand. I.e., prove that if the good has an elastic demand then MR is not greater than zero. What is the logic behind that?