Ec150
Midterm #1 Review Questions
(to be taken up in class, time permitting)

Multiple Choice. Choose the best answer.

1. If she spends all of her income on lemons and tangerines, Isabella can just afford 30 lemons and 8 tangerines per day. She could also use her entire budget to buy 6 lemons and 14 tangerines per day. The price of lemons is 6 guineas each. How much is Isabella's income per day?

   A. 372 guineas
   B. 377 guineas
   C. 371 guineas
   D. 363 guineas
   E. None of the above.

Answer: A

2. Teresa spends her entire budget and consumes 6 units of x and 20 units of y. The price of x is twice the price of y. Her income doubles and the price of y doubles, but the price of x stays the same. If she continues to buy 20 units of y, what is the largest number of units of x that she can afford?

   A. 12
   B. 6
   C. 14
   D. 16
   E. There is not enough information to say.

Answer: A

3. Your budget constraint for the two goods A and B is 6A+3B=I, where I is income. You are currently consuming more than 12 units of B. In order to get 2 more units of A, how many units of B would you have to give up?

   A. 0.50
   B. 0.25
   C. 2
   D. 4
   E. None of the above.

Answer: D

4. The absolute value of Mars' MRS at his current consumption bundle is greater than 3. (That is, $MU_1/MU_2>3$). Mars has convex preferences and is currently consuming positive amounts of both goods.
   A. Taking away some of Good 1 and giving Mars 3 units of Good 2 for each unit of Good 1 taken away will necessarily make him worse off.
   B. Taking away some Good 1 and giving Mars 3 units of Good 2 for each unit of Good 1 taken away will necessarily make him better off.
   C. Giving Mars some Good 1 and taking away 3 units of Good 2 for each unit of Good 1 he is given will necessarily make him worse off.
   D. Giving Mars some Good 1 and taking away 3 units of Good 2 for each unit of Good 1 he is given will necessarily make him better off.
   E. More than one of the above is true.

Answer: A and D are true, so the answer is E.

5. Janet consumes x and y together in fixed proportions. She always consumes 2 units of x with every 3 units of y. One utility function that describes her preferences is:
   A. U(x,y)=2x3y
   B. U(x,y)=2x+3y
   C. U(x,y)=3x+2y
   D. U(x,y)=min(3/2 x,y)
   E. U(x,y)=min(2x,3y)

Answer: D

Problems.

1. Brenda has a monthly income of $40 and consumes only coke (good X) and hot dogs (good Y). Hot dogs cost $1 per package. Coke is priced as follows. The first 12 bottles cost only $0.50 per bottle (since she can send in the bottle caps and get a refund of $0.30 per bottle). Any additional bottles beyond 12 bottles cost $0.80 per bottle (since the maximum bottle caps she is allowed to send in is 12). If the budget line is plotted with coke on the horizontal axis and hot dogs on the vertical axis, calculate its vertical intercept, horizontal intercept, and the coordinates of its kink.

2. Jim's utility function is $U(x,y) = xy$.
   Jerry's utility function is $U(x,y) = (xy+1)^{2.}$
   Oral's utility function is $U(x,y) = (xy-4)^2$.
   Pat's utility function is $U(x,y) = (xy+1)(xy)$.
   Francis's utility function is $U(x,y) = 1/(xy+1)$.
   Adam's utility function is $U(x,y) = xy + x$.

   Who has the same indifference curves ***and*** preferences as Jim (list the names)?

3. For the following sets of goods draw an indifference curve and make an arrow (or arrows) pointing in the direction of greater preference. Draw each curve, placing the amount of the first good, good X, on the horizontal axis and the second good, good Y, on the vertical axis.

   a. Brewed coffee and instant coffee (the consumer always likes both goods equally, one-for-one, and doesn't care if he has some of one or the other as long as he gets coffee)

   b. Cod Liver Oil and Vegetables (although the consumer dislikes both, he is forced to eat them, but has ***diminishing*** marginal disutility as consumption of either good increases ... perhaps because the consumer becomes more accustomed to the bad taste)