

**Econ 201 (Section001)- First Assignment**  
**Due in class on Tuesday October 1<sup>st</sup>, 2013**  
**Instructor: Behnoush Amery**

1. If Karim spends his entire budget, he can afford 74 apples and 9 bananas. He can also just afford 14 apples and 21 bananas. The price of apples is 17 cents. What is the price of bananas in cents?
  
2. Suppose that the price of good  $x$  triples and the price of good  $y$  doubles while income remains constant. Draw the budget line on a graph with  $x$  on the horizontal axis and  $y$  on the vertical axis. Calculate the slope and the two intercepts on axes. Interpret the slope.
  
3. The instructor in ECON 201 class gives two midterms and a final exam. The final exam weights exactly the same as two midterms to determine the course grade (Two midterms worth 40% and the final also worth 40% of the final grade). If the midterm score is represented on the horizontal axis and the final score on the vertical axis, and if the students in this class care only about the course grade, what does the instructor's indifference curve (IC) look like? (Draw the IC and determine the slope). In an alternative evaluation method, two midterms worth 30% and the final 50% of the final grade. Now draw the new IC for this case on the same graph and determine its slope (The assignments grades will not affect our ICs between midterms and final).
  
4. If good  $X$  is measured on the horizontal axis and good  $Y$  on the vertical, what can you say about the preferences of someone whose indifference curves are:
  - a. Parallel to the  $Y$  axis?
  - b. Positively sloped with more desirable indifference curves as one moves to the right?
  - c. Negatively sloped with more desirable indifference curves as one moves to the left?

5. Anna has the utility function  $U(x_1, x_2) = 4x_1^{1/2} + x_2$ . If Anna is initially consuming 64 units of berries and 10 units of nuts, then what is the largest number of nuts that she would be willing to give up in return for an additional 17 units of berries?
6. Dave has a utility function given by  $U(x_1, x_2) = x_1^2 x_2^2$ .
- Compute Dave's marginal rate of substitution,  $MRS(x_1, x_2)$ .
  - Draw the assigned IC to this utility function on a graph (by using  $x_1 = 1, 2, 3$  and the constant utility level  $k = 9$ )
  - Dave's sister, Rose, has a utility function  $V(x_1, x_2) = x_2 + x_1$ . Compute Rose's marginal rate of substitution,  $MRS(x_1, x_2)$ .
  - Draw the assigned IC to this utility function on a separate graph (by using  $x_1 = 1, 2, 3$  and the constant utility level  $k = 9$ )
  - Do  $U(x_1, x_2)$  and  $V(x_1, x_2)$  represent the same preferences? Why?