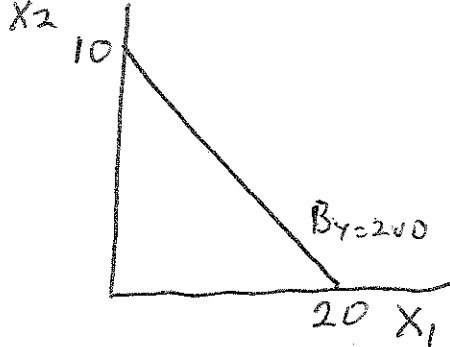


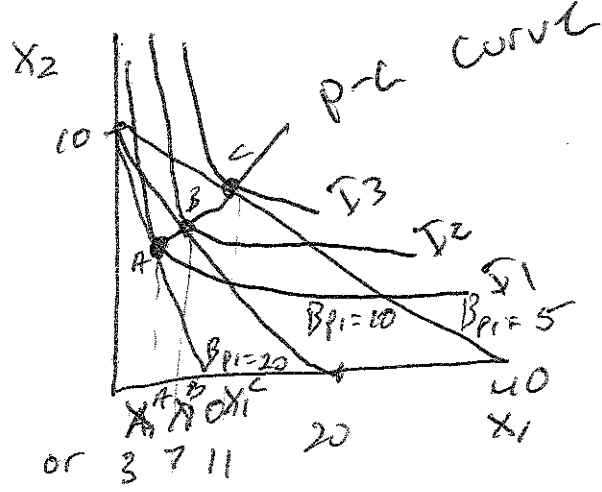
Name: KEY
 PPA 723

Problem Set #4
 Due: _____

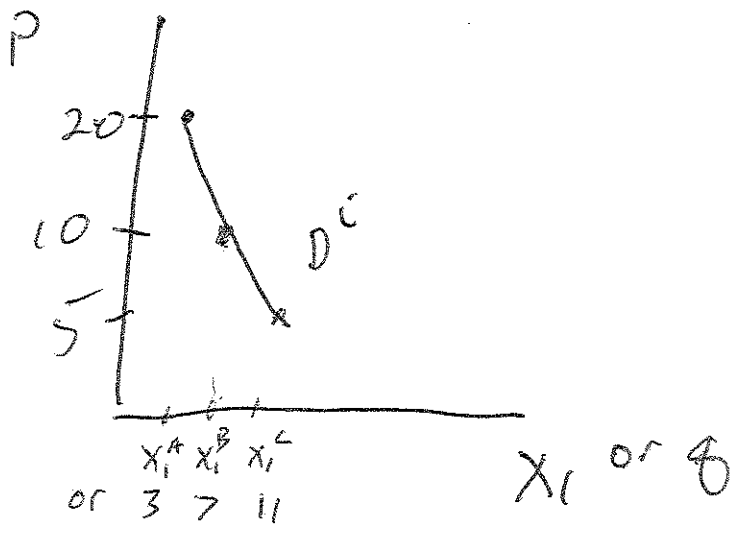
- 1) If $p_1=10$, $p_2=20$, and $Y=200$
 a. Draw the budget constraint.



- b. Show how you can derive the price consumption curve for a given consumer's preferences (drawn as you like so long as they obey the properties of indifference curves discussed in class) using: $p_1 = 5$ all else constant, the $p_1 = 10$ line you drew for (a), and $p_1 = 20$ all else constant.



- c. Show how to derive the individual's demand curve from the information contained in your graph in (b).

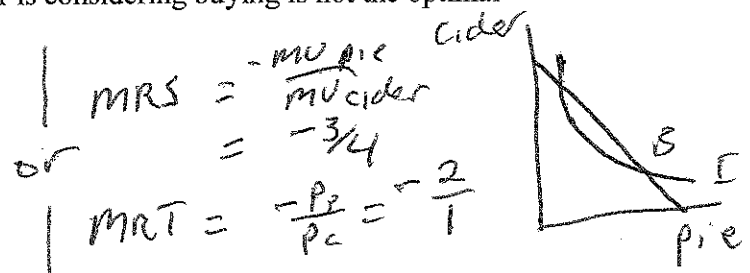


2) I know the price of one slice of pumpkin pie is \$2.00 per unit and the price of one cup of cider is \$1.00 per unit. The marginal utility of pie at a bundle the consumer is considering buying is 4 and the marginal utility of cider is 3. This bundle is on the budget line.

a. Explain why the bundle the consumer is considering buying is not the optimal bundle.

$$\frac{MU_p}{P_p} = \frac{4}{2} = 2$$

$$\frac{MU_c}{P_c} = \frac{3}{1} = 3$$



or

$$MRS = \frac{-MU_{pie}}{MU_{cider}} = -\frac{4}{3}$$

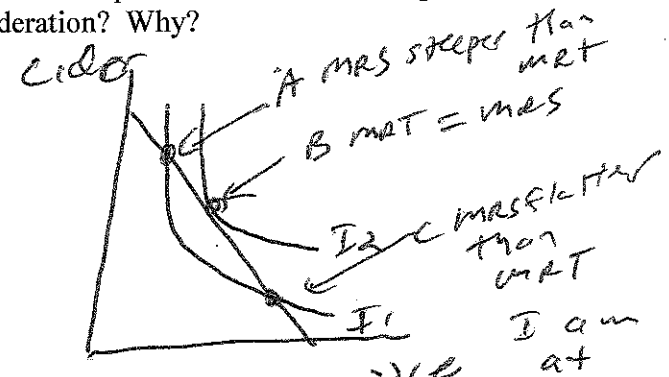
$$MRT = -\frac{P_p}{P_c} = -\frac{2}{1}$$

$MRS \neq MRT$, not O.B.

So not the optimal bundle

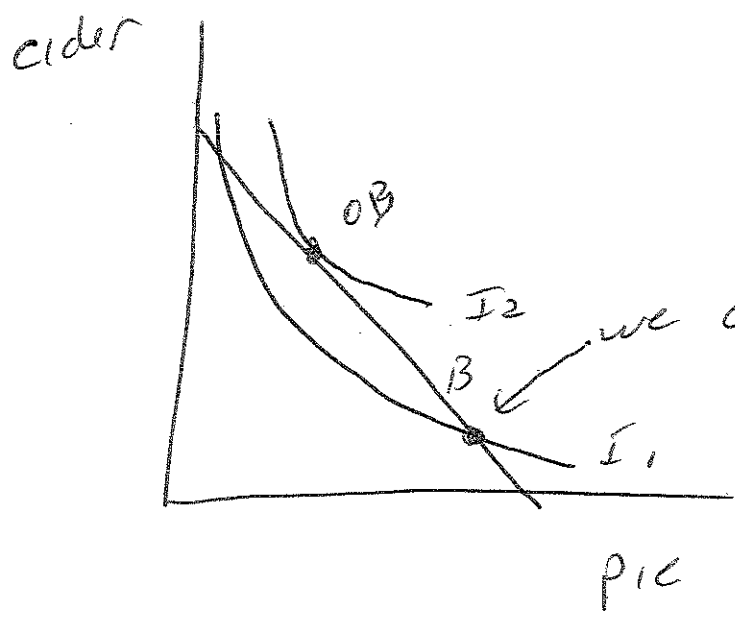
b. Is the optimal bundle going to be composed of more pie and less cider or less pie and more cider than the bundle under consideration? Why?

$\frac{MU_c}{P_c} > \frac{MU_p}{P_p}$, need to
bring up $\frac{MU_p}{P_p}$
bring down $\frac{MU_c}{P_c}$
 $MU_c \downarrow$ with more C
 $MU_p \uparrow$ with less pie

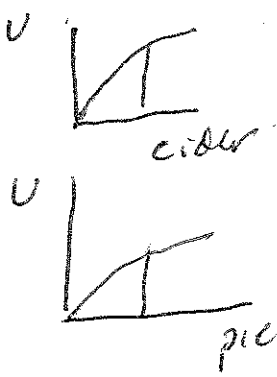


A MRS steeper than MRT
 B MRT = MRS
 I2 MRS flatter than MRT
 I am at C,
 less pie,
 more cider

c. Show on graph that illustrates sample indifference curves and budget constraints where the consumption bundle described in the introduction to this problem lies in relation to the optimal bundle.

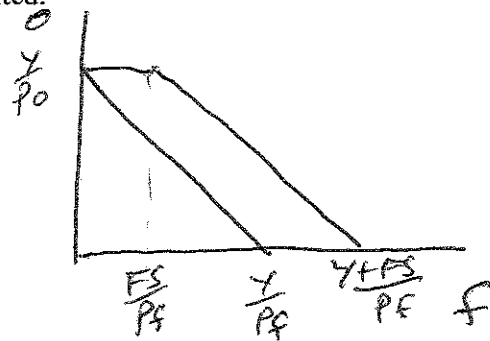


we are here
 (note AR to F2010 exam has axes the other way)



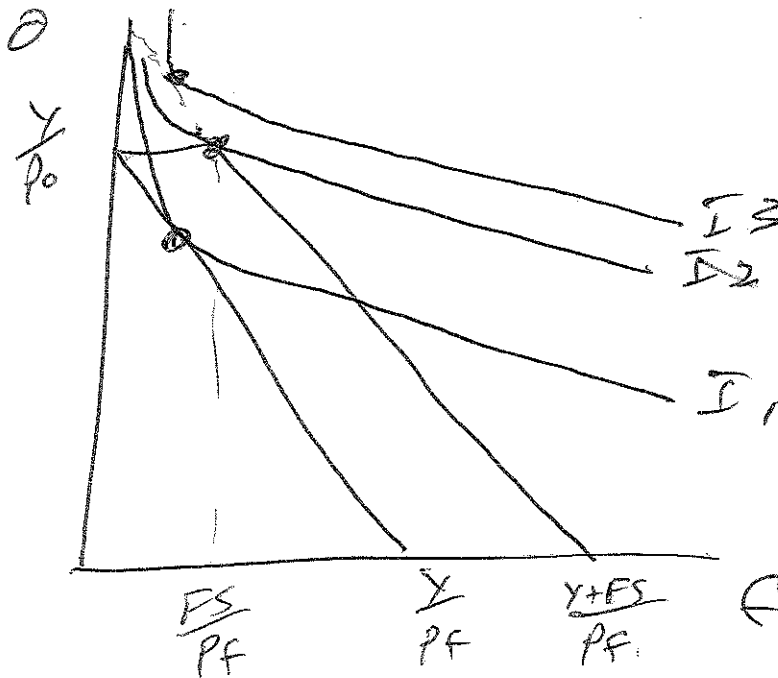
3) A food stamp policy is put in place in a state. For our representative consumer impacted by this policy, their initial income of Y is supplemented by a cash value of food stamps of \$200. The initial budget constraint is $y = p_f \cdot f + p_o \cdot o$, where f is food, o is all other goods, and the two prices are subscripted by their commodity.

a. Draw the original budget line and the budget line after the food stamp policy is implemented.



(or FS could be \$200 in this case)

b. Illustrate on a graph using the budget lines from (a) and sample indifference curves a consumer who would be better off getting the \$200 in the form of cash rather than in the form of food stamps.



4) Circle whether the statement is true or false:

- a. A price decrease for a good that is normal will have a larger total effect than substitution effect.

TRUE

FALSE

- b. A good for which there is an elastic own price elasticity of demand has a smaller percent change in quantity than the corresponding percent change in price.

TRUE

FALSE

- c. Indifference curves slope upwards when the consumer views the two goods as substitutes.

TRUE

FALSE

- d. Marginal utility is higher at low levels of consumption and lower at high levels of consumption for a given commodity.

TRUE

FALSE

- e. The opportunity set becomes larger when a consumer's income increases and prices are held constant.

TRUE

FALSE

- f. The marginal rate of substitution reflects the rate at which the market allows the consumer to transform one commodity into another holding prices and income constant.

TRUE

FALSE