#1 Demonstrate how PCC with varying price Py, (Px and Income are fixed) can give us the price elasticity of Y to be equal to, less than, or greater than 1 in absolute value

#2

7. A college student has two options for meals: eating at the dining hall for $6 per meal, or eating a Cup O' Soup for $1.50 per meal. Her weekly food budget is $60.

   a. Draw the budget constraint showing the trade-off between dining-hall meals and Cups O' Soup. Assuming that she spends equal amounts on both goods, draw an indifference curve showing the optimum choice. Label the optimum as point A.

   b. Suppose the price of a Cup O' Soup now rises to $2. Using your diagram from part (a), show the consequences of this change in price. Assume that our student now spends only 30 percent of her income on dining-hall meals. Label the new optimum as point B.

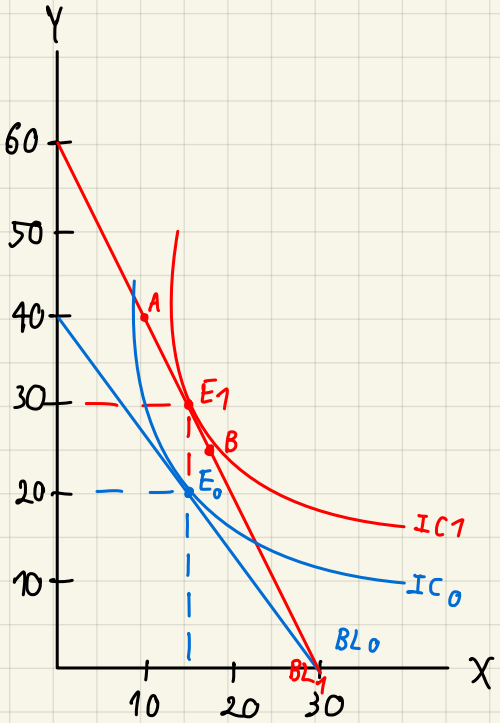
   c. What happened to the quantity of Cups O' Soup consumed as a result of this price change? What does this result say about the income and substitution effects? Explain.

   d. Use points A and B to draw a demand curve for Cup O' Soup. What is this type of good called?

#3

11. Economist George Stigler once wrote that, according to consumer theory, "if consumers do not buy less of a commodity when their incomes rise, they will surely buy less when the price of the commodity rises." Explain this statement using the concepts of income and substitution effects.

#1 Demonstrate how PCC with varying price Py, (Px and Income are fixed) can give us the price elasticity of Y to be equal to, less than, or greater than 1 in absolute value



Assume that there are 2 goods

- Price of x = 4
- Price of y = 3
- Income = 120 $

BL : 4X + 3y = 120

At first, the consumer consumes at the Bundle E_0 of the amount 15 units of x and 20 units of y

The price of y decrease to 2$. The price of x and income stay the same The budget line will be changed to $BL_1 : 4X+2y=20$

- Find η_y

$$\eta_y = \frac{\%\Delta Q_y}{\%\Delta P_y} = -1 \quad \text{so} \quad |\eta_y| = 1$$

- Midpoint Elasticity

$$\%\Delta Q_y = \frac{y_1 - y_0}{\frac{(y_1+y_0)}{2}}$$

$$40 = \frac{y_1 - 20}{\frac{y_1+20}{2}}$$

$$\frac{y_1+20}{2} = (y_1 - 20)$$

$$y_1 = 30$$

- Suppose that the equilibrium occurs at point A instead of point E_1, so $\%\Delta Q_y$ will be more than 40 %.

$$|\eta_y| = \left|\frac{\%\Delta Q_y > 40\%}{40\%}\right| > 1$$

- If the equilibrium occurs at point B instead of E_1 $\%\Delta Q_y$ will be smaller than 40 %.

$$|\eta_y| = \left|\frac{\%\Delta Q_y < 40\%}{40\%}\right| < 1$$

#2

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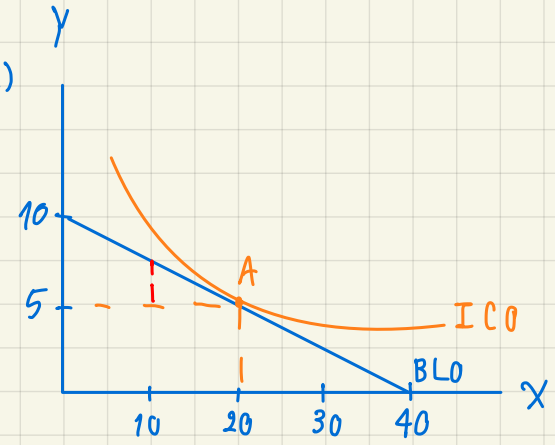
a)



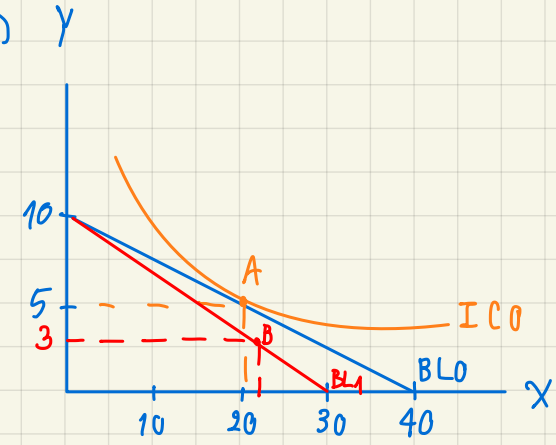
$\text{slope} = \frac{y-y}{x-x} = \frac{10-0}{0-40} = -\frac{1}{4}$

$BL = 1.5X + 6y = 60$

If she wants to consume an additional units of X, she has to sacrifice $\frac{1}{4}$ or 0.25 units of y

However, if she wants to consume an additional unit of y. she has to sacrifice $\frac{40}{10}$ or 4 units of X

b)

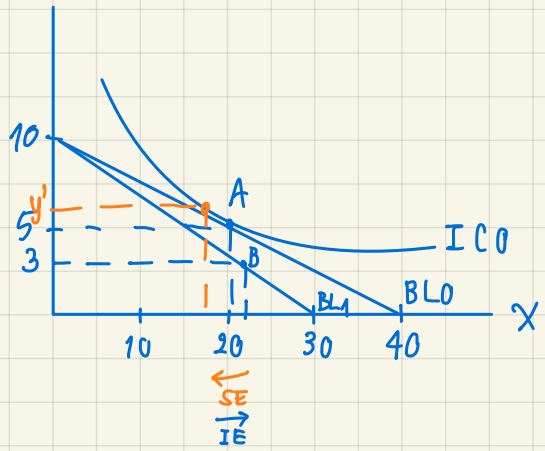


$BL = 2X + 6y = 60$

Assuming student spends 30% of income on product y

$X_1 : 2X = 60(0.7) \Rightarrow x_1 = 21$
$y_1 : 6y = 60(0.3) \Rightarrow y_1 = 3$
$\Big\} B = (21, 3)$

c) Y



Income effect dominates substitution effect

d)