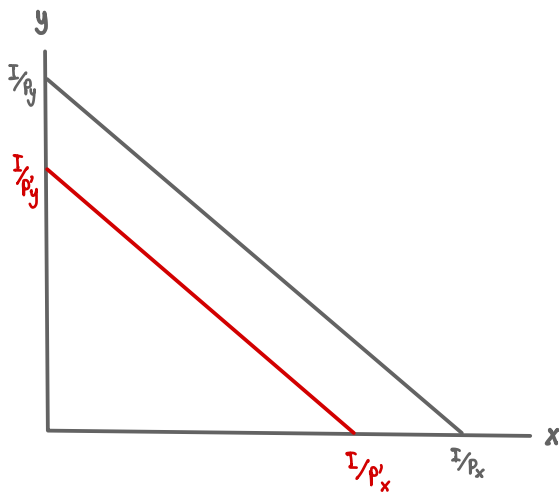
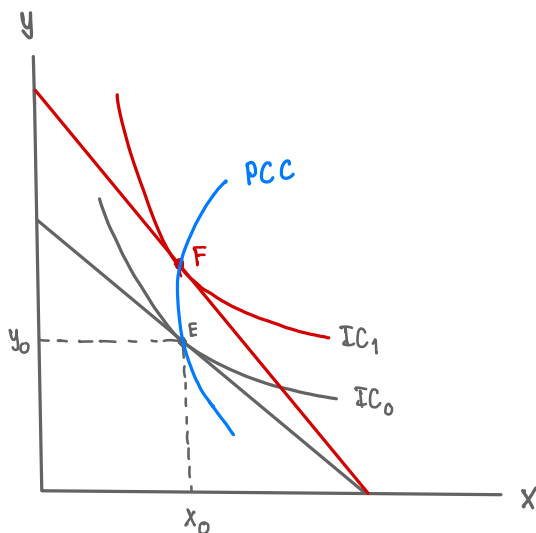


#1 If the price P_x and P_y increase 10% at the same time, with income remaining unchanged, show that this is equivalent to a reduction in income.

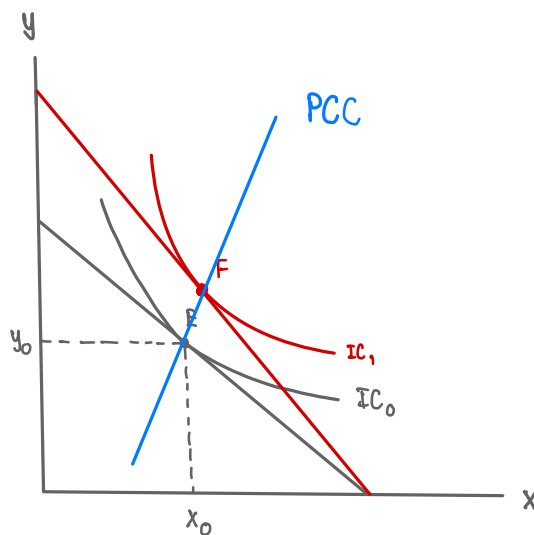


- P_x & P_y increase 10% ;
- $P_x \rightarrow P'_x = 0.1 P_x$
- $P_y \rightarrow P'_y = 0.1 P_y$

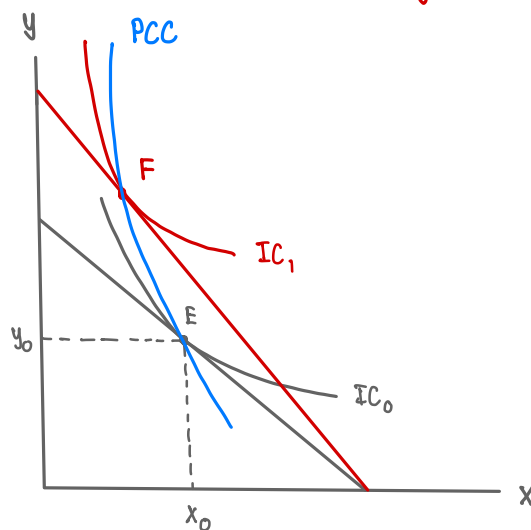
#2 Demonstrate how PCC with varying price P_y , (P_x and Income are fixed) can give us the price elasticity of Y to be equal to, less than, or greater than 1 in absolute value



$$|\eta_y| = 1$$



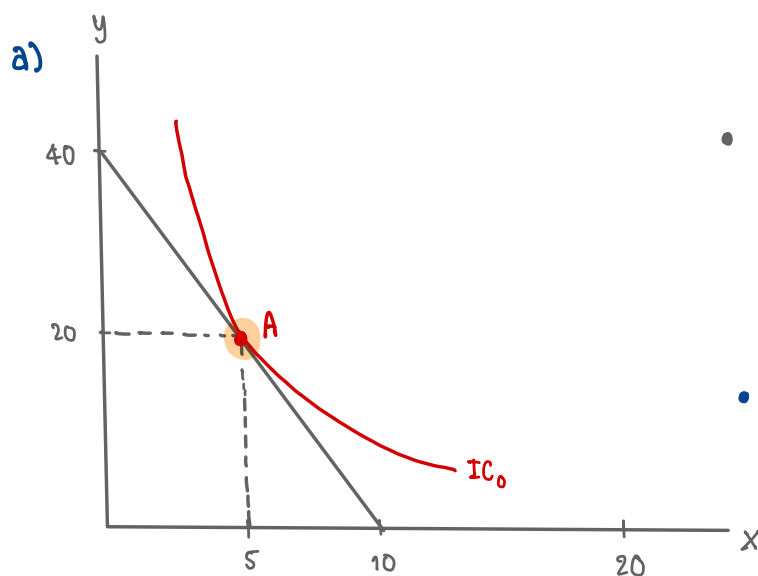
$$|\eta_y| < 1$$



$$|\eta_y| > 1$$

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.

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



- Let dining hall = x
Cup O' Soup = y

- Budget line ; $P_x x + P_y y = I$

$$6x + 1.5y = 60$$

$$y = 0, x = 10$$

$$x = 0, y = 40$$

- half of the budget is spent on each good;

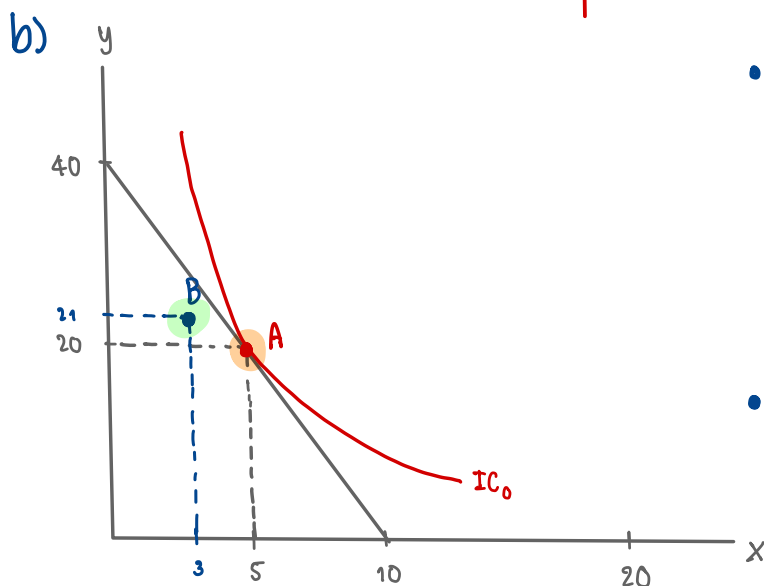
- for dining hall ;

$$6x = \frac{1}{2} \times 60$$

$$x = 5$$

- for Cup O' Soup ; $1.5y = \frac{1}{2} \times 60$

$$y = 20$$



- 30% of I is spent on x ;

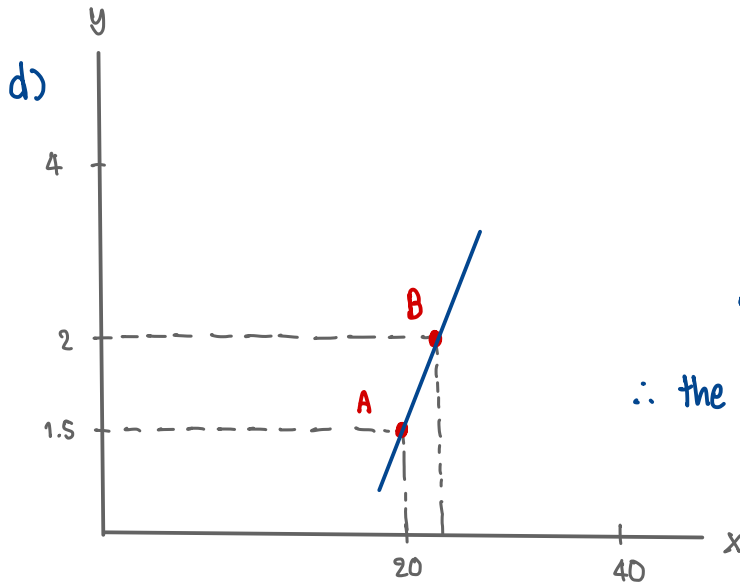
$$6x = \frac{30}{100} \times 60$$

$$x = 3$$

- y rises to 2 \$; $2y = \frac{70}{100} \times 60$

$$y = 21$$

c) So, as a result of price change, consumption of Cup O' Soup increased by 1.
If the consumption increases, this means we have income effect. However, substitution effect happens when the consumption decreases. //



- $A = (20, 1.5)$

- $B = (21, 2)$

- Demand Curve has positive slope

$\therefore$ the meal at Cup O' Soup is "Giffen good." //