

#1 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

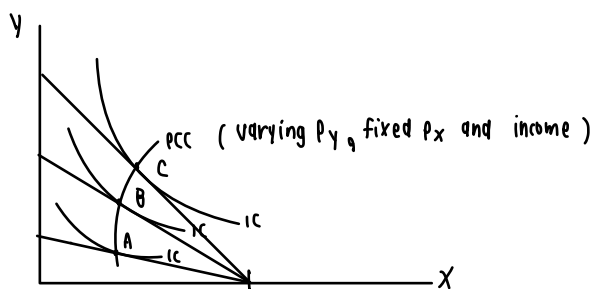
#2

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. varying price P_y , fixed income and P_x



price elasticity of Y

$$\eta_y = \frac{\% \Delta Y}{\% \Delta P_y}$$

- $|\eta_y| < 1$ when ΔP_y is less than ΔY (inelastic) the demand for Y is not change significantly after P_y increases
- $|\eta_y| > 1$ when ΔP_y is greater than ΔY which mean the demand for Y is sensitive to an increase in price.
- $|\eta_y| = 1$ when the price increases but cause no change in revenue for the seller

2. Let X be the number of meals consumed at the dining hall

a. Y be the number of meals consumed at the Cup O' Soup

Budget constraint

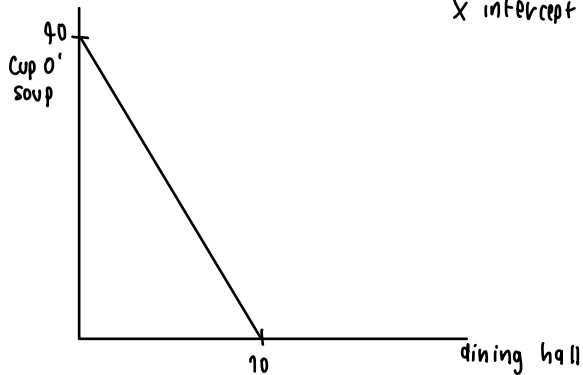
Expenditure $\leq$ income

Expenditure at dining hall = $6X$ $6X + 1.5Y \leq 60$

Expenditure at Cup O' Soup = $1.5Y$ $= 4X + Y \leq 40$

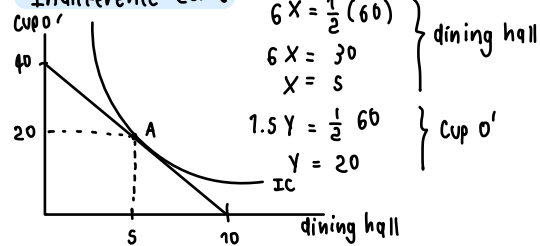
income (weekly food budget) = 60

the budget constraint line



She spends equal amount on both goods (half of the budget spent at dining hall and other spent on Cup O' Soup)

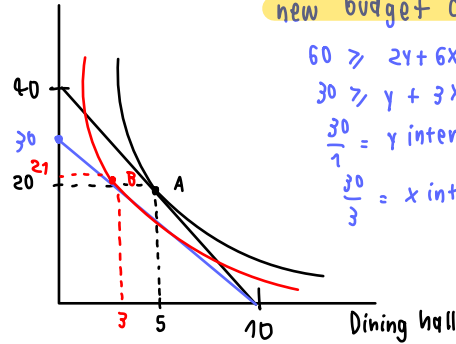
Indifference curve



b. price of cup O' increase from 1.5 to 2

and student spends only 30% of her income on dining hall meals

Cup O' Soup



new budget constraint line

$$60 \geq 2Y + 6X$$

$$30 \geq Y + 3X$$

$$\frac{30}{1} = Y \text{ intercept}$$

$$\frac{30}{3} = X \text{ intercept}$$

* Student spends only 30% of income on meals at dining halls

$$(60) 30\% = 6X$$

$$(60) \frac{30}{100} = 6X$$

$$18 = 6X$$

$$3 = X$$

mean that spends 70% on

Cup O' Soup

$$60 \times \frac{30}{100} = 2Y$$

$$18 = 2Y$$

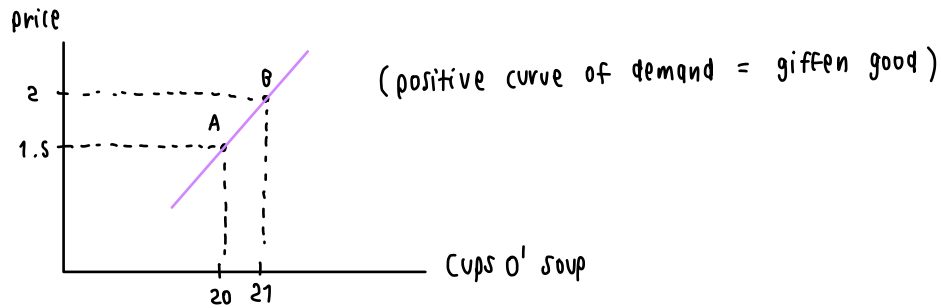
$$Y = 9$$

c. - As a result of price change, consumption of meals at cups O' Soup increase 1 unit. (20 to 21)

- As a result of substitution effect, consumption should decrease but because meals at cups O' Soup is inferior good so the decrease of real income will cause the increase of consumption (quantity of meals at cups O' increase)

- Outweigh the substitution effect.

d. the demand curve for cups o' soup
(use point A and point B)



3. A change in income affects the consumer's choice.
When income increases but the purchase of good doesn't decrease = normal good.

A change of price can cause 2 effects

1. substitution effect
2. income effect

- If the price of goods increases the substitution effect makes consumer buy less of good
(consumers consume the cheaper goods)

- If the price of goods increases, the consumers consume less of good (less purchasing power)

∴ both effects cause consumers to consume less of goods