supawit # 6304641498

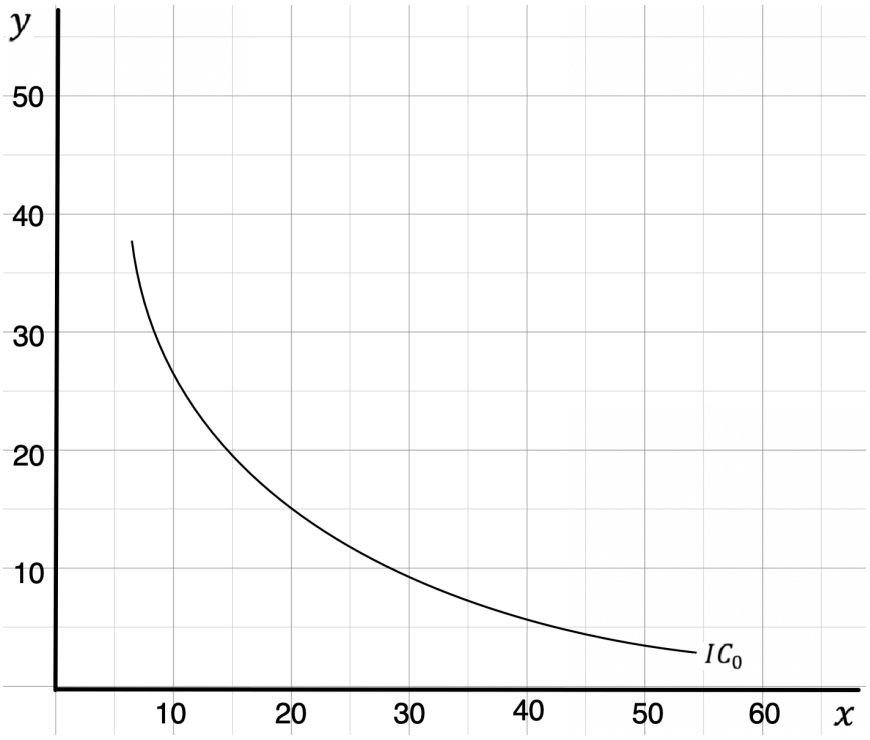
#1

12. Five consumers have the following marginal utility of apples and pears:

	Marginal Utility of Apples	Marginal Utility of Pears
Claire	6	12
Phil	6	6
Haley	6	3
Alex	3	6
Luke	3	12

The price of an apple is $1, and the price of a pear is $2. Which, if any, of these consumers are optimizing their choices of fruit? For those who are not, how should they change their spending?

#2 Given the price of x = 3, price of y = 4, and budget = 120.



A) Draw the budget line and find the equilibrium with the given indifference curve IC in the diagram below.
B) If the income increases from 120 to 150, where will be the new equilibrium so that the change in the consumption of x be such that the Income Elasticity of x is equal to 1.
C) With the change of equilibrium you found in (B), what will be the Income Elasticity of y?

12. Five consumers have the following marginal utility of apples and pears:

	Marginal Utility of Apples (x)	Marginal Utility of Pears (y)	$\frac{MUx}{P_x}$	$\frac{MUy}{P_y}$
Claire	6	12	6	6
Phil	6	6	6	3
Haley	6	3	6	1.5
Alex	3	6	3	3
Luke	3	12	3	6

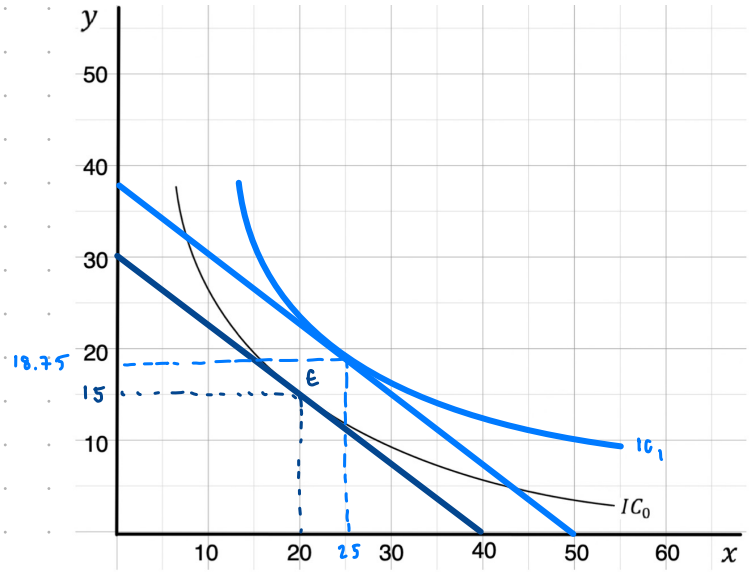
The price of an apple is \$1, and the price of a pear is \$2. Which, if any, of these consumers are optimizing their choices of fruit? For those who are not, how should they change their spending?

$\frac{MUx}{MUy} = \frac{P_x}{P_y} \rightarrow \frac{MUx}{P_x} = \frac{MUy}{P_y}$

Since Claire and Alex have $\frac{MUx}{P_x} = \frac{MUy}{P_y}$, they are optimizing their choice of fruit.

- For Phil and Haley they should spend more money on apple because apple give their more marginal utility than pear.
- For Luke he should spend more money on pear because pear gives him more marginal utility than apply.

A) Draw the budget line and find the equilibrium with the given indifference curve IC in the diagram below.



$3x + 4y = 120$

x - intercept : 40

y - intercept : 30

the equilibrium point E is at (20, 15)

C) With the change of equilibrium you found in (B), what will be the Income Elasticity of y?

$$\frac{\%\Delta y}{\%\Delta I} = \frac{19.75 - 15 \,/\, 15}{150 - 120 \,/\, 120} = 1$$

∴ the income elasticity of y is equal to 1

B) If the income increases from 120 to 150, where will be the new equilibrium so that the change in the consumption of x be such that the Income Elasticity of x is equal to 1.

income increases mean budget increases. So, the budget line shifts right.

$3x + 4y = 150$

x - intercept : 50

y - intercept : 37.5

Income elasticity of x : $\frac{\%\Delta x}{\%\Delta I} = 1$ by given

$$\frac{\%\Delta x}{\frac{150 - 120}{120} \times 100} = 1$$

$$\frac{\%\Delta x}{25\%} = 1$$

$\%\Delta x = 25\%$

∴ x increased by 25% from 20 (x at old E) to 25 (x at new E)

the new equilibrium is at (25, 18.75)

$3(25) + 4y = 150$

$y = 18.75$