

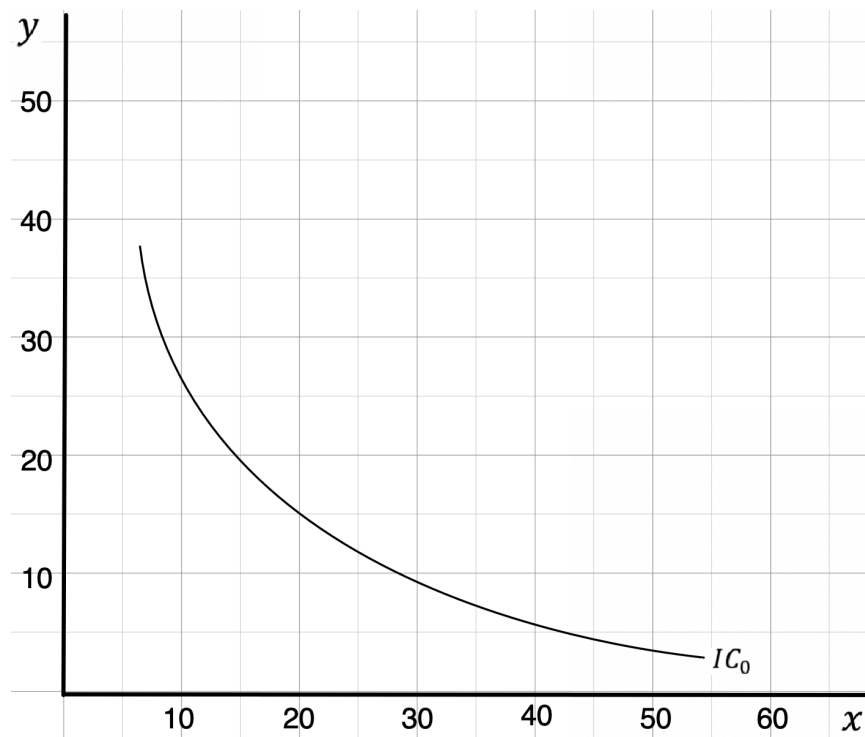
#1

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

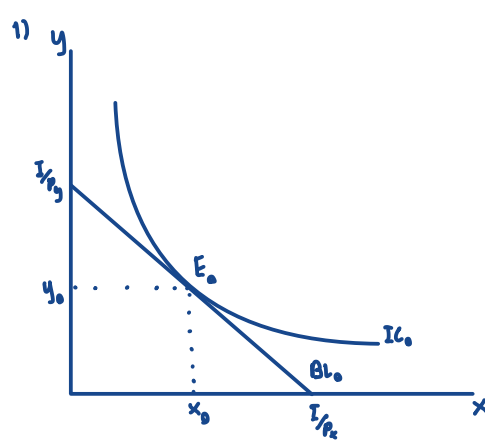
	Marginal Utility of Apples	Marginal Utility of Pears	$\frac{MU_x}{MU_y}$
Claire	6	12	$\frac{1}{2}$
Phil	6	6	1
Haley	6	3	2
Alex	3	6	$\frac{1}{2}$
Luke	3	12	$\frac{1}{4}$

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.



- Draw the budget line and find the equilibrium with the given indifference curve IC in the diagram below.
- 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.
- With the change of equilibrium you found in (B), what will be the Income Elasticity of y?



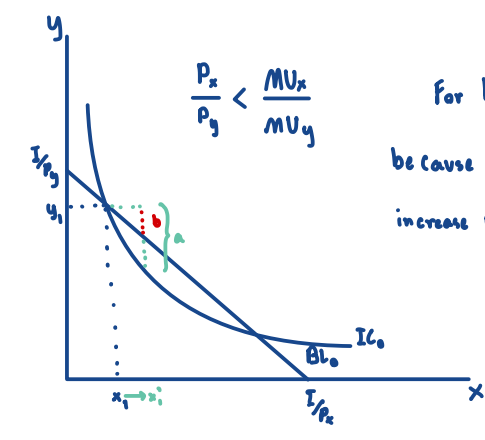
At equilibrium E_0 , slope of IC_0 equal slope of BL_0

slope of BL_0 : $-\frac{P_x}{P_y}$

slope of IC_0 : $-\frac{MU_x}{MU_y}$

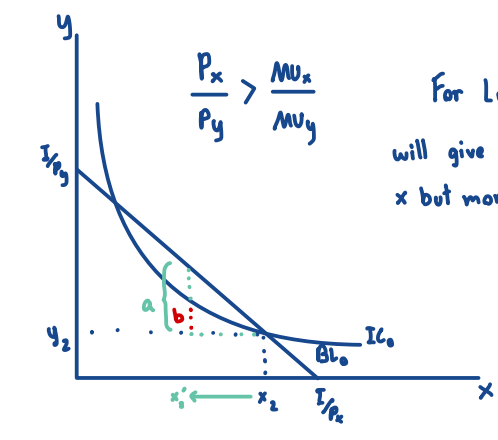
$$\frac{P_x}{P_y} = \frac{MU_x}{MU_y} = \frac{1}{2}$$

\therefore People who optimize the choice are Claire and Alex



$$\frac{P_x}{P_y} < \frac{MU_x}{MU_y}$$

For Phil and Haley, they should increase the consumption of x because the amount of y for market requires decreasing b units and increase unit of x for more efficient.

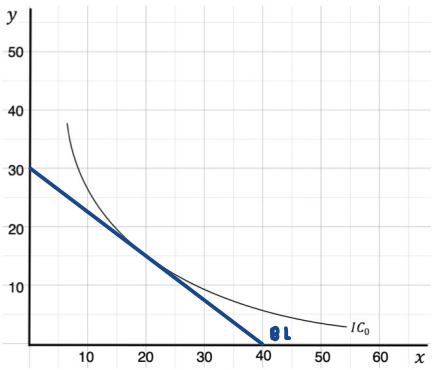


$$\frac{P_x}{P_y} > \frac{MU_x}{MU_y}$$

For Luke, he should increase the consumption of y because the market will give him a units of y ($a > b$). Therefore, he should consume less of x but more of y

2)

A

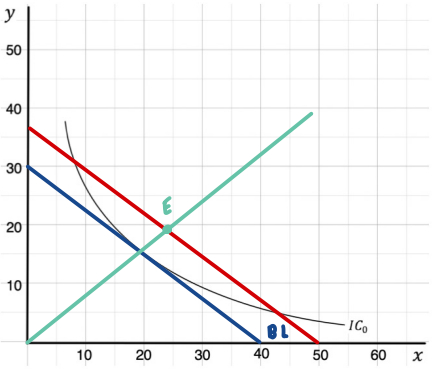


$$3x + 4y = 120$$

$$x = 40, y = 0$$

$$x = 0, y = 30$$

B



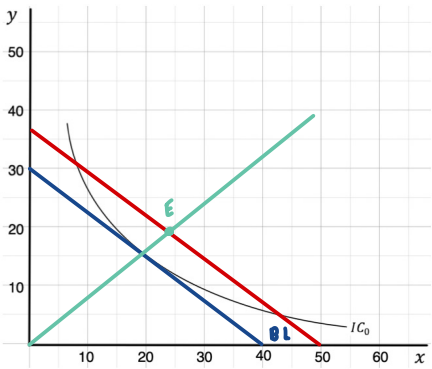
$$3x + 4y = 150$$

$$x = 50, y = 0$$

$$x = 0, y = 37.5$$

∴ New equilibrium is at point E

C



$$\eta_I^y = \frac{\% \Delta Q_y}{\% \Delta I} = \frac{20}{25} = 0.8$$