

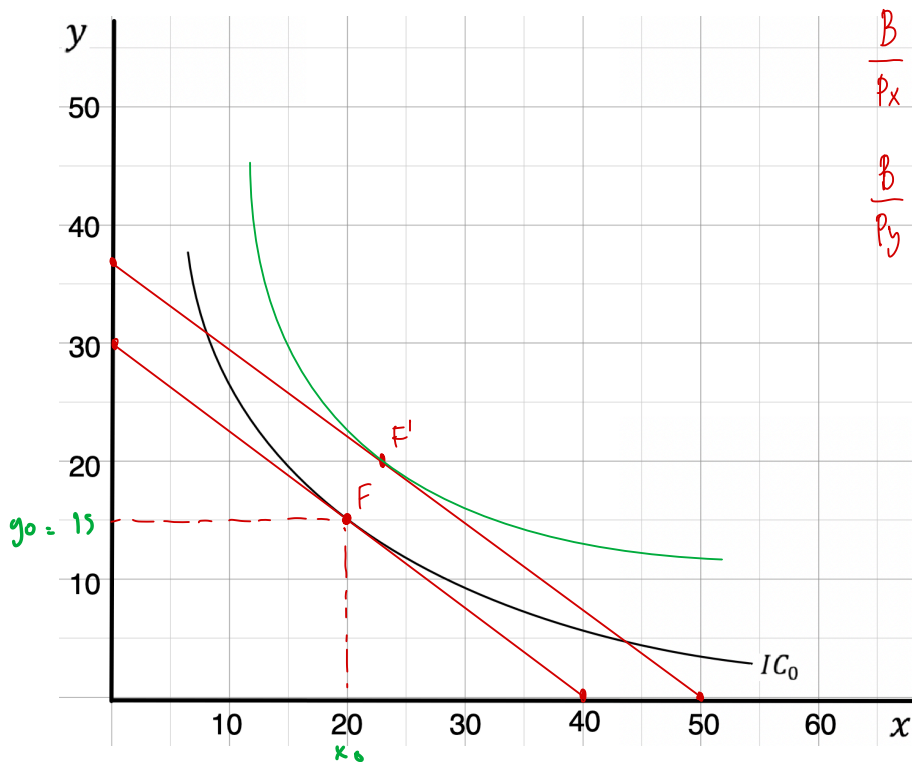
#1

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?

$$A) \quad \frac{B}{P_x} = \frac{120}{3} = 40$$

$$\frac{B}{P_y} = \frac{120}{4} = 30$$

$$\rightarrow \text{old equilibrium} = 3x + 4y = 120$$

$$\text{New } \xrightarrow{\quad} = 3x + 4y = 150$$

$$x_0 = 20, y_0 = 15$$

\therefore Eq point is at F

$$B.) \quad \frac{B'}{P_x} = \frac{150}{3} = 50$$

$$\frac{B'}{P_y} = \frac{150}{4} = 37.5$$

$$\left. \vphantom{\frac{B'}{P_x}} \right\} \text{slope} = -\frac{3}{4}$$

\therefore new eq. point is F'

$$C.) \quad \left(\frac{y}{I} \right) \frac{\% \Delta y}{\% \Delta x} = \frac{25}{25} = 1, \quad 2 > 0 = B \uparrow, y \uparrow$$

When B increase, y increase.

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marginal utility of Apple	marginal utility of pears	Sum
$6/1 = 6$	$12/2 = 6$	12
$6/1 = 6$	$6/2 = 3$	9
$6/1 = 6$	$3/2 = 1.5$	7.5
$3/1 = 3$	$6/2 = 3$	6
$3/1 = 3$	$12/2 = 6$	9

The buyers that has the marginal utility that is equal are "Claire" and "Alex"

"Phil" should consume more apples and decrease the consumption of pears

"Haley" should consume more apples and decrease the consumption of pears

"Luke" should consume less apples and consume more pears.