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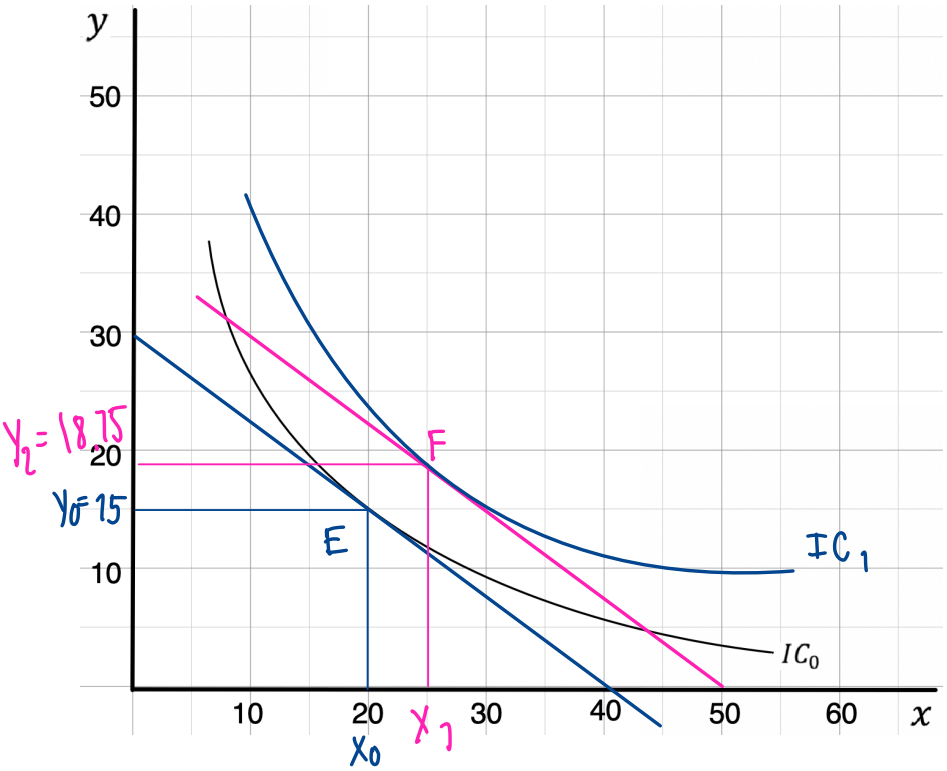
#1

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?

$3X+4Y=120$

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

$\frac{B}{P_X} = \frac{120}{3} = 40$

slope $= -\frac{3}{4}$

$3X+4Y=150$

$y \quad \frac{150}{4} = 37.5$

$x \quad \frac{150}{3} = 50$

slope $= \frac{-37.5}{50} = -\frac{3}{4}$

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Marginal utility per $ of Apple	" of Pears	E
6/1 = 6	12/2 = 6	12
] = 6	6/2 = 3	9
] = 6	3/2 = 1.5	7.5
3/1 = 3	6/2 = 3	6
I = 3	12/2 = 6	9

Finding consumer that optimize their choic of fruit, Marginal utility / dollar can be applied
→ the amount of extra utility (additional) → that consumer recieves given the goods' price

Conclusion: From table, claire and Alex => had already optimized their choice

→ Phil + Haley => should buy more "Apples"

→ because it gives more utility / one unit price

→ Luke => should buy more "pears"

→ It gives more utility as well

* claire => best otimizing her choice!
(highest total marginal utility / $ of apple and pear.)

2. The old eq condition = $3X + 4Y = 120$

The new " = $3X + 4Y = 150$

→ used for consuming $X_0 = 20$, $Y_0 = 15$

→ consume X more

= $X_1 = 25$, $Y_1 = 18.75$

$150 + 4(Y_1) = 150$ (3(25))

$\frac{150 - 75}{4} = Y_1$

$= 18.75$

from 120 → 150 = 25% = % ΔI

from 20 → 25 = 25% = % ΔX

from 15 → 18.75 = 25% = % ΔY

2b) $\eta_I^{(X)}$ $\quad \frac{\%\Delta X}{\%\Delta I} \rightarrow \frac{25}{25} = 1, \quad 1 > 0 = B\uparrow, X\uparrow$

$\therefore$ when B increases, X ↑ (consume X)

2c) $\eta_I^{(Y)}$ $\quad \frac{\%\Delta Y}{\%\Delta I} \Rightarrow \frac{25}{25} = 1, \quad 1 > 0 = B\uparrow, Y\uparrow$

$\therefore$ when B increases, Y ↑ (consume Y)