#1

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

Each person should change:
Phil should spend all of his budget on apples
Haley " → " pears
Alex " → apples or pears
Luke " → " pears

Optimization

	Marginal Utility of Apples → 1$	Marginal Utility of Pears → 2$
Claire	6/1 = 6	12/2 = 6
Phil	6/1 = 6	6/2 = 3
Haley	6/1 = 6	3/2 = 1.5
Alex	3/1 = 3	6/2 = 3
Luke	3/1 = 3	12/2 = 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?

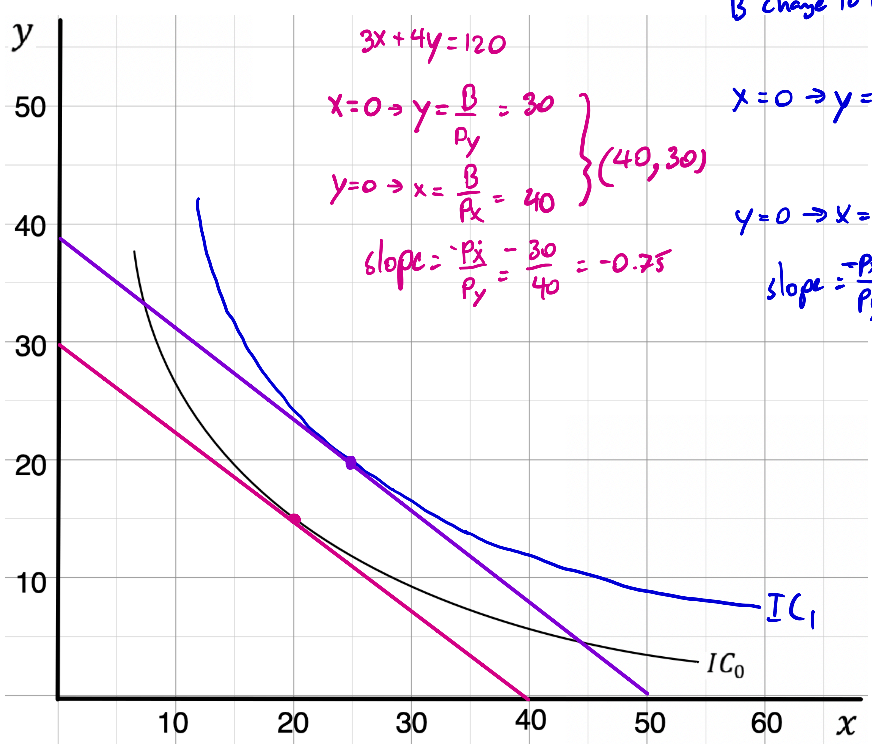
#2 Given the price of x = 3, price of y = 4, and $\boxed{\text{budget = 120}}$

B change to 150

$x = 0 \Rightarrow y = \frac{B}{P_y} = \frac{150}{4} = 37.5$

$y = 0 \Rightarrow x = \frac{B}{P_y} = \frac{150}{3} = 50$

$\text{slope} = \frac{-P_x}{P_y} = \frac{-37.5}{50} = -0.75$



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?

(B) Firstly, $IC_0 \Rightarrow 3x + 4y = 120$

(new IC), $IC_1 \Rightarrow 3x + 4y = 150$

$$\eta_I^x = 1 \Rightarrow \frac{\%\Delta x}{\%\Delta I} = \frac{\frac{x-20}{20}}{\frac{150-120}{120}} = 1$$

$$= \frac{x-20}{20} \cdot \frac{\overset{4}{\cancel{120}}}{\cancel{30}} = \frac{4x-80}{20} = 1 \Rightarrow 4x = 100$$

$$x = 25$$

$\therefore$ The equilibrium point change from $(20, 15)$ to $(25, 18.75)$ ※

(C) $$\eta_I^y = \frac{\%\Delta y}{\%\Delta I} = \frac{18.75-15}{15} \Big/ \frac{150-120}{120}$$

$$= \frac{3.75}{15} \cdot \frac{4}{1} = \frac{15}{15} = 1$$ ※