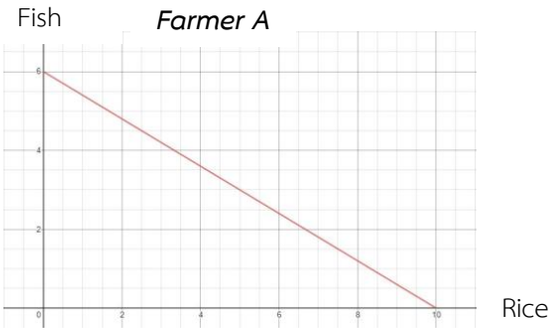
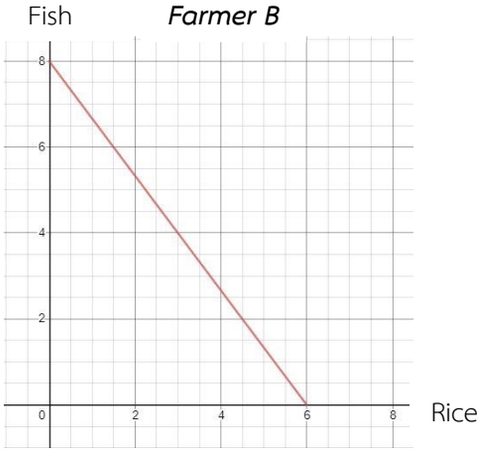
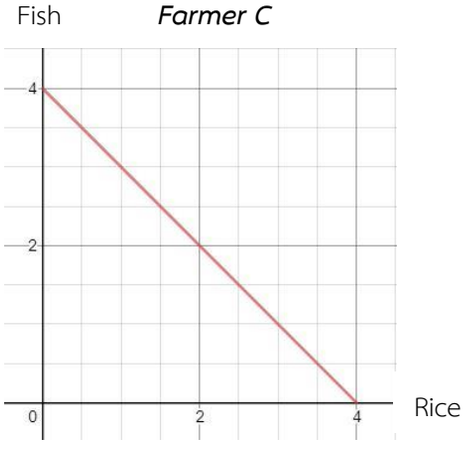
HW#2

1. Combine these three PPCs







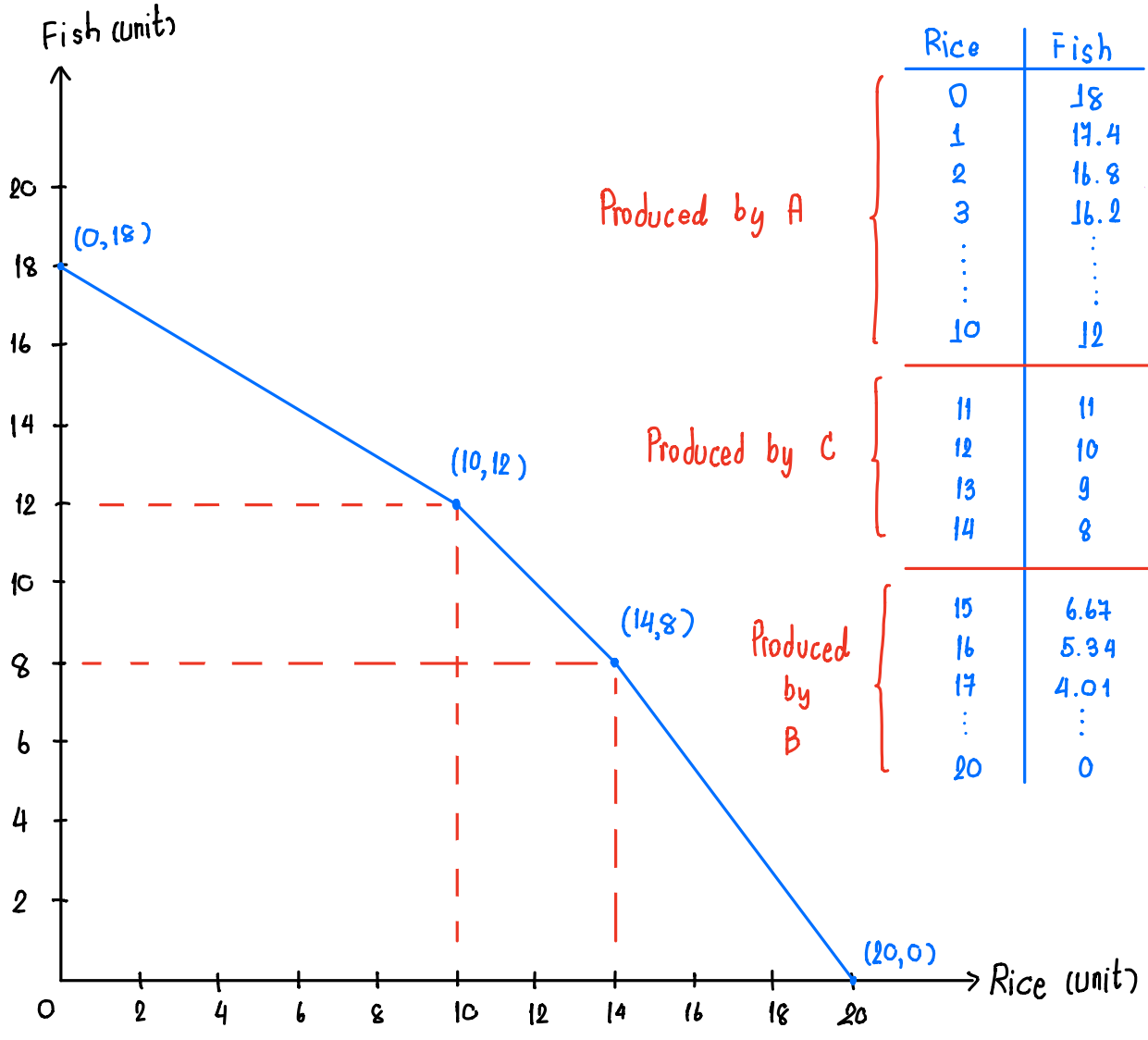
Opportunity cost of producing rice : In producing each unit of rice, how many unit of fish that must be forgone.

Farmer A : cost of rice = $slope_A = \frac{\Delta y}{\Delta x} = \frac{6}{10} = 0.6$ unit of fish

Farmer B : cost of rice = $slope_B = \frac{\Delta y}{\Delta x} = \frac{8}{6} = 1.33$ unit of fish

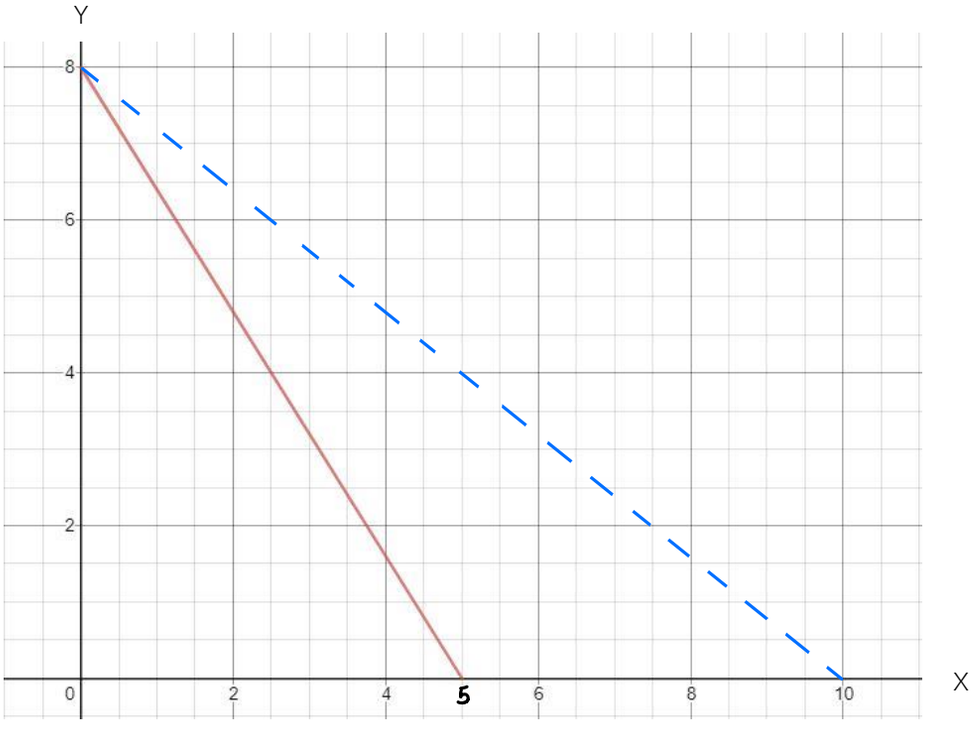
Farmer C : cost of rice = $slope_C = \frac{\Delta y}{\Delta x} = \frac{4}{4} = 1$ unit of fish

Production Possibility Curve of An Economy Producing Rice and Fish.



	Rice	Fish
Produced by A	0	18
	1	17.4
	2	16.8
	3	16.2
	⋮	⋮
	10	12
Produced by C	11	11
	12	10
	13	9
	14	8
Produced by B	15	6.67
	16	5.34
	17	4.01
	⋮	⋮
	20	0

2. If the technology of producing X improves so much that the amount of X we can have doubles at all quantities of Y. How will PPC below change? Cost of X is higher? Cost of Y is higher?



The PPC bends outwards due to the improvement in technology of producing x causing the maximum output of x (if all resources are used to produce only x) to increase from 5 units to 10 units. Consequently, this causes the change in cost of both x an y, as shown in the table below.

	Cost of X	Cost of Y
Before technology improvement	$Slope_{before}$ = 1.6 unit of y	$\frac{1}{Slope_{before}}$ = 0.625 unit of x
After technology improvement	$Slope_{after}$ = 0.8 unit of y	$\frac{1}{Slope_{after}}$ = 1.25 unit of x

In conclusion, cost of x is lower meaning that in order to produce each unit of x, you can sacrifice less of y (from 1.6 to 0.8 unit)

In contrast, cost of y is higher. You have to sacrifice more of x (from 0.625 to 1.25 unit) in order to get each additional unit of y.

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