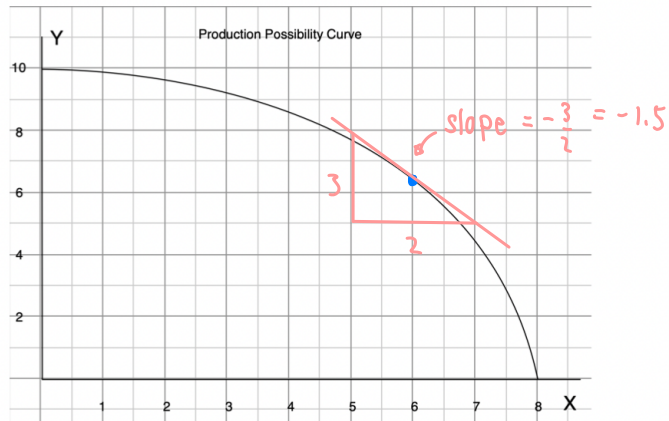


HW#4 Due Jan 27, 2022

HW Nonlinear PPC



- a) Find the opportunity cost of each additional unit of y in terms of units of x

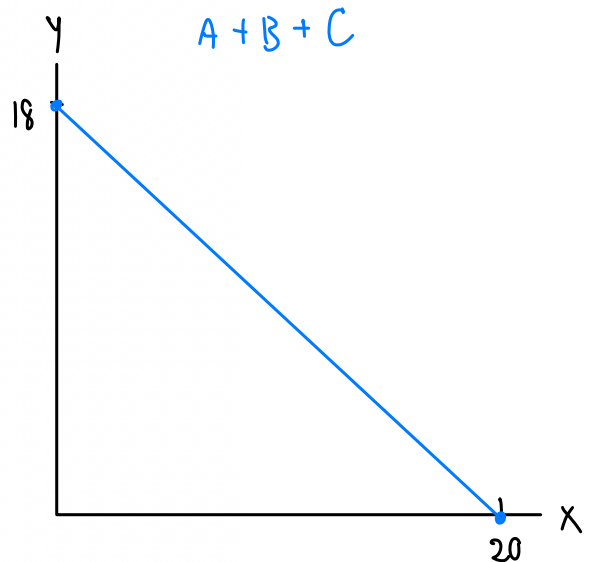
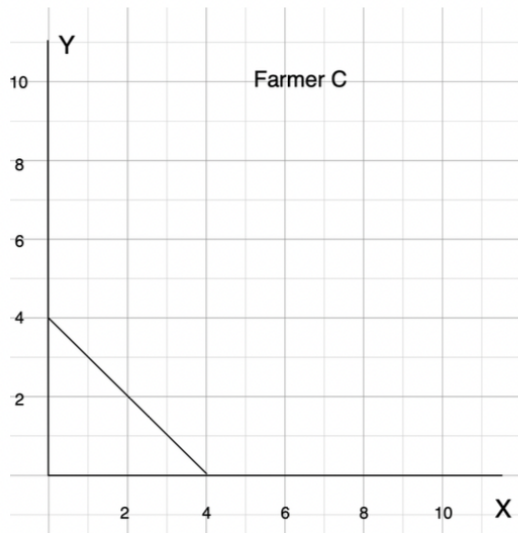
y	x	Opp. Cost of y
0	8	0.1
1	7.9	0.2
2	7.7	0.3
3	7.4	0.3
4	7.1	0.35
5	6.75	0.5
6	6.25	0.65
7	5.6	0.9
8	4.7	1.25
9	3.45	3.45
10	0	

- b) Is the opportunity cost of y increasing? Yes
- c) Compute the opportunity cost per unit of y when $x = 6$. if we have 1 more unit of y , we will have 1.5 unit less of x .
- d) At $x = 6$, approximate how much more x can be produced if we have y less by 0.2 units. $(\Delta y)(\text{slope})$

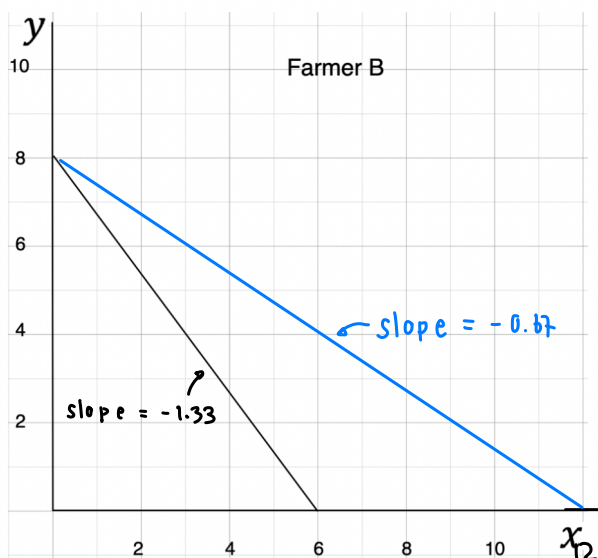
$$= (-0.2)(-1.5)$$

$$= 0.3 \text{ unit more of } x$$

HW Farmer C has the PPC given below. Find the PPC of all three farmers A, B and C combined.



HW. If a new fertilizer is found to double the output of rice (x) for any level of production of fish (y), how will PPC of farmer B change? Does the opportunity cost of x increase? Does the opportunity cost of y increase?



No, opportunity cost of x decreased

Yes, opportunity cost of y increased

HW. Given the PPC below,

- What is the opportunity cost of x at $x_0 = 5$? 0.5
- Suppose the technology of producing y improves so that the economy can double the output of y for any output level of x . Draw the new PPC.
- What is the opportunity cost of x at $x_0 = 5$ for the new PPC?

$$-\frac{1.3}{2} = -0.65$$

