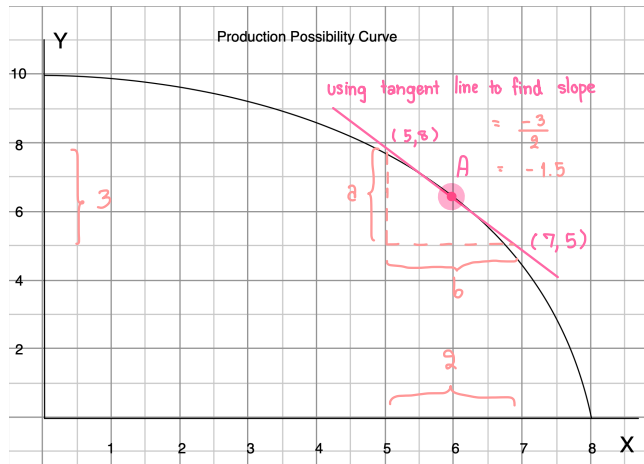


**HW Nonlinear PPC**



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	when y increase 1 unit at a time
1	7.9	
2	7.7	
3	7.5	
4	7.2	
5	6.8	
6	6.3	
7	5.5	
8	4.7	
9	3.4	
10	0	

b) Is the opportunity cost of y increasing? **yes** ; the more y produce, the more to lose x

c) Compute the opportunity cost per unit of y when  $x = 6$ .

$$\frac{1}{\text{slope}} = \frac{1}{-1.5} = -0.67$$

d) At  $x = 6$ , approximate how much more x can be produced if we have y less by 0.2 units.

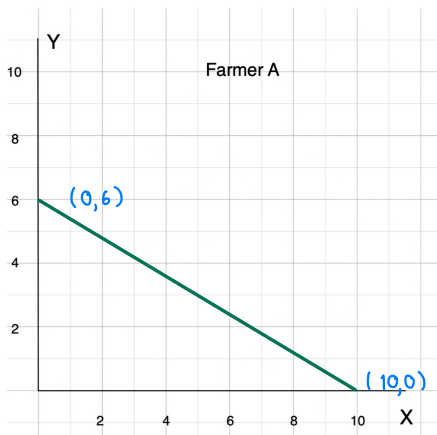
or

$$\frac{x_2 - x_1}{y_2 - y_1} = \frac{5 - 7}{8 - 5} = \frac{-2}{3} = -0.67$$

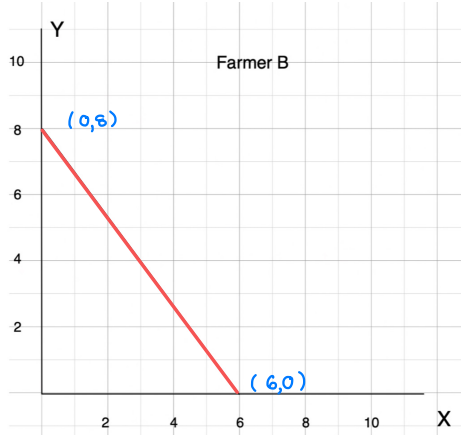
$\rightarrow \Delta y = 0.2 \Rightarrow \Delta x \approx \left( \frac{1}{\text{slope}} \right) (\Delta y)$

$$= (-0.67)(0.2)$$

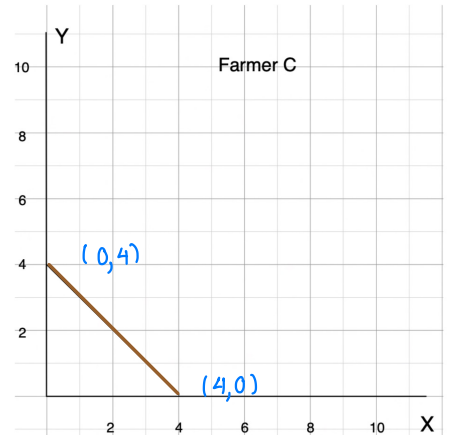
$$= 0.134$$



$$\text{Opp cost of } x = \frac{-6}{10} = -0.6$$

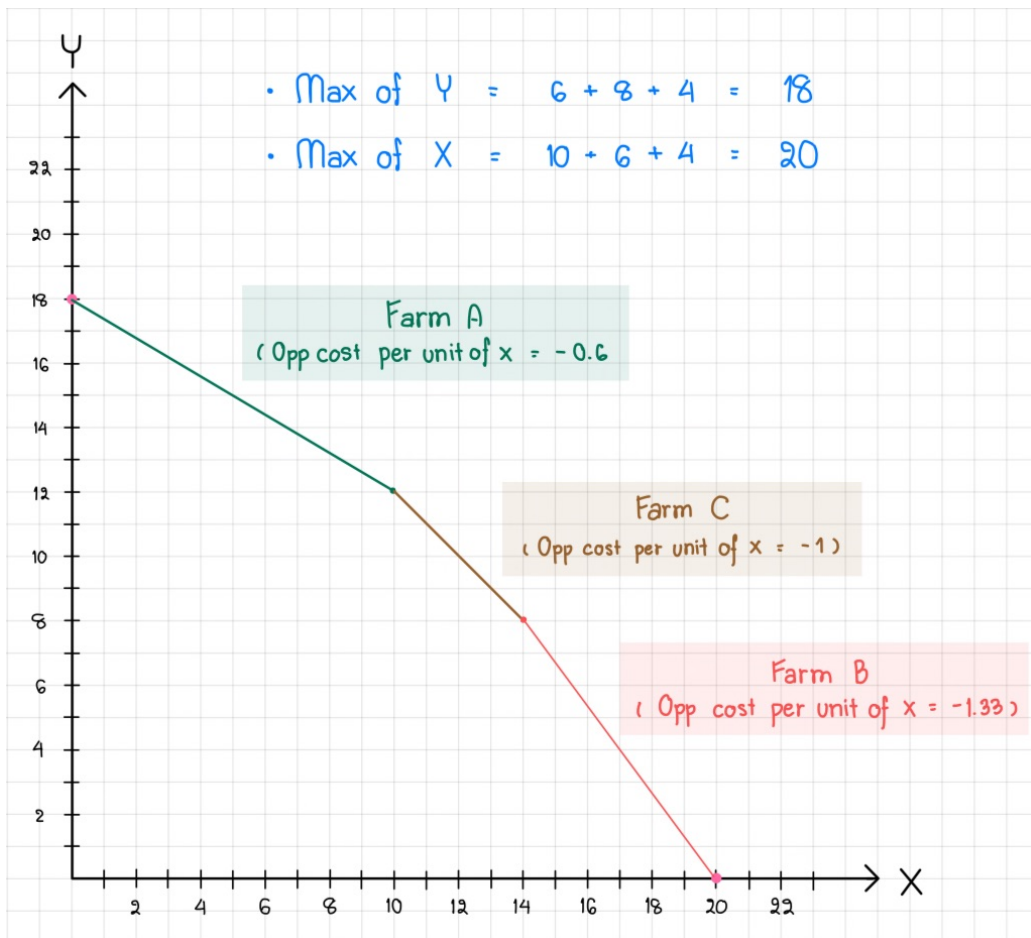


$$\text{Opp cost of } x = \frac{-8}{6} = -1.33$$



$$\text{Opp cost of } x = \frac{-4}{4} = -1$$

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



X	Y
0	18
1	17.4
2	16.8
3	16.2
4	15.6
5	15
6	14.4
7	13.8
8	13.2
9	12.6
10	12
11	11
12	10
13	9
14	8
15	6.67
16	5.34
17	4.01
18	2.68
19	1.35
20	0.02

Farm A (-0.6)  
 Farm C (-1)  
 Farm B (-1.33)