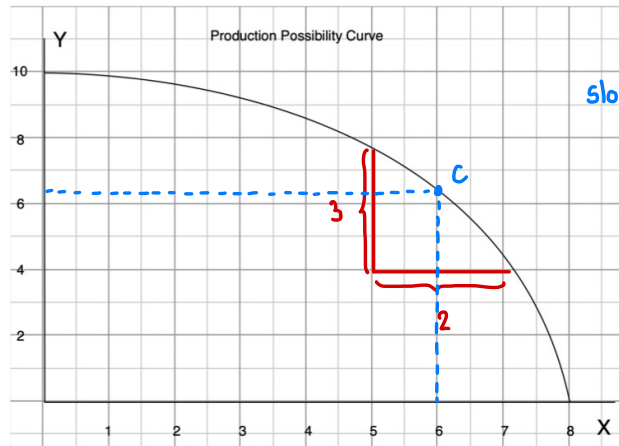


## HW Nonlinear PPC



slope at C  
 $= -\frac{3}{2}$   
 $= -1.5$

- a) Find the opportunity cost of each additional unit of y in terms of units of x when y ↑ 1 unit at a time

| y  | x   | Opp. Cost of y |
|----|-----|----------------|
| 0  | 8   | 0.1 less of x  |
| 1  | 7.9 | 0.2 less of x  |
| 2  | 7.7 | 0.3 "          |
| 3  | 7.4 | 0.3 "          |
| 4  | 7.1 | 0.4 "          |
| 5  | 6.7 | 0.4 "          |
| 6  | 6.5 | 0.7 "          |
| 7  | 6.6 | 0.9 "          |
| 8  | 4.7 | 1.3 "          |
| 9  | 3.4 | 3.4 "          |
| 10 | 0   |                |

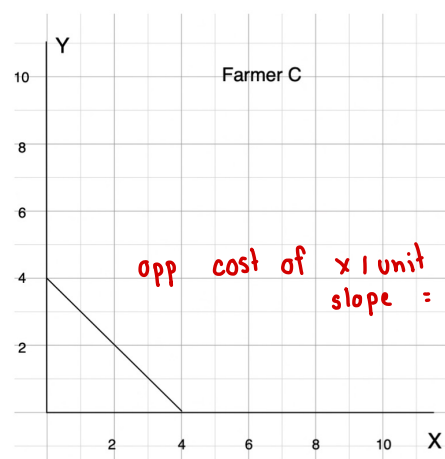
- b) Is the opportunity cost of y increasing? **yes**  
 c) Compute the opportunity cost per unit of y when  $x = 6$ .  
 d) At  $x = 6$ , approximate how much more x can be produced if we have y less by 0.2 units.

$\rightarrow \frac{1}{-1.5} \approx -\frac{2}{3} \approx -0.67$  opp cost of y

$\rightarrow$  If  $\Delta y = -0.2$

$\Delta x \approx \frac{\Delta y}{\text{slope at C}} \approx \frac{-0.2}{-1.5} \approx 0.13$

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 |
| ... | ...  |
| 10  | 12   |
| 11  | 11   |
| ... | ...  |
| 14  | 8    |
| 15  | 6.67 |
| ... | ...  |
| 20  | 0.02 |

