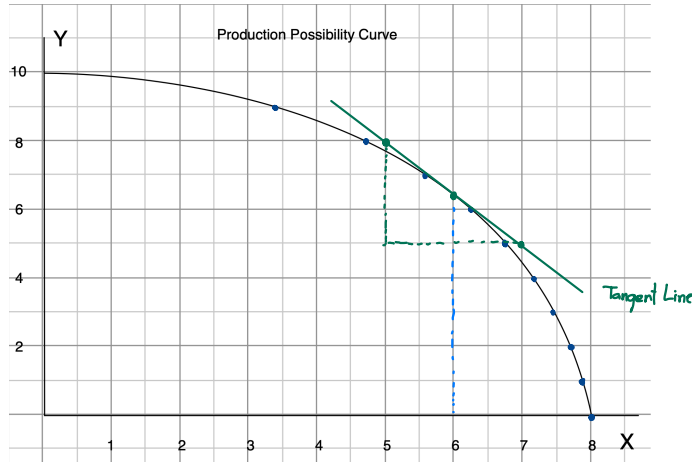


HW 2 Due Thursday, February 4, 2021
1. Nonlinear PPC



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

y	x	Opp. Cost of y - when y increase 1 unit at a time
0	8	
1	7.9	0.1
2	7.7	0.2
3	7.4	0.3
4	7.1	0.3
5	6.7	0.4
6	6.2	0.5
7	5.6	0.6
8	4.7	0.9
9	3.4	1.3
10	0	3.4

Yes, it is increasing. Produce more x lose more y.

b) Is the opportunity cost of y increasing?

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

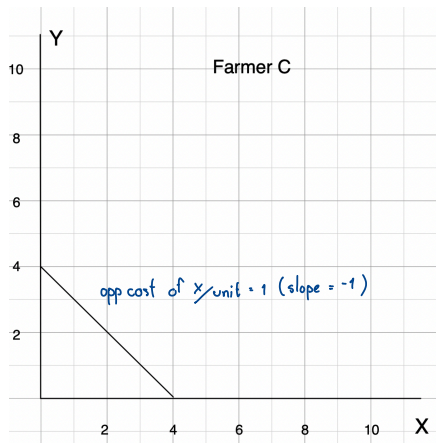
$$\text{slope} = \frac{x_2 - x_1}{y_2 - y_1} = \frac{7 - 5}{5 - 8} = -0.67 \text{ Ans}$$

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

$$\Delta x = (\text{slope})(\Delta y) = (-0.67)(-0.2) = 0.134 \text{ Ans}$$

If produce y less of 0.2 unit, we can produce more 0.134 of X.

2. Farmer C has the PPC given below. Find the PPC of all three farmers A, B and C combined. (approximately)



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

