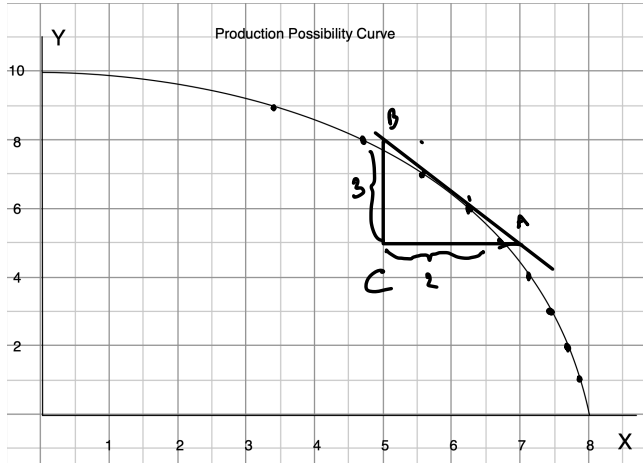


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HW Nonlinear PPC



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	
1	7.85	0.15
2	7.7	0.15 less of x
3	7.48	0.22
4	7.19	0.29
5	6.75	0.44
6	6.25	0.5
7	5.60	0.65
8	4.75	0.85
9	3.45	1.3
10	0	3.45

- b) Is the opportunity cost of y increasing?
- 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.

Can a PPC have positive slope?

c) use tangent line to find slope
 A (7, 5) B (5, 8) C (5, 5)
 slope = $\frac{\Delta Y}{\Delta X} = \frac{-3}{2} = -1.5$
 opportunity cost per unit of X = $\frac{\Delta X}{\Delta Y}$
 $= \frac{2}{-3} \approx -0.67 \therefore -0.67$

opportunity cost of y increasing

d) at x = 6, $\frac{\Delta Y}{\Delta X} = -1.3$
 if we have y less by 0.2 units

$$\Delta X = \frac{\Delta Y}{-1.5}$$

$$= \frac{-0.2}{-1.5}$$

ANSWER ≈ 0.13