

The Digital Economist

Intermediate Macroeconomics

Worksheet #2: **Productivity and Output**

Name: _____

1. Aggregate Output 'Y*' is defined by the following expression:

$$Y^* = AL^\alpha = 10L^{0.50}$$

a. Complete the following table:

L	Standard of Living (Y*/L)		
	Y*(A=10)	MP _L	Living (Y*/L)
0	_____	_____	_____
1	_____	_____	_____
2	_____	_____	_____
3	_____	_____	_____
4	_____	_____	_____
5	_____	_____	_____
9	_____	_____	_____
16	_____	_____	_____
25	_____	_____	_____

b. Graph this relationship between Output (Y*) and Labor (L) on the above diagram.

c. As more labor (L) is added to production, what is happening the the Marginal Productivity of Labor?_____ Explain why this might occur. What is happening to the *Standard of Living* as more labor is added to the production process? _____ Explain.

d. How will an increase in productivity (i.e., 'A' = 20) affect output?_____ and the *Standard of Living* for 16 units of labor? _____

L	Y* (A=20)	MP _L	Standard of Living (Y*/L)
0	_____	_____	_____
1	_____	_____	_____
2	_____	_____	_____
3	_____	_____	_____
4	_____	_____	_____
5	_____	_____	_____
9	_____	_____	_____
16	_____	_____	_____
25	_____	_____	_____

{ Graph these values in the diagram above and plot the standard of living for 16 units of labor given A = 10 and A = 20. }