The Digital Economist

Principles of Macroeconomics
Worksheet #2: **Production Possibilities** **Name:**_____

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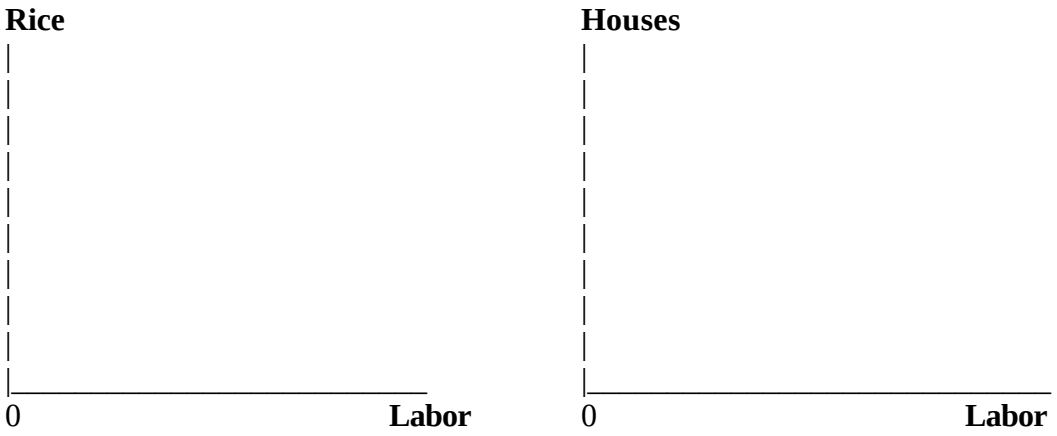
1. Given the following production data, complete the following table:

Labor (L)	**Rice Kilograms**	**Marginal Product**	**Labor (L)**	**Houses Units**	**Marginal Product**
0	0	_____	0	0	_____
1	40	_____	1	2	_____
2	75	_____	2	4	_____
3	105	_____	3	6	_____
4	130	_____	4	8	_____
5	150	_____	5	10	_____
6	165	_____	6	12	_____
7	175	_____	7	14	_____
8	180	_____	8	16	_____
9	180	_____	9	18	_____
10	175	_____	10	20	_____

b. Graph these production functions below:



c. How would you characterize the production function for rice (diminishing, constant, or increasing marginal productivity)? _____ How about the production function for houses?_____

d. Is it possible (in the short run) to produce 200 kg of rice?_____ Why or why not?

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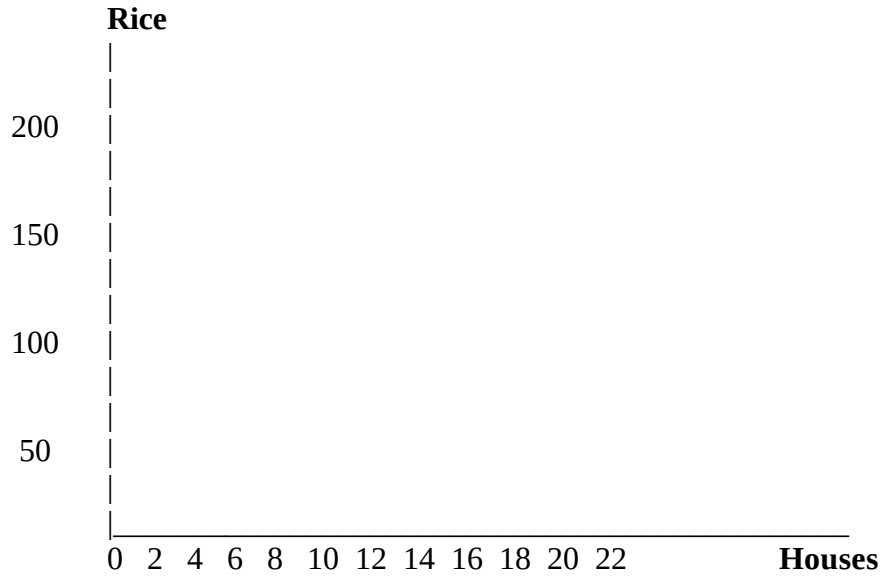
2. Given the production data on page 1, plot a production possibilities curve for 6 units of labor to be allocated between rice and housing production.



b. What economic law determines the shape or curvature of the above production possibilities curve?

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c. Given that only 6 units of labor is available to be allocated between rice and housing production, is it possible to produce 100 kg. of rice and 5 houses?_____ Why or why not?_____
_____ Does this combination of rice and housing production represent an efficient use of resources?_____

d. Assuming that we are currently producing 130 kg. of rice (using 4 units of labor) and 4 houses (using the remaining 2 units of labor). How many kg. of rice must be given up if we transfer one unit of labor away from rice production towards housing production?_____ How many additional houses could we build?_____ What is the *opportunity cost* of each additional house?_____ How are these *opportunity costs* measured?_____

e. Suppose that society values a kg of rice at $1,000 and values a house at $15,000. What is the relative price of a house as compared to rice (i.e., what is the rice-value of a house?_____

f. Given the opportunity costs of an additional house (in part d) and the relative price of a house (in part e), should resources be allocated towards or away from rice production?_____

g. Show the impact of an increase in the size of the labor force from 6 to 10 workers on the above production possibilities curve.