Exam 1

Consider the following scenario: EJ and LW are price-taking owners of capital specific to production of vino and cloth, respectively. The dollar price of vino is $2/unit$, and the dollar price of cloth is $1/unit$. The marginal products and the associated value of marginal products, i.e., how much extra revenue is generated by an additional worker, are displayed in the following table:

MPL_V	$P_V \times MPL_V$	MPL_C	$P_C \times MPL_C$
8	16	12.2	12.2
7	14	11.2	11.2
6	12	10.2	10.2
5	10	9.2	9.2
4	8	8.2	8.2
3	6	7.2	7.2
2	4	6.2	6.2
1	2	5.2	5.2

There are eight (8) workers in this economy. Wages can only be integer amounts, e.g., $2.00/unit of work, or $3.00/unit of work, not something like $2.45/unit of work.

1. Show that the equilibrium allocation of labor in this economy, and the equilibrium dollar wage, and the equilibrium profits for EJ and LW respectively, are: $w = \$9.00/unit\ of\ work$, $L_V = 4, L_C = 4$, and $\Pi_V = \$16$, $\Pi_C = \$6.80$.

   A:

2. Suppose the price of both products double. What happens to the allocation of labor, profits, and wages, both real (measured in units of either cloth or vino) and nominal?

3. Now suppose the dollar price of vino remains at $2/unit, but the dollar price of cloth increases to $1.50/unit. Show that $w = 10$, $L_C = 5$, $L_V = 3$ is an equilibrium. The following chart may help:

MPL_V	$P_V \times MPL_V$	MPL_C	$P_C \times MPL_C$
8	16	12.2	18.3
7	14	11.2	16.8
6	12	10.2	15.3
5	10	9.2	13.8
4	8	8.2	12.3
3	6	7.2	10.8
2	4	6.2	9.3
1	2	5.2	7.8

4. What are the profits of EJ and of LW in this new situation, in terms of dollars, in terms of vino, and in terms of cloth?

5. What has happened to wages, measured in terms of dollars, in terms of vino, and in terms of cloth?

A graph