

**LABOR MARKET**

Problem #3

An enterprise, competitive both in the output market and in the factor market, aims to maximize its profits. It employs one factor of production – labor ( $L$ ) – and its production function is expressed by the formula  $Q = -0.8 + 4.5L - 0.3L^2$ . If the wage is \$4.50 and the price of the product is \$5, determine the employment level.

Problem #5

The labor demand function in American enterprises is given by the formula  $L(w) = 60 - 10w$ , while the labor supply function is  $L(w) = 10w$ , where  $L$  stands for amount of labor (1 unit of labor stands for 10 workers employed fulltime) and  $w$  is the average wage *per* hour (in \$).

- Find the wage and employment level under free market conditions.
- Find the employment level in the event when the government sets a minimum wage of \$4 at the enterprise.
- Find the employment level in the event when the government grants each worker a subsidy of \$1 *per* hour of work. Determine the wage level corresponding the market equilibrium in this case.

Problem #13

Assume that there exist 3000 tomato farms of 3 types – 1000 farms of each type. The price of a kilogram of tomatoes is 1. The marginal product of labor in each of these types of farms is given in the table below:

Number of workers	Type of farm		
	A	B	C
1	100	92	80
2	96	90	74
3	92	88	68
4	88	86	62
Etc.	Etc.	Etc.	Etc.

- If the labor supply is constant and amounts to 7000, find the wage and rent of each farm.
- Find the wage and rent of each farm for the case of 14000 workers.
- Assume that the government introduces a tax amounting to 100 *per* farm. How will this influence the total output, total rent and wages in the event when 7000 and, alternatively, 14000 workers are employed?