

**Homework 2**

Due: **Beginning of the hour** on the day announced in class. **Late homework (after the class starts) will NOT be accepted.** Show all calculations on separate sheets of paper and **staple** all pages, including this page (**without showing the calculations, there will be no credit**).

Your grade will depend not only on the correctness of your answers but on neatness, clarity, organization, and thoroughness. Please do **your own work**. If you need help, ask the instructor or a tutor. **Do not ask a fellow student!** Submitting identical works, which usually contain the same errors, is cheating and will have **grave consequences** (see the Syllabus).

**ANSWER ALL QUESTIONS ON THIS SHEET**

1. The table below shows the total product of labor for a perfectly competitive country that produces only one output, corn. a) Assuming that the **nominal wage rate** in this country is given to be **\$12/unit of labor**, complete the table.

Units of labor	Total Product or GDP	Marginal Product	Price of output (corn)	Marginal revenue product	Nominal wage rate	Real wage rate
1	6	6/1	\$4	\$24/1	\$12/1	3 corn units/labor
2	11	5/1	\$4	\$20/1	\$12/1	3/1
3	15	4/1	\$4	\$16/1	\$12/1	3/1
4	18	3/1	\$4	\$12/1	\$12/1	3/1
5	20	2/1	\$4	\$8/1	\$12/1	3/1
6	21	1/1	\$4	\$4/1	\$12/1	3/1

$w = W/P_{\text{corn}}$

$\$12/\$4 = 3 \text{ corn units/labor}$

b) Using marginal analysis, explain how many units of labor this profit maximizing country will hire and why.

$MRP = W$  or  $MP = w$

$\$12 = \$12$

3 corn units = 3 corn units

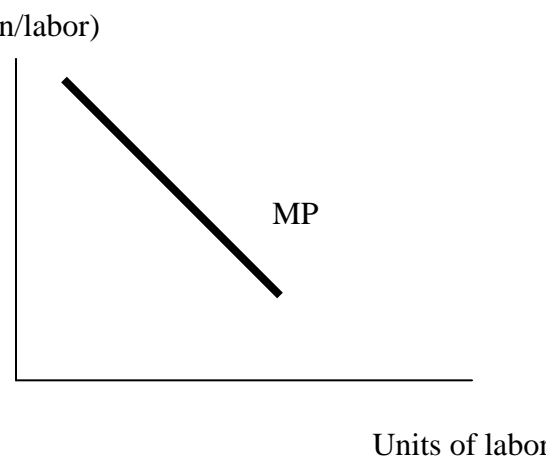
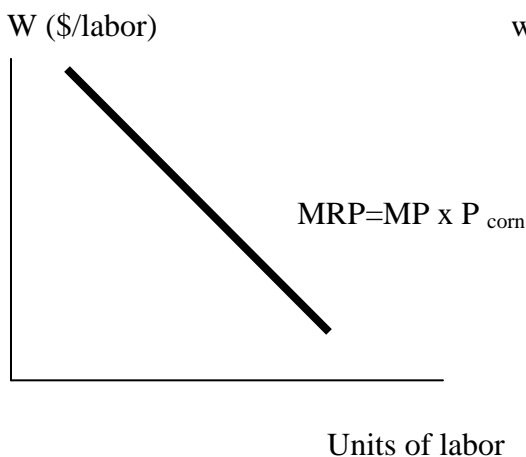
$L = 4$

c) How much is the profit of the firms in this country at this level of employment of labor? Show your calculations.

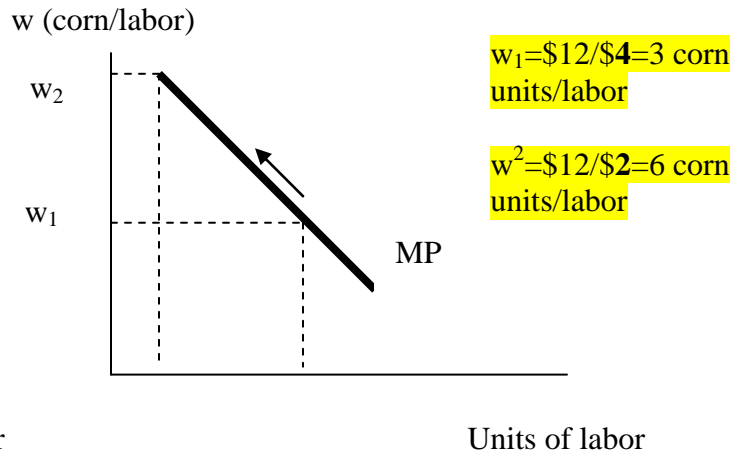
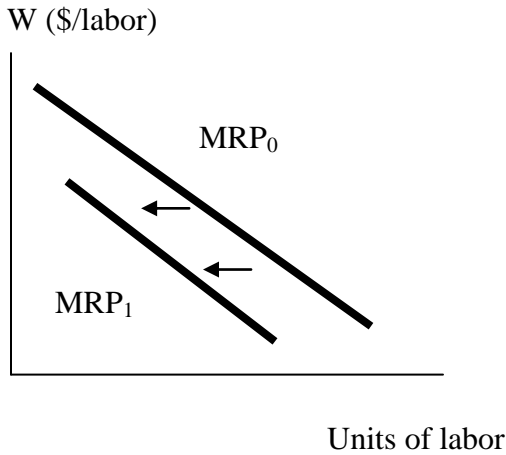
**Profit = TR - TC**

$= py - W \times L =$   
 $\$4 \times 18 - \$12 \times 4 =$   
 $\$72 - \$48 =$   
 $\$24$

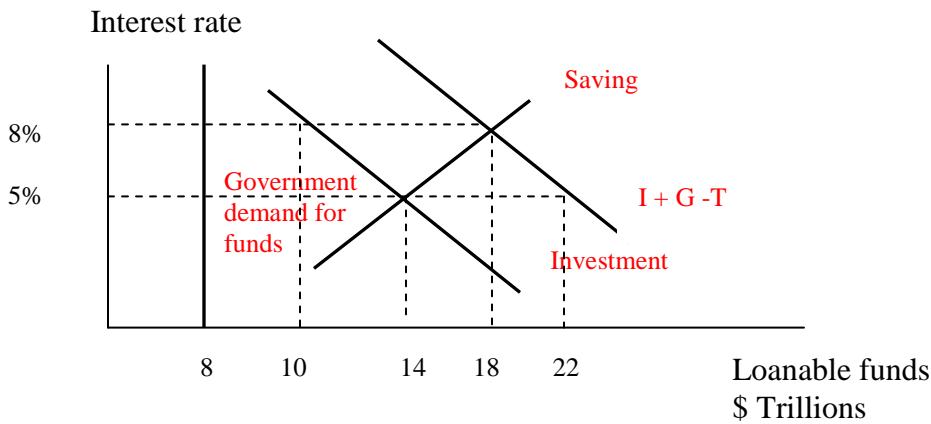
d) In the space below draw the demand for labor both in terms of nominal wage rate, **W**, and real wage rate, **w**.



e) Show what will happen in the above graphs when, ceteris paribus, the price of output (corn) falls from \$4 to \$2.



2) Answer the following questions based on the graph below.



a) The total quantity of funds demanded at an interest rate of 5 percent is 22.

b) The equilibrium interest rate and quantity of loanable funds exchanged are respectively 8% and 18.