

Homework 3
Principles of Economics
Prof. Sarah West
30 points

1. (9 points) A reputable economist tells you that the labor market can be represented by the following demand and supply equations:

$$\begin{aligned} \text{Supply: } W &= 0.05Q^S \\ \text{Demand: } W &= 20 - 0.15Q^D \end{aligned}$$

*where W is the wage, Q^S is the quantity of labor supplied (in number of workers),
and Q^D is the quantity of labor demanded (in number of workers)*

- a. What are the equilibrium wage and employment in this market?
- b. Suppose that minimum wage of \$12 is established. How many workers will be employed at that wage? How many will be unemployed?
- c. Would implementation of the \$12 minimum wage increase or decrease wage income earned in this labor market? To answer this question, you do not need to calculate wage income, but you do have to explain your answer.

2. (8 points) Suppose that the Chinese market for DVD players is described by the following demand and supply equations:

$$\begin{aligned} Q^S &= 2P \\ Q^D &= 800 - 2P \end{aligned}$$

- a. Suppose that the world price is equal to \$300 per DVD player. How many DVD players will China import or export? Show on a graph and solve for the number.
- b. Who are the winners and who are the losers in the Chinese market? Do the gains exceed the losses? Explain, using your graph from above in your explanation.

3. (7 points) Target Stores is trying to determine how many more stores to build this year. How would an economist determine the efficient number of new stores? Use a graph in your answer (NOT a production possibilities frontier).

4. (6 points) Chapter 9, page 198, problem 10.