2. Assume that a firm produces output using one fixed input, capital, and one variable input, labor. The firm can sell all of the output it produces at a market price of \$3 each, can hire all of the workers it wants at a market wage rate of \$11 each, and has fixed costs of \$10. It faces the following production schedule.

Number of Employees	Total Output
0	0
1	14
2	26
3	35
4	42
5	46
6	48

   (a) In what kind of market structure does this firm sell its output? How can you tell?

   (b) In what kind of market structure does this firm hire its employees? How can you tell?

   (c) Using marginal revenue product analysis, how many employees should this firm hire to maximize short-run profits? How can you determine that?

   (d) Based on your answer in part (c), how many units of output will this firm produce?

   (e) At the level of output you identified in part (d), is the firm earning an economic profit, a normal profit, or suffering a loss? How can you tell?

3. Assume all of the following about imported and domestically produced shoes.

   - They are sold in two separate and perfectly competitive markets.
   - They are close substitutes.
   - The demand for both is price elastic.

   Now assume that a tariff is imposed on imported shoes.

   (a) Using a correctly labeled graph, show the impact of the tariff on each of the following in the market for imported shoes.

      (i) Price

      (ii) Output

   (b) Using a new correctly labeled graph, show the impact of the tariff on each of the following in the market for domestically produced shoes.

      (i) Price

      (ii) Output

   (c) Given that the demand for imported shoes is price elastic, will expenditures on imported shoes by consumers increase, decrease, or remain the same? How do you know?

END OF EXAMINATION

Part (e)

TR: $138 (46 x $3) (1 point)
- TVC 55 (5 x $11)
- TFC 10

= Economic Profit $ 73

- Must be consistent with the student's answer above.
- They do not have to show the actual profit; if they state that a profit is being earned because TR > TC they receive credit.

<u>Scoring Guidelines for Microeconomics Question 3</u>

[2+1+2 = 5 Points]

<u>Part (a) Market for Imported Shoes</u>

(i) Correct graph (Labels: D,S,P, & Q) that includes an inward shift in supply (1 point)

(ii) P and Q changes correctly explained using the student's graph of a) i). (1 point)

<u>Part (b) Market for Domestic Shoes</u>

Correct graph that includes a demand shift consistent with the price change in Part a with
both P and Q consistent with the graph drawn (1 point)

Part (c)

(i) With an elastic demand for imported shoes, the increased price of imported shoes will lead to a reduction in total expenditures (1 point).

- A student who has an incorrect answer in part a) may earn this point as long as the analysis is consistent with the answer in part a).

(ii) Discussion of the proportional change in P and Q to explain the expenditure change. (1 point)

- **Be careful to work with the student's output change in Part a.**