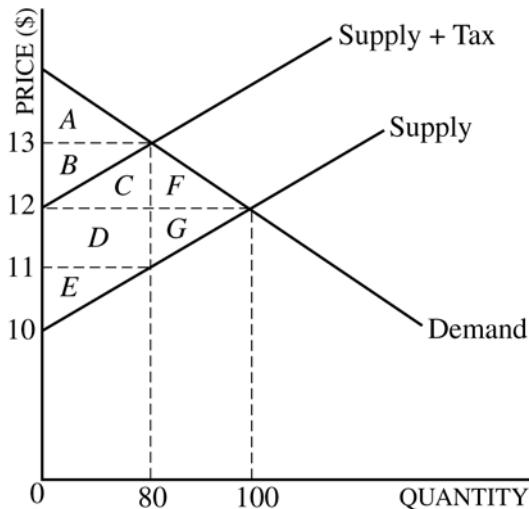


2005 AP® MICROECONOMICS FREE-RESPONSE QUESTIONS



2. The graph above shows the market for a good that is subject to a per-unit tax. The letters in the graph represent the enclosed areas.
- Using the labeling on the graph, identify each of the following.
 - The equilibrium price and quantity before the tax
 - The area representing the consumer surplus before the tax
 - The area representing the producer surplus before the tax
 - Assume that the tax is now imposed. Based on the graph, does the price paid by the buyers rise by the full amount of the tax? Explain.
 - Using the labeling on the graph, identify each of the following after the imposition of the tax.
 - The net price received by the sellers
 - The amount of tax revenue
 - The area representing the consumer surplus
 - The area representing the deadweight loss

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3. P & L is a profit-maximizing shirt-manufacturing firm. The firm can sell all the shirts it can produce to retailers at a price of \$20 each. P & L can hire all of the workers it wants at a market wage of \$120 per day per worker. The table below shows the firm's short-run production function.

Number of Workers	Number of Shirts per Day
0	0
1	10
2	25
3	45
4	60
5	72
6	80
7	85
8	82

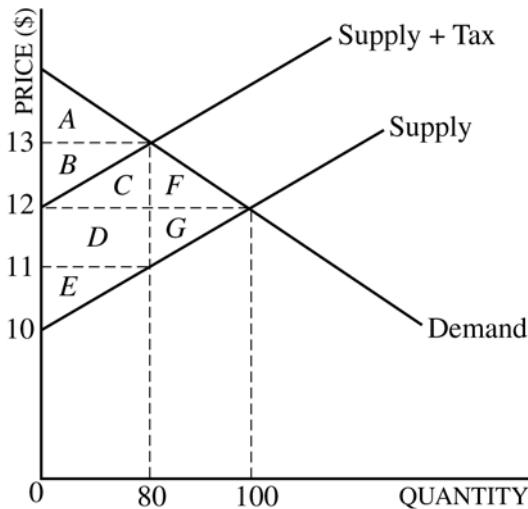
- (a) In what kind of market structure does this firm sell its output? How can you tell?
- (b) In what kind of market structure does this firm hire its workers? How can you tell?
- (c) Calculate the marginal revenue product of the third worker. Show your work.
- (d) How many workers should the firm hire to maximize profit? Explain.

END OF EXAM

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2005 SCORING GUIDELINES**

Question 2

9 points (3 + 2 + 4)



(a) 3 points:

- One point is earned for identifying $P=\$12$ and $Q=100$ units.
- One point is earned for identifying the consumer surplus before the tax, $A+B+C+F$.
- One point is earned for identifying the producer surplus before the tax, $D+E+G$ or $\$100$.

(b) 2 points:

- One point is earned for stating that the price paid by the buyers does not rise by the full amount of the tax.
- One point is earned for a correct explanation: P increases by $\$1$ and the tax is $\$2$ per unit; or a correct elasticity explanation, such as S is not perfectly elastic, or D is not perfectly inelastic, or D and S have the same elasticities.

(c) 4 points:

- One point is earned for identifying the net price received by the sellers, $\$11$.
- One point is earned for identifying the tax revenue, $B+C+D$ or $\$160$.
- One point is earned for identifying consumer surplus, A .
- One point is earned for identifying the deadweight loss, $F+G$ or $\$20$.