AP® Microeconomics
2003 Sample Student Responses

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Write in the box the number of the question you are answering on this page as it is designated in the examination.

Market Graph

i. The price at which the market would operate at is price $P_i$ shown in the graph on the left. The firm would operate at the same price, $P_i$.

ii. The output for the market is $Q_m$ in the graph on the left while the output for the firm is $Q_f$ in the right graph.

8. The short-run economic profits realized by the firm are represented by the box formed by ABCD in the firm graph on the right.

Next page for rest of answer.
In the long run, other firms will realize that economic profits can be earned in this market. They will join, causing the supply to increase in the market. This will cause a decrease in price, from $P_1$ to $P_2$, and an increase in output, from $Q_1$ to $Q_2$.

These changes will cause the demand curve for the firm to shift down, from $D_{F1}$ to $D_{F2}$, until there are no more economic profits being earned. This causes a decrease in the price level, $P_1$ to $P_2$ as with the market, and also a decrease in output from $Q_{F1}$ to $Q_{F2}$. 

Write in the box the number of the question you are answering on this page as it is designated in the examination.
E. In order to encourage smoke alarm production because of its positive externalities, the government could subsidize the price increase that would result from producing at the socially optimal level. This would allow more people to be able to afford this life-saving device.
Write in the box the number of the question you are answering on this page as it is designated in the examination.

1. a) 

\[ \text{Price} \quad \text{MC} \quad \text{ATC} \quad \text{D=MR=AR=P} \quad \text{Price} \]

\[ \text{Q} \quad \text{Quantity of Output} \quad \text{P} \quad \text{Q} \quad \text{Quantity of Output} \]

\[ \text{J & P Company} \quad \text{(short-run)} \quad \text{Smoke Alarm Market} \quad \text{(short-run)} \]

b) (see part a , graph of J & P Company)

c) 

\[ \text{Price} \quad \text{MC} \quad \text{ATC} \quad \text{P} \quad \text{D=MR=AR=P} \quad \text{Price} \]

\[ \text{Q} \quad \text{Quantity of Output} \quad \text{P} \quad \text{Q} \quad \text{Quantity of Output} \]

\[ \text{J & P Company} \quad \text{(long-run)} \quad \text{Smoke Alarm Market} \quad \text{(long-run)} \]

d) 

\[ \text{Price} \quad \text{S} \quad \text{Qm} \quad \text{Qs} \quad \text{Quantity of Output} \]

e) Since smoke alarms create a positive externality, the government would pay some of the transaction costs since the transaction would benefit the society more than it would the buyer.