



AP[®] Microeconomics 2002 Sample Student Responses

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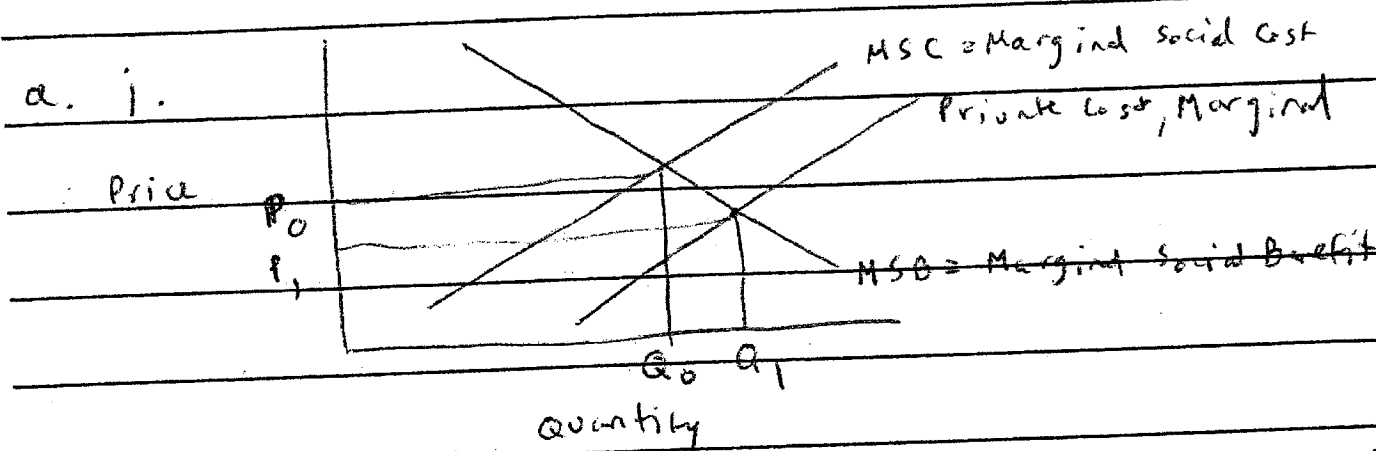
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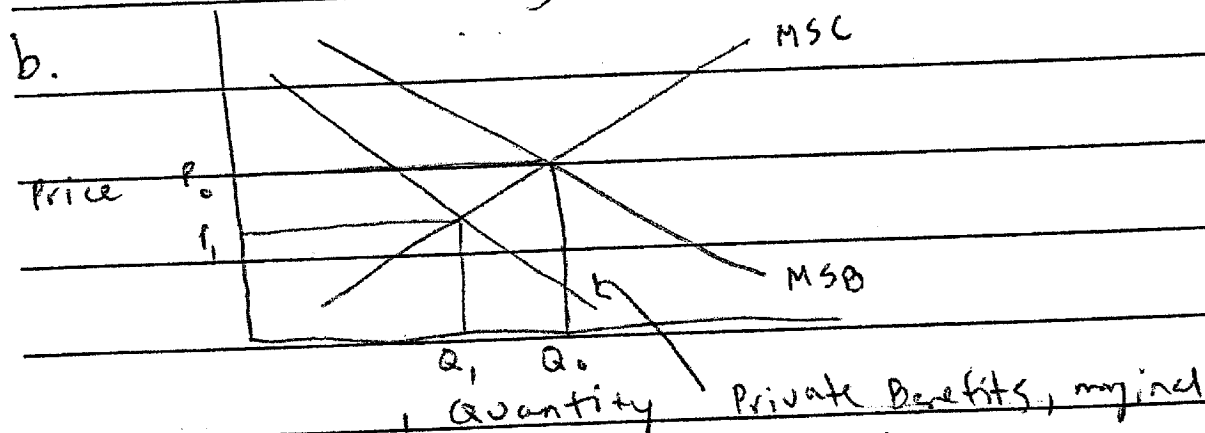
Write in the box the number of the question you are answering on this page as it is designated in the examination.

② a. i.



At Q_0 and P_0 , resources are efficiently allocated. However, the equilibrium is not at this point. This is because the ^{marginal} private costs for the chemical industry are less than the MSC. This leads to increased quantity Q_1 , representing a point where $MSC \neq MSB$ and hence a misallocation of resources is occurring.

ii. To correct this market failure, the government could tax the chemical industry for pollution. This increases the ^{marginal} private costs, bringing it into line with MSC and moving to efficiency (a shift is caused).



i. The ^{marginal} private benefit to the private market is less than the benefits gained by society. Hence, the quantity of national defense is less than efficient,

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(Q_1 instead of Q_0).

ii. To correct this market failure, the government could provide subsidies to defense firms. This increases the marginal private benefits (shift) — resulting in a match between MSB and MPB and efficiency.

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2

- (a) (i) The chemical industry is misallocating resources through pollution, because $MSB < MSC$. The two must be equal in order to obtain maximum efficiency.
- (ii) The gov't could provide a private firm with a tax ~~subsidy~~ to force it to ~~produce~~ reduce pollution by offering to ~~lower~~^{increasing} its costs of doing societal harm. This would make $MSB = MSC$, because the market would be forced to find a way to decrease pollution.
- (b) (i) The private market ~~won't~~ won't produce the efficient level of national defense, because it is not something that they can take away from those who do not pay for it. It is a positive externality. For the private market $MSC > MSB$, so they cut back on production in order to reduce their MSC . They don't want to pay for something that they won't receive a return on.
- (ii) The government could grant a subsidy to the private market. This would increase their level ~~output~~ production to efficiency, because the gov't will cover excess costs. This will result in $MSB = MSC$.