

Econ 342: Practice Questions for Exam 1

I. Multiple Choice

1. Which of the following is an example of market failure?

- A. Externalities
- B. Low prices
- C. Excess supply
- D. Excludable and rival goods

2. Bonnie is considering installing insulation in her home. The insulation would save her money on her heating bills over the next ten years, but she would need to pay for the installation of the insulation today. Bonnie would be most likely to install the insulation if

- A. she has a low discount rate
- B. she values benefits today much more than benefits in the future
- C. she has a high discount rate
- D. she values costs more than benefits

3. Which of the following is not a type of good?

- A. Private
- B. Excludable
- C. Common
- D. Public

4. Economic efficiency criteria ignores:

- A. Distributional impacts
- B. Opportunity costs
- C. Marginal decisions
- D. Both B and C

5. When production of a good generates a negative externality, markets tend to provide _____ than the efficient quantity of the good.

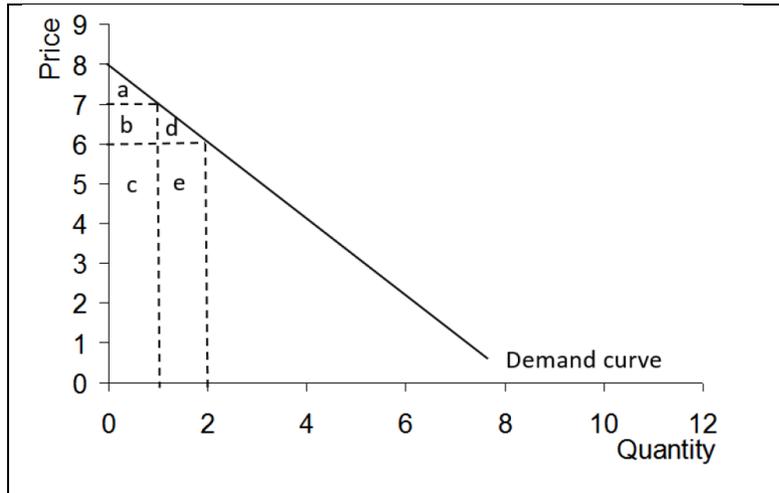
- A. more
- B. less
- C. about the same as
- D. There is not enough information to determine the correct answer

6. The benefits in benefit/cost analysis are derived from:

- A. The supply curve
- B. The total willingness to accept
- C. The marginal costs
- D. None of the above

7. Using the graph below, the total willingness to pay for a good with a market price of \$7 is:

- A. Areas a, b, c, d, e
- B. Area a
- C. Areas a, b, c
- D. Areas d, e



8. The beach is best described as:

- A. A private good
- B. An open access good
- C. A public good
- D. A common pool resource

9. Efficient allocation of a good with costs that are external to the production process occurs at:

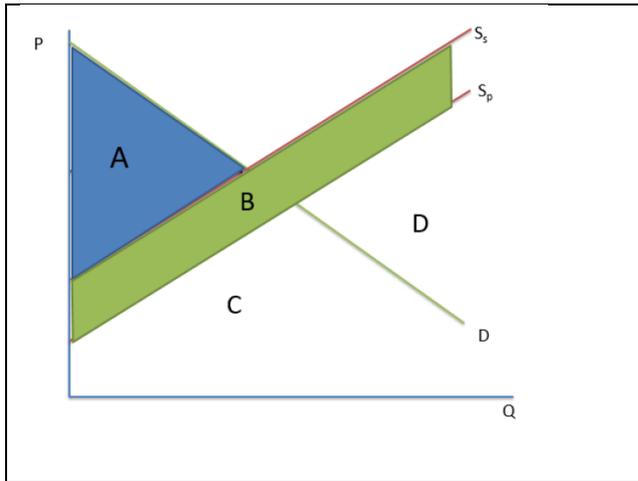
- A. $MPC=MPB$
- B. $MEC=MSC$
- C. $MSC=MPB$
- D. There is no efficient allocation of goods with external effects

10. Which of the following are not ways to correct market failure:

- A. Coase Bargaining
- B. Assigning Property rights
- C. Legislative and Executive Regulations
- D. These are all ways to correct market failure

11. Using the graph below, which of the following represents the area of the external costs:

- A. Area a
- B. Area b
- C. Area c
- D. Area d



12. Which of the following correctly identifies one of the main characteristics of an efficient property rights structure?

- Enforceability means that all property rights should be transferable from one owner to another in a voluntary exchange.
- Transferability means that property rights should be secure from involuntary seizure or encroachment by others.
- Exclusivity means that all benefits and costs accrued as a result of owning and using the resources should accrue to the owner, and only to the owner, either directly or indirectly by sale to others.
- Scarcity rent is the producer surplus that persists in a long-run competitive equilibrium.

13. Why is scarcity rent important?

- Scarcity rent allows a return to scarce inputs owned by the producer in the short run.
- Scarcity rent allows a return to scarce inputs owned by the producer in the long run.
- Without scarcity rent, no one would pay for scarce resources.
- Scarcity rent means that no less efficient or lower quality resources will be brought into the market.

14. Which of the following is NOT a conclusion about market allocations of commodities causing pollution externalities?

- The prices of products responsible for pollution are too high.
- The output of the commodity is too large.
- Recycling and reuse of the polluting substances are discouraged since release into the environment is so inefficiently cheap.
- Too much pollution is produced.

15. Which of the following is true about open-access allocation of common-pool resources?

- a. Private users will have an incentive to protect scarcity rent.
- b. Individual users can exercise exclusivity over the resources.
- c. Individual users take into account the opportunity cost of overexploitation.
- d. In the presence of sufficient demand, unrestricted access will cause resources to be overexploited.

16. Which of the following are considered public goods?

- a. Clean air, clean water, and biological diversity
- b. Clean air, clean water, and fishing rights
- c. Clean air, clean water, and open land
- d. Lakes, streams, and ponds

17. Which of the following is true of an imperfect market structure?

- a. Participants in the market have little or no control over outcome in the market.
- b. Consumer surplus is maximized.
- c. The maximization of producer surplus may lead to a loss of net benefit for society.
- d. Imperfect market structures include monopolies but not cartels.

18. Which of the following is NOT a cause of government failure to efficiently allocate environmental resources?

- a. Voter ignorance
- b. Involvement of special interest groups in the policy debate
- c. Rent seeking
- d. Government decision-making without full information

19. What is the simplest means of restoring efficiency when the number of parties is small?

- a. The imposing of property rules or liability rules by the court system
- b. Private resolution through negotiation
- c. Flipping a coin to see who wins
- d. Regulation by governments

20. As the scale of economic activity increases _____.

- a. pollutants stay at the same, earlier levels
- b. efficient allocations of resources will be maintained
- c. new, stricter regulations may be needed to handle air and water pollution problems
- d. inefficiency occurs so that government intervention is necessary

21. Opportunity cost _____.

- a. is the same as total willingness to pay
- b. is the foregone benefit you must give up to get benefits from some other choice
- c. is irrelevant when making environmental decisions
- d. is the dollar cost of making a specific choice

22. As a method for evaluating benefits and costs for multi-year projects, present value calculations _____.

- a. alleviate the need to look at benefits across different time periods
- b. determine the discount rate of future benefits
- c. determine net benefits of a project over a short period of time
- d. generate comparable estimates of net benefits that are received in different time periods

23. The treatment of risk in the policy process involves _____.

- a. the number of different risks involved
- b. the level of risk that is acceptable
- c. the total amount of risk involved
- d. both scientific/descriptive and evaluative dimensions

24. Maximizing the net benefits that can be generated by resource allocations across time leads to _____.

- a. static efficiency
- b. efficiency
- c. dynamic efficiency
- d. effectiveness

25. Which of the following is an issue when calculating a benefit-cost estimation?

- a. Primary versus secondary effects
- b. The geographic scale at which the benefits are measured
- c. The non-monetary value of an action
- d. All of the above are issues.

26. Define and explain. Illustrate graphically and/or give examples where appropriate.

- A. Marginal benefit
- B. Public Goods
- C. Pecuniary externality
- D. Dynamic efficiency
- E. Present value of net benefits
- F. Negative Feedback Loop
- G. Tragedy of the commons
- H. Coase Theorem
- I. Static Efficiency
- J. First Equimarginal Principle
- K. Discounting
- L. Pareto Optimality

27. Problems

1. Static efficiency:

The demand curve for a product is given by $P = 60 - 2Q$ and the supply curve for a product is given by $P = 5 + 3Q$.

- Illustrate the demand curve and the supply curve on the same graph.
- Find the equilibrium price and quantity.

Answer: $P^* = \$38$; $Q^* = 11$

- Find numerical values for the consumer surplus and the producer surplus and show it in the graph.

Answer: $CS = 121$; $PS = 181.5$

- Assume this is a monopoly market and the marginal revenue is given by $MR = P = 60 - 4Q$. Find the consumer surplus for the monopoly.

**Answer: $P = \$44.3$; $Q = 7.85$
 $CS = \$61.62$**

2. Externalities I:

Demand: $P = 100 - 2Q = MB$

Supply: $P = 10 + 0.5Q = MC_P$

- Find the equilibrium price and quantity and illustrate graphically.

Answer: $P = \$28$; $Q = 36$

- Suppose $MC_E = 0.5Q$. What happens to the marginal external cost (the marginal increase in damages from pollution) as more of the good is produced?
- Find the marginal social cost $MC_S = MC_P + MC_E$. Illustrate this new cost curve on your graph.
- Find the socially optimal equilibrium price and quantity.

Answer: $P = \$40$; $Q = 30$

3. Externalities II:

Assume that the demand curve for the threatened but delicious sea bass is fully coincidental with the marginal social benefit function and can be described as $MSB = MPB = 24 - 2q$, where q refers to the quantity of the good. Assume that the marginal private cost function can be described by $MPC = q$, and that marginal social costs are always double the marginal private cost.

- a. Determine an equation for the marginal social costs (MSC).

Answer: $MSC = 2q$

- b. Graph the functions and algebraically determine
i. the market equilibrium price and output. Interpret your results.

Answer: $P = \$8$; $Q = 8$

- ii. the socially optimal equilibrium price and output. Interpret your results.

Answer: $P = \$12$; $Q = 6$

- c. Graph your answer to part a and b. Show the deadweight loss from these social costs?
- d. Explain why the competitive equilibrium is not equal to the social equilibrium. Is this a market failure? Explain
- e. Aside from externalities, describe two different market failures. Be sure to discuss what causes the market failure and how the market failure can be corrected.

4. Identify whether each of the following resource categories is a public good, a common-pool resource, or neither and **defend your answer**:

- a. A pod of whales in the ocean to whale hunters.
- b. A pod of whales in the ocean to whale watchers.
- c. The benefits from reductions of greenhouse gas emissions.
- d. Water from a town well that excludes nonresidents.
- e. Bottled water.

5. Suppose that the total upfront cost to get the park up and going are \$500,000 and all occur in year 0. The net benefits associated with the new park accrue to park visitors over the coming years. In year one, the net benefits are \$200,000 and every year thereafter, the net benefits are closer to \$120,000/year. What are the present value of

net benefits at the end of 4 years assuming a discount rate of 4%? Should this park be undertaken based on your calculations? (Show your work!)

Answer for select time period:
NPB at time = 1 => \$192,307.69
NPB at time = 3 => \$102,576.50
Total: \$12,510.50