

Name: _____

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AP Microeconomics — Practice Exam

Instructions: Answer all questions in the spaces provided. Show your working — method marks are awarded even when the final answer is wrong. The answer key with worked solutions is available at examtex.com/free-exams.

Time Limit: 45 minutes

Multiple Choice (15 questions)

- [2 points] 1. Maria can spend her Saturday afternoon working a shift that pays 60 dollars, studying for an exam, or hiking with friends. She chooses to study. The opportunity cost of studying is:
- A. the 60 dollars plus the enjoyment of the hike
 - B. whichever single alternative Maria values most highly
 - C. the 60 dollars, because money is measurable
 - D. zero, because studying improves her exam score
 - E. the sum of the values of all alternatives forgone
- [2 points] 2. In one hour, Ann can produce 4 loaves of bread or 2 sweaters, while Ben can produce 3 loaves of bread or 1 sweater. Which of the following is true?
- A. Ann has a comparative advantage in both goods
 - B. Ben has a comparative advantage in sweaters
 - C. Ann has a comparative advantage in sweaters, Ben in bread
 - D. Ben has an absolute advantage in bread
 - E. Neither can gain from specialization and trade
- [2 points] 3. A cinema raises ticket prices by 5 percent and finds that the quantity of tickets sold falls by 10 percent. Total revenue and the price elasticity of demand are:
- A. revenue rises; demand is elastic
 - B. revenue rises; demand is inelastic
 - C. revenue falls; demand is elastic
 - D. revenue falls; demand is inelastic
 - E. revenue is unchanged; demand is unit elastic

- [2 points]** 4. During a recession, household incomes fall and the demand for store-brand instant noodles increases. For these consumers, instant noodles are:
- A. a normal good
 - B. an inferior good
 - C. a complementary good
 - D. a Giffen good, because quantity demanded rose
 - E. a substitute good
- [2 points]** 5. In the market for coffee, a health study increases consumer preference for coffee while a frost destroys part of the harvest. Equilibrium price and quantity will change as follows:
- A. price rises; quantity rises
 - B. price rises; quantity is indeterminate
 - C. price is indeterminate; quantity rises
 - D. price falls; quantity is indeterminate
 - E. both price and quantity are indeterminate
- [2 points]** 6. A binding minimum wage set above the equilibrium wage in a competitive labor market will most likely cause:
- A. a shortage of labor
 - B. a surplus of labor (unemployment)
 - C. no change, because wages are sticky
 - D. an increase in the quantity of labor demanded
 - E. a rightward shift of the labor supply curve
- [2 points]** 7. A bakery adds workers one at a time and finds that total output continues to rise, but by less with each additional worker. The bakery is experiencing:
- A. diseconomies of scale
 - B. negative marginal product
 - C. diminishing marginal returns
 - D. falling total product
 - E. increasing marginal returns
- [2 points]** 8. The marginal cost curve intersects:
- A. ATC and AVC at their minimum points
 - B. ATC and AFC at their minimum points
 - C. AVC at its maximum point
 - D. ATC where AFC equals AVC
 - E. the demand curve at the profit-maximizing quantity

- [2 points] 9. A perfectly competitive firm faces a market price of 6 dollars. At its best possible output, average variable cost is 7 dollars and average total cost is 9 dollars. In the short run the firm should:
- A. produce at a loss, because price covers part of fixed cost
 - B. shut down, because price is below minimum AVC
 - C. raise its price above 9 dollars
 - D. produce, because in the short run firms never shut down
 - E. exit the industry immediately
- [2 points] 10. For a single-price monopolist, marginal revenue is less than price at every output beyond the first unit because:
- A. the monopolist faces a perfectly elastic demand curve
 - B. to sell an additional unit it must lower the price on all units sold
 - C. marginal cost rises as output expands
 - D. monopolists always produce where demand is inelastic
 - E. price is set by the government regulator
- [2 points] 11. In long-run equilibrium, a firm in monopolistic competition earns zero economic profit and produces where:
- A. $P = MC = \text{minimum ATC}$
 - B. $P = ATC > MC$, with excess capacity
 - C. $P > ATC > MC$
 - D. $P = MC < ATC$
 - E. $MR = MC$ and $P = \text{minimum ATC}$
- [2 points] 12. Two rival firms each choose whether to advertise. If both advertise, each earns 4 million dollars; if neither advertises, each earns 6 million dollars; if only one advertises, the advertiser earns 8 million dollars and the other earns 2 million dollars. The Nash equilibrium of this game is:
- A. neither firm advertises, because joint profit is highest
 - B. both firms advertise, because advertising is a dominant strategy
 - C. exactly one firm advertises
 - D. there is no Nash equilibrium in this game
 - E. both firms advertise only if they can collude
- [2 points] 13. A profit-maximizing firm hires labor in a competitive labor market at a wage of 90 dollars per day. It should hire additional workers up to the point where:
- A. the marginal product of labor equals 90
 - B. the marginal revenue product of labor equals 90 dollars
 - C. the average product of labor is maximized
 - D. total output is maximized
 - E. the marginal revenue product of labor equals zero

[2 points] 14. The production of paper pollutes a river, imposing costs on downstream users that the paper mill does not pay. Relative to the socially optimal outcome, the unregulated market for paper produces:

- A. too little paper at too high a price
- B. too much paper, because marginal social cost exceeds marginal private cost
- C. the efficient quantity, because pollution is a fixed cost
- D. too much paper, because demand overstates marginal social benefit
- E. too little paper, because the externality raises production costs

[2 points] 15. A public good is underprovided by private markets primarily because it is:

- A. rival and excludable, so firms overcharge for it
- B. non-rival and non-excludable, so consumers can free-ride
- C. always produced by natural monopolies
- D. subject to diminishing marginal returns
- E. non-rival but excludable, like a toll road

Calculations (2 questions)

[10 points] 16. Monopoly. A single-price monopolist faces the market demand curve $P = 20 - Q$, where P is the price in dollars and Q is output in thousands of units. Marginal cost is constant at $MC = 4$, and there are no fixed costs.

$$P = 20 - Q, \quad MC = 4$$

[3 points] (a) Calculate the profit-maximizing quantity and price. Show your work.

[2 points] (b) Calculate the monopolist's profit at this output.

[2 points] (c) Identify the allocatively efficient level of output and explain why the monopolist does not produce it.

[3 points] (d) Calculate the deadweight loss caused by the monopoly.

[6 points] 17. Externality. The market demand for a chemical is $P = 16 - Q$ and the industry's marginal private cost is $MPC = 4 + Q$ (P in dollars, Q in tons). Production releases fumes that impose a constant marginal external cost of 2 dollars per ton on nearby residents.

$$P = 16 - Q, \quad MPC = 4 + Q, \quad MEC = 2$$

[2 points] (a) Calculate the unregulated market equilibrium quantity and price.

[2 points] (b) Calculate the socially optimal quantity. Show your work.

- [2 points]** (c) The government imposes a per-unit tax on producers to correct the externality. State the efficient tax and the new equilibrium price paid by consumers.

Short Answer (1 question)

- [6 points]** 18. Perfect competition. Wheat is produced in a perfectly competitive industry. The market price is 10 dollars per bushel. A representative farm is producing its profit-maximizing output, at which its average total cost is 8 dollars and rising marginal cost equals price.

- [2 points]** (a) Is the representative farm earning positive, zero, or negative economic profit in the short run? Explain.

- [2 points]** (b) Explain what happens in this industry in the long run, and state the resulting market price relative to average total cost.

- [2 points]** (c) A farmer complains that "zero economic profit means farming isn't worth doing." Briefly evaluate this claim.