

MidtermTest

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Multiple Choice Tasks

Select the answer that most closely answers the question.

- 1.* Which of the following fallacies is relevant to the statement: "Before it rains, there are always clouds"? [4pt]
- A. The fallacy of composition.
 - 66%B. The post hoc ergo propter hoc fallacy.
 - C. The Ceteris Paribus.
 - D. The representative agent.
 - 29%E. **The statement is not a fallacy.** [Since clouds (water vapor) is what indeed produces the rain, the statement is not a fallacy]

2. In order to produce a TikTok video I need:
- to dedicate 2 hours of work,
 - to use equipment worth \$12k,
 - to pay my video editor guy \$50.
- If I was not producing the video, I could use my time to do consulting, which pays \$500 per hour and rent out my equipment for \$80 per day. How much is the opportunity cost of a video? [4pt]

- A. 0 dollars.
- B. 500 dollars.
- C. 1,000 dollars.
- D. 1,050 dollars.
- 61%E. **1,080 dollars.**
- 19%F. 1,130 dollars.
- G. 12,000 dollars.
- H. 13,000 dollars.
- I. 13,050 dollars.
- J. 13,080 dollars.
- K. 13,130 dollars.

[Opportunity cost refers to: my labor of 2 hours by 500 dollars each; and the capital I own and use for 1 day by 80 dollars. Total opportunity cost is 1,080 dollars. The \$12k is an explicit fixed cost and the \$50 is an explicit labor cost]

3. An industry consists of 12 firms, each producing a slightly differentiated product. If a firm lowers its price by a small amount, it will cause a negligible loss of market share for the rest of the firms. Which of the following is the most appropriate model to analyze this industry? [4pt]
- 11%A. Perfect Competition.
 - B. Monopoly.
 - 69%C. **Monopolistic Competition.**
 - D. Cournot Oligopoly.
 - 10%E. Bertrand Oligopoly.
 - 10%F. Kinked-demand model.

[We have only 12 firms which rules out A and B. We have negligible interaction which rules out D, E and F]

4. A factory produces 500 aluminum ladders per day. Total cost is \$15,400 and the price of a ladder is \$52. If the factory produces one more ladder, total cost will be \$15,420 and the price of a ladder would fall to 51.90\$. Which of the following is most likely the case? [4pt]

- 22%A. This factory produces the optimal quantity of ladders.
- 36%B. This factory produces less than the optimal quantity of ladders.
- 39%C. **This factory produces more than the optimal quantity of ladders.**
- D. This factory must increase the price.
- E. This factory must decrease the price.

[The MC for the 501st ladder is $15,420 - 15,400 = 20$ dollars. The Revenue from 501 ladders is $51.90 \cdot 501 = 26,001.9$. The revenue from 500 ladders is $52 \cdot 500 = 26,000$. The MR for producing the 501st ladder is $26,001.9 - 26,000 = 1.9$ dollars. $MR < MC$, thus this firm most likely produces over the optimal quantity]

5.* Which of the following surely entails that a firm has market power? [4pt]

- A. The firm's product is physically different than rival products. *[Consumers may still perceive the products as homogeneous]*
- 38%B. **The firm faces a downward sloping demand for its brand.** *[Impossible to price above MC if your demand curve does not have negative slope]*
- C. The firm has positive short-run profit. *[Even a PC firm with no market power can have S-R profit]*
- 50%D. More rival firms cannot enter the industry because of barriers to entry. *[Even Bertrand competitors can have barriers of entry but still $p = MC$]*
- E. The firm advertises its product. *[Any product with or without market power could be advertised]*

6.* A profit maximizing PC firm has positive short-run profit. Which of the following is true? [4pt]

- A. The firm faces a higher demand than its rivals. *[In PC products are homogeneous]*
- 29%B. **The firm operates at diminishing returns.** *[If this firm has profit, it means that $p = MC$ occurs above the AC. That is, at equilibrium, $MC > AC$. Since MC intersects with AC at AC's minimum, AC must be increasing. Thus, at $p = MC$ the firm experiences diminishing returns]*
- C. Both of the above are true.
- 57%D. None of the above is true.

7. A monopolistically competitive market is at L-R equilibrium. Which of the following is true? [4pt]

- A. Firms have market power. *[True because the brand's demand is downward sloping]*
- 11%B. Firms earn zero profit. *[True because of entry]*
- C. More firms than optimal have entered the industry. *[True because the LAC is not minimum]*
- D. A DWL exists. *[True because less quantity than the competitive is produced]*
- 78%E. **All of the above.**

8. Which of the following a regulator CANNOT do to a monopoly market? [4pt]

- 10%A. Completely eliminate the DWL. *[It can if it sets a price ceiling at the competitive price]*
- B. Set a price ceiling below the monopoly price. *[It can, that is what regulators do]*
- 70%C. **Make the monopolist sell more than the competitive quantity.** *[This is a case of "overshooting"]*
- D. Lower the profit of the monopolist. *[Any binding price ceiling will cause this]*
- 13%E. Impose a per-unit tax on the monopolist's product. *[It can, that is what regulators do]*

9. A rational regulator sets a price floor for portobello mushrooms. Given that this market is nearly perfectly competitive, what is most likely the intention of the regulator? [4pt]
- 31%A. To increase the production of mushrooms in the market. *[The price floor will cause a surplus even with the existing quantity]*
 - B. To decrease the DWL in the market. *[Conversely, the price floor will cause a DWL]*
 - C. To increase the consumer surplus in the market. *[CS will decrease because of the higher price]*
 - 52%D. **To increase the producer surplus in the market.**
 - E. All of the above.
10. A market follows the kinked-demand model. Which of the following is true? [4pt]
- A. Collusion is somehow established around the prevailing price. *[Kinked demand assumes some kind of collusion to be already established in the market. That is why firms have a reason to undercut]*
 - B. Each firm cannot verify with certainty the demand and cost conditions of its rivals. *[If you could verify that your rival drops the price because of cost or demand reasons and not to start a price war with you, the demand would not be kinked]*
 - 11%C. Rival firm executives do not trust each other. *[If firms trusted each other that no rival has bad intentions, demand would not be kinked]*
 - 78%D. **All of the above.**
- 11.* If Larry plays LoL for 3 hours, his marginal utility is -8 (negative 8). Which of the following is true? [4pt]
- A. Larry does not enjoy playing LoL.
 - 13%B. **Larry would prefer to play LoL for 2 hours instead of 3 hours.**
 - C. Larry would prefer to play LoL for 4 hours instead of 3 hours.
 - 84%D. The statement gives us no substantial information for Larry's preferences regarding playing LoL. *[Marginal utility compares the utility of gaming for 3 hours to the utility of gaming for 2 hours and tells us that the utility for 2 hours is 8 units more than the utility for 3 hours]*
12. Suppose that the rent for a firm's office space increases by 20%. Which of the following is true for the firm's MC? [4pt]
- 82%A. **MC will NOT be affected.**
 - B. MC will increase by less than 20%.
 - 12%C. MC will increase by around 20%.
 - D. MC will increase by more than 20%. *[Rent is a FC and does not affect the MC]*
13. Which of the following is true for a natural monopoly that is regulated for sustainability? [4pt]
- 20%A. It needs to be subsidized by the government budget every fiscal year. *[$p = AC$; so, losses are zero]*
 - 18%B. It maximizes the access of people to the product or service. *[$p = AC > MC$; so, quantity is below the competitive quantity]*
 - C. Its price is equal to MC. *[$p = AC > MC$]*
 - 55%D. **None of the above.**

Problem A

[Scenario A] Firm A creates an externality towards firm B. The externality reduces Firm B's profits by d per year. Firm A can resolve the externality by investing i dollars per year. Firm A's profit is π per year.

14. ✓ According to scenario A, if $i > d > \pi$, how could this situation be resolved so no firm would be worse off? [4pt]

89%A. Firm B will buy firm A by paying π per year and shut it down.

- B. Firm B will undertake firm A's investment by paying i per year to it.
- C. Firm B will continue to bear the cost of externality.

[The cheapest solution is B to buy A and stop the externality earning benefit $d - \pi$ while A is not worse off]

15. ✓ According to scenario A, if $\pi > i > d$, how could this situation be resolved so no firm would be worse off? [4pt]

- A. Firm B will buy firm A by paying π per year and shut it down.
- B. Firm B will undertake firm A's investment by paying i per year to it.

91%C. Firm B will continue to bear the cost of externality.

[Both ways for solving the externality cost more than the damage the externality causes]

16. ✓ According to scenario A, if $d > \pi > i$, how could this situation be resolved, so no firm would be worse off? [4pt]

10%A. Firm B will buy firm A by paying π per year and shut it down.

87%B. Firm B will undertake firm A's investment by paying i per year to it.

- C. Firm B will continue to bear the cost of externality.

[It is cheaper if B pays i to stop the externality earning a benefit of $d - i$ while A is not worse off]

Problem B

[Scenario B] Two firms share the market demand $p = 150 - 2Q$, where p is the price and Q the total quantity sold in the market. AVC for either firm is constant and equal to 30. Fixed costs are zero.

17. ✓ According to scenario B, what will the profit maximizing price be if the two firms compete in quantities? [4pt]

- A. Around \$10.
- B. Around \$30.
- C. Around \$50.
- 76%D. Around \$70.
- E. Around \$90.
- F. Around \$110.

[Demand can be written as $p = 150 - 2q_1 - 2q_2$. MR for firm 1 is $MR_1 = 150 - 4q_1 - 2q_2$. Because AVC is constant, $MC = AVC = 30$. Firm 1 maximizes profit when $MR_1 = MC$ or $150 - 4q_1 - 2q_2 = 30$ or because at equilibrium $q_2 = q_1$, $150 - 4q_1 - 2q_1 = 30$ or $6q_1 = 120$ or $q_1 = q_2 = 20$ or $Q = 40$. Thus, $p = 150 - 2 \cdot 40 = \$70$]

18. ✓ According to scenario B, what will the profit maximizing price be if the two firms collude? [4pt]

- A. Around \$10.
- B. Around \$30.
- C. Around \$50.
- D. Around \$70.
- 86% E. Around \$90.
- F. Around \$110.

[MR for the collusion is $MR = 150 - 4Q$, $MR = MC$ entails that $150 - 4Q = 30$ or $Q = 30$. Thus, $p = 150 - 2 \cdot 30 = \$90$]

19. ✓ According to scenario B, briefly explain what prevents the two firms from colluding. [7pt] [Limit 80 words]

5/7 Collusion is illegal and cannot be enforced by an official institution. If firms collude, they can be cheated upon and end up with a lower profit than if they compete in quantities. So, the safe way for both firms is to compete. [42 words]

Short Answer Tasks

Answer the following questions in no more than 80 words.

20. ✓ An industry has 2 identical Cournot duopolists facing the same demand and cost conditions. The profit maximizing quantity for each seller is 60 units. However, seller A correctly believes that seller B will put for sale 70 units instead of 60. Briefly explain how seller A should optimally react and why. [7pt] [Limit 80 words]

4.5/7 When the two firms compete, each sets its quantity from its reaction function, in which the quantity of the rival enters with a negative sign. Thus, as B increases q_B , it is profit maximizing for A to decrease q_A . If A responded by increasing q_A instead, price would go too low and A would make less profit. [57 words]

21. ✓ Explain what is "rent-seeking" without using any examples. [7pt] [Limit 80 words]

6.27/7 Rent seeking is when a monopolist spends its resources to unethically secure a dominant position in the market instead of improving its product or producing more of it. [20 words]

22. ✓ The table shows the payoffs for Peggy and Hank under two alternative plans: A and B.

	Peggy	Hank
Plan A	\$50	\$50
Plan B	\$10	\$55

Hank has the right to choose the plan. How much is the DWL and how can a regulator eliminate it? [7pt]

[Limit 80 words]

5.86/7 Hank would choose B. Thus, \$65 will be distributed instead of \$100, creating a DWL of \$35. If a regulator received \$5 from Peggy and paid it to Hank for allowing the regulator to choose A, no player would be worse off and the DWL would be eliminated. [48 words]

END OF TASKS