

## Homework 5

Due on 19/9/2023, by 23:00

This assignment is optional but STRONGLY RECOMMENDED. If you do not submit the answers till the deadline, the score of your final exam will substitute for the score for this assignment. Submit only the correct letter for each task on eLearn under 'Quizzes' within 'COR2100-Economics and Society G7-8-26-49'. Note that the actual text of questions and answers is not supposed to appear on the eLearn quiz. You have unlimited attempts. The system is programmed to credit your last attempt. Be informed that if you submit an attempt and afterwards you re-open the quiz, you must submit your answers AGAIN. Otherwise, the system will grade the unfinished attempt with 0 (because it is the last one) and there is NOTHING I can do to fix this after the fact. Late homework or homework submitted outside eLearn cannot be accepted as this would violate SMU official policy for fairness and transparency in grading. This assignment is protected by Grade Insurance™: If the assignment's average turns out to be below 75, an equal amount of bonus points will be given to every work, for the average to become 75. Direct any homework questions to your TA.

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**Scenario 5.1:** Firm 1 and firm 2 share a market with demand  $p = 1,600 - 5Q$ , where  $Q$  denotes the total quantity sold in the market. Each firm's cost is  $FC = \$2,000$  and  $MC = 100$ .

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1. According to scenario 5.1, if the two firms acted as PC competitors, what quantity would each sell?
  - A. Around 25 units.
  - B. Around 50 units.
  - C. Around 75 units.
  - D. Around 100 units.
  - E. Around 125 units.
  - F. Around 150 units.
2. According to scenario 5.1, if the two firms act as PC competitors, what will the price be?
  - A. Around \$100.
  - B. Around \$200.
  - C. Around \$300.
  - D. Around \$400.
  - E. Around \$500.
  - F. Around \$600.
3. According to scenario 5.1, if the two firms acted as PC competitors, what would the profit for each firm be?
  - A. Around -\$4,000.
  - B. Around -\$2,000.
  - C. Zero.
  - D. Around \$2,000.
  - E. Around \$4,000.
  - F. We need more information to answer.
4. According to scenario 5.1, if the two firms competed in quantities and knowing that at equilibrium they would produce equal quantities, how much would each firm produce?
  - A. Around 25 units.
  - B. Around 50 units.
  - C. Around 75 units.
  - D. Around 100 units.
  - E. Around 125 units.
  - F. Around 150 units.

5. According to scenario 5.1, if the two firms compete in quantities, what will the price be?
- A. Around \$100.
  - B. Around \$200.
  - C. Around \$300.
  - D. Around \$400.
  - E. Around \$500.
  - F. Around \$600.
6. According to scenario 5.1, if the two firms compete in quantities, what will the profit for each firm be?
- A. Around \$10,000.
  - B. Around \$20,000.
  - C. Around \$30,000.
  - D. Around \$40,000.
  - E. Around \$50,000.
  - F. Around \$60,000.
7. According to scenario 5.1, if the two firms colluded, what would the total quantity in the market ( $Q$ ) be?
- A. Around 25 units.
  - B. Around 50 units.
  - C. Around 75 units.
  - D. Around 100 units.
  - E. Around 125 units.
  - F. Around 150 units.
8. According to scenario 5.1, if the two firms colluded, what would the price be?
- A. Around \$450.
  - B. Around \$550.
  - C. Around \$650.
  - D. Around \$750.
  - E. Around \$850.
  - F. Around \$950.
9. According to scenario 5.1, if the two firms colluded, what would profit be for each firm?
- A. Around \$15,000.
  - B. Around \$25,000.
  - C. Around \$35,000.
  - D. Around \$45,000.
  - E. Around \$55,000.
  - F. Around \$65,000.
10. According to scenario 5.1, the two firms collude but firm 1 decides to 'cheat' while it believes that firm 2 will not cheat. How much will firm 1 produce?
- A. Around 50 units.
  - B. Around 70 units.
  - C. Around 90 units.
  - D. Around 110 units.
  - E. Around 130 units.
  - F. Around 150 units.

11. According to scenario 5.1, the two firms collude but firm 1 decides to 'cheat' while it correctly believes that firm 2 will not cheat. What will the price be?
- A. Around \$450.
  - B. Around \$550.
  - C. Around \$650.
  - D. Around \$750.
  - E. Around \$850.
  - F. Around \$950.
12. According to scenario 5.1, the two firms collude but firm 1 decides to 'cheat', while it correctly believes that firm 2 will not cheat. By how much will the profit of firm 1 exceed that of firm 2?
- A. Around \$10,000.
  - B. Around \$20,000.
  - C. Around \$30,000.
  - D. Around \$40,000.
  - E. Around \$50,000.
  - F. Around \$60,000.
13. According to scenario 5.1, the two firms collude but they both 'cheat', while they both falsely believe that the other will not cheat. What will the price be?
- A. Around \$100.
  - B. Around \$250.
  - C. Around \$500.
  - D. Around \$600.
  - E. Around \$800.
14. According to scenario 5.1, the two firms collude but they both 'cheat' while they both falsely believe that the other will not cheat. What will the profit for each firm be?
- A. Around \$10,000.
  - B. Around \$20,000.
  - C. Around \$30,000.
  - D. Around \$40,000.
  - E. Around \$50,000.
  - F. Around \$60,000.
15. According to scenario 5.1, firm 1 believes that both firms will compete in quantities. Firm 2 plans to cheat, while wrongly believes that firm 1 will produce its collusive quantity. What will the price be?
- A. Around \$100.
  - B. Around \$250.
  - C. Around \$550.
  - D. Around \$680.
  - E. Around \$850.

16. According to scenario 5.1, firm 1 plans to compete in quantities, while it falsely believes that firm 2 will compete in quantities, too. Firm 2 plans to cheat, while falsely believes that firm 1 will produce its collusive quantity. Which of the following is accurate?
- A. Firm 1 has a higher profit than Cournot and firm 2 has a lower profit than Cournot.
  - B. Firm 1 has a lower profit than Cournot and firm 2 has a higher profit than Cournot.
  - C. Both firms have lower profits than Cournot.
  - D. Both firms have higher profits than Cournot.
  - E. Both firms have equal profits to Cournot.
17. According to scenario 5.1, which of the following prevents firms from colluding?
- A. Their Cournot profit is lower than their “being cheated upon” profit.
  - B. They cannot legally enforce a cheating agreement.
  - C. Both A and B together.
  - D. None of the above.
18. According to scenario 5.1, if firms compete with respect to price, what would the price be in the market?
- A. Around \$0.
  - B. Around \$100.
  - C. Around \$250.
  - D. Around \$550.
  - E. Around \$680.
  - F. Around \$850.
19. According to scenario 5.1, if firms compete with respect to price, what would the profit be for each firm?
- A. Around -\$4,000.
  - B. Around -\$2,000.
  - C. Zero.
  - D. Around \$2,000.
  - E. Around \$4,000.
  - F. We need more information to answer.
20. According to scenario 5.1, if firms compete with respect to price, which of the following is accurate?
- A. Both firms would exit the market immediately.
  - B. Both firms would exit the market in the long-run.
  - C. Both firms would stay in business in the long run.
  - D. Only one firm would exit the market in the long run.

*Good afternoon! If you had a chance to take a red pill and automatically wake up on the morning of your graduation being able to receive the SMU Bachelor's degree without having to go through any classes and nobody would ever know about it, would you take it? What is the primary reason you enrolled in SMU? The degree or the knowledge? Have you ever really observed those around you who have already succeeded in whatever you want to succeed? What mattered more in their success: their knowledge and experiences or their titles? Why will an employer hire you: for your skillset or for your diplomas? Why will a potential client give you their business and money: just because you are a university graduate? Why will your friends appreciate your company: for your intellectual capacity or because you are an SMU alumnus? Think about all those questions. The answers may help you understand where you are heading in life.* Kosmas