

1. Game theory is not useful in understanding perfect competition because

- A. by assumption, the firms are so small as to be unable to influence price and thus are not interdependent.
- B. perfectly competitive firms are honest.
- C. the players can't be identified.
- D. the payoffs to their choices are unknown.

Joe is the owner of the 7-11 Mini Mart, Sam is the owner of the ~~SuperAmerica~~ Mini Mart and together they are the only gas stations in town. At the current price of \$3 per gallon both receive total revenues of \$1,000. Joe is considering cutting his price to \$2.90, which would increase his total revenue to \$1,350 if Sam continues to charge \$3. If Sam's price remains \$3 after Joe cuts his price, Sam will collect \$500 in revenues. If Sam cuts his price to \$2.90, his total revenues would also rise to \$1,350 if Joe continues to charge \$3. Joe will collect \$500 in revenues if he keeps his price at \$3 while Sam lowers his to \$2.90. Joe and Sam will receive \$900 each in total revenue if they both lower their price to \$2.90. You may find it easier to answer the following questions if you fill in the payoff matrix below.

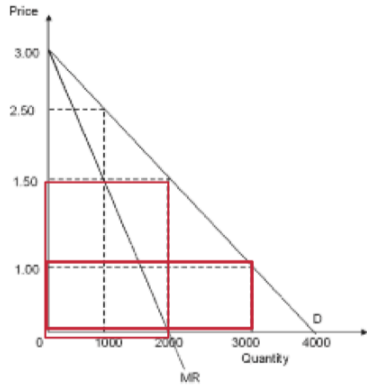
		Joe	
		Cut Price	Keep Old Price
Sam	Cut Price	J: 900 S: 900	J: 500 S: 1350
	Keep Old Price	J: 1350 S: 500	J: 1000 S: 1000

2. To Joe, leaving his price at \$3 is a

- A. revenue maximizing strategy.
- B. dominant strategy.
- C. dominated strategy.
- D. profit maximization strategy.

3. To Sam, cutting his price to \$2.90 is a
- A. revenue maximizing strategy.
 - B. dominant strategy.
 - C. dominated strategy.
 - D. profit maximizing strategy.
4. The clear outcome of this game is that
- A. Joe will cut his price and Sam won't.
 - B. both will cut price to \$2.90.
 - C. Sam will cut his price and Joe won't.
 - D. neither Joe nor Sam will cut their price.
5. To both Joe and Sam, _____ is a _____.
- A. cutting price to \$2.90; disequilibrium.
 - B. leaving price at \$3; Nash equilibrium.
 - C. leaving price at \$3; dominant strategy.
 - D. cutting price to \$2.90; Nash equilibrium.
6. The dilemma in the Prisoner's Dilemma comes from the fact that
- A. the outcome is purely random.
 - B. no strategy is dominant.
 - C. if both players play the dominant strategy they each earn a smaller payoff than had they played the dominated strategy.
 - D. it was originally devised to explain the behavior of prisoners.
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7. The reason most cartels end or cease to be effective is
- A. enforcement of antitrust legislation.
 - B. the incentive to cheat on the cartel agreement.
 - C. the dominant member firm buys out the other firms.
 - D. consumers discover the agreement and buy from other firms.
8. Cartels would be more stable if
- A. firms that cheat on the agreement could be legally punished.
 - B. firms that cheat on the agreement were better informed about the value of agreement.
 - C. demand for the output was more variable.
 - D. the cartel profit were higher than the profit each individual firm could earn without the cartel.

Firms A and B produce and sell identical products and face zero marginal and average cost. Below is the market demand curve for the product.



9. If Firms A and B decide to collude and work as a pure monopolist so that each firm will produce half the quantity demanded by the market, what will be the economic profit for Firm A?

- A. \$1000
- B. \$1500
- C. \$2000
- D. \$3000

$$\frac{3000}{2}$$

10. Suppose Firm B cheats on Firm A and reduces its price to \$1.00 each while Firm A continues to comply with the collusive agreement. What will Firm B's economic profit be?

- A. \$6000
- B. \$1500
- C. \$2000

D. \$3000

11. Suppose Firm B cheats on Firm A and reduces its price to \$1.00 and Firm A matches the price cut. What will be Firm B's economic profit (assuming 50% market share when prices are same)?

- A. \$1000
- B. \$1500
- C. \$2000
- D. \$3000

12. Which of the following core principles applies to the prisoner's dilemma?

- A. No cash on the table.
- B. Smart for one, dumb for all.
- C. Low hanging fruit.
- D. Scarcity.

Suppose Jordan and Lee are trying to decide what to do on a Friday. Jordan would prefer to see a comedy while Lee would prefer to see a documentary. One documentary and one comedy are showing at the local cinema. The utilities they receive from seeing the films either together or separately are shown in the payoff matrix. Both Jordan and Lee know the information contained in the payoff matrix. They purchase their tickets simultaneously, ignorant of the other's choice.

		<i>Jordan</i>	
		<i>Comedy</i>	<i>Documentary</i>
<i>Lee</i>	<i>Comedy</i>	Lee: 3 Jordan: 5	Lee: 1 Jordan: 1
	<i>Documentary</i>	Lee: 2 Jordan: 2	Lee: 5 Jordan: 3

13. Jordan has

- A. no dominant strategy.
- B. a dominant strategy of seeing a comedy.
- C. a dominant strategy of seeing a documentary.
- D. two dominant strategies, depending on Lee's choice.

14. This game has _____ Nash equilibrium.

- A. 0.
- B. 1.
- C. 2.
- D. 4.

15. Suppose a timing element is added to the game, and that Jordan buys a ticket first. While Lee did not see which ticket Jordan bought, Lee does know the values in the payoff matrix and that Jordan has purchased first. Assuming that Jordan and Lee are both self-interested, Lee can infer

- A. that Jordan bought a ticket for the documentary.
- B. that Jordan did not exploit the first-mover advantage.
- C. that Jordan bought a ticket for the comedy.
- D. that Jordan's threat to buy a ticket for the comedy is not credible