

Home Exercises (Oligopoly)

AP10-14

One feature of an oligopoly is:

- a) Interdependence between the the oligopolists' decisions.
- b) Existence of only two firms.
- c) Absence of competition among the firms.
- d) Firms choose quantities and not prices.

(Final Exam - 05.01.2010/ EM.10)

AP10-15

The payoff matrix below shows a game between players 1 and 2, who can choose to play X or Y. What conditions must the payoff parameters obey so that Y is a dominant strategy for player 1?

		Player 2	
		X	Y
Player 1	X	a, b	c, d
	Y	e, f	g, h

Note: each cell in the matrix show player 1's payoff first, then player 2's payoff.

- a) $e > g$ and $f > h$.
- b) $e > a$ and $g > c$.
- c) $e > a$ and $f > b$.
- d) $d > b$ and $h > f$.

AP10-16

At a school in Copyland teachers found two exams with identical answers. Two find the culprits teachers questioned the two pupils separately to prevent communication between them. The matrix below shows the months suspension the pupils will get depending on what they do.

		Bruno	
		Does not tell anything	Tells the truth
Ana	Does not tell anything	3 (Bruno) 3 (Ana)	1 (Bruno) 6 (Ana)
	Tells the truth	6 (Bruno) 1 (Ana)	4 (Bruno) 4 (Ana)

- a) All other alternatives are correct.
- b) There are dominant strategies in this game.
- c) This is a non-cooperative game.
- d) There is a Nash equilibrium in this game.

(Final exam 2011/12, 09/01/2012; A.10)

AP10-17

For what values of the parameter z will there be an equilibrium in dominant strategies?

		Jogador 2	
		Estratégia X	Estratégia Y
Jogador 1	Estratégia X	3, 3	1, z
	Estratégia Y	4, 2	4, 4

- a) $z \leq 4$.
- b) $z = 4$.
- c) $z > 3$.
- d) (Y,Y) is not a noncooperative solution for any value of z .

(Final exam 06/01/2009, MC 10)

AP10-18

In a prisoners' dilemma game the pair of dominant strategies will be the solution of the game:

- a) Always.
- b) Only when players do not cooperate with each other
- c) Only when players cooperate with each other.
- d) None of the above is correct.

(Final exam 06.09.2007/ EM.10)

AP10-19

Firms *A* and *B* are the only sellers in a market. Each firm can sell either type *M* or type *I* computers. The matrix below shows the firm's profits (in each cell the number on the left-hand side are firm *A*' profits), which depend on what type of computer both sell.

		Firm B	
		<i>M</i>	<i>I</i>
Firm A	<i>M</i>	300, 800	700, 700
	<i>I</i>	500, 500	800, 300

- a) Find and categorise the noncooperative equilibrium in this game.
 b) Is there any other pair of strategies that would earn both firms higher profits? Explain. If such a pair exists in what conditions could that outcome be achieved?

AP10-20

The payoff matrix below shows the profits the firms will earn depending on their strategies. Each firm strives to maximise its profits. What values of x and y will make the pair of strategies (B, C) an equilibrium in dominant strategies?

		Firm 2	
		Strategy C	Strategy D
Firm 1	Strategy A	2, 4	x , 3
	Strategy B	3, y	2, 1

- a) $x > 2$ and $y < 1$
 b) $x < 2$ and $y > 1$.
 c) $x > 1$ and $y < 2$.
 d) $x < 1$ and $y > 2$.

(Prova Final 05.01.2010/ EM.9)