

HOMEWORK 5 (due in class April 15)

ON APRIL 15 WE HAVE TEST 3 COVERING NASH EQUILIBRIA IN MIXED STRATEGIES

Problem 1.

Problem 7 from page 162 in Dixit and Skeath.

Problem 2.

Find Nash equilibria in the following zero-sum game. While you look for the Nash equilibrium do the following:

- (1) Draw payoff diagrams (like these on pages 142 or 138 in Dixit and Skeath) for both players.
- (2) Draw best response diagrams for both players and a diagram that shows where their best response curves intersect (see e.g., page 134 in Dixit and Skeath).

	X	Y
A	2, -2	1, -1
B	0, 0	3, -3

Problem 3.

Find Nash equilibria in the following game (NOTE: It is not a zero-sum game). While you look for the Nash equilibrium in mixed strategies do the following:

- (1) Draw payoff diagrams for both players.
- (2) Draw best response diagrams for both players and a diagram that shows where their best response curves intersect.

	X	Y
A	0, 0	1, -1
B	1, -1	-2, -2

Problem 4.

In problems 2 and 3 for each pair of mixed strategies in Nash equilibrium:

- (1) calculate the payoffs to Row's strategy
- (2) calculate the payoffs to each of Row's pure strategies (played against Column's Nash)
- (3) do (1) and (2) for the Column player.
- (4) Did you observe any regularities? What are they?
- (5) Problem 2 from page 161 in Dixit and Skeath.