

## Worksheet 4: Matrix games

1. Apply iterative removal of dominated strategies to the following games.

(a)

		Player 2	
		C	D
Player 1	A	(0, 5)	(2, -6)
	B	(1, -1)	(3, -2)

(c)

		Player 2		
		D	E	F
Player 1	A	(1, 2)	(3, -1)	(-1, -2)
	B	(0, 4)	(2, 5)	(5, 3)
	C	(-1, -7)	(2, -9)	(-7, -6)

(b)

		Player 2	
		C	D
Player 1	A	(5, -5)	(7, -7)
	B	(4, -4)	(3, -3)

2. For each of the following two-player games, assuming Player 1 plays strategy A with probability  $p$  and Player 2 plays strategy C with probability  $q$ :

- i. find the values of  $p$  and  $q$  that create a Nash equilibrium;
- ii. find the expected outcomes for each player in this situation.

(a)

		Player 2	
		C	D
Player 1	A	(9, 8)	(3, 3)
	B	(1, 1)	(7, 8)

(c)

		Player 2	
		C	D
Player 1	A	(6, 8)	(5, 1)
	B	(3, 5)	(6, 10)

(b)

		Player 2	
		C	D
Player 1	A	(8, 3)	(2, 1)
	B	(5, 5)	(9, 9)