

This is a closed-book exam. You need to answer all 8 questions. There is space after each question you may use. If you need more space please use the rear of a page. Please use a proper notation and answer the questions asked in the text in a detailed way.

There are 50 points obtainable in this exam. The exam consists of 11 pages. You have 120 minutes to answer all questions.

Good luck.

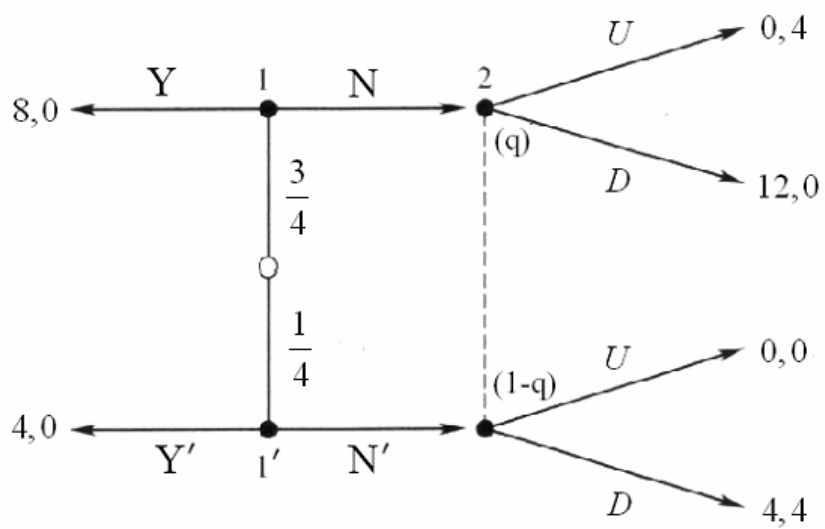
Name:

(1) (7 points) Find all mixed-strategy Nash equilibria of the following game.

Note: If you don't check whether a candidate for a mixed-strategy Nash equilibrium indeed forms an equilibrium or whether it is beaten by another pure strategy, you should explain verbally why you actually would not need to check.

		2		
		D	E	F
1	A	1,3	5,10	2, 1
	B	3,4	2, 3	3,4
	C	2, 0	3, 1	2, 1

(2) (8 points) Consider the following sequential move game of incomplete information:

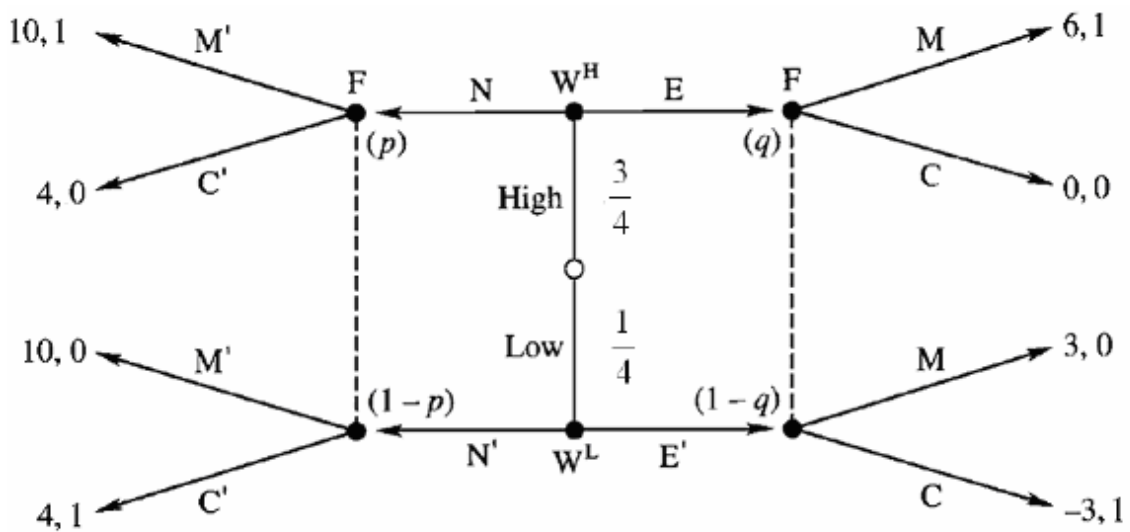


(a) Find all pooling and all separating PBE in this game.

(b) Consider the same game in tree form but assume now that it is a simultaneous move game. Derive the Bayesian normal form of this game and find the Bayes-Nash equilibrium. Compare the result in (a) with the result in (b).

(c) Compute the set of rationalizable strategies for the game in Bayesian normal form. Compare the result with the result in (b). Comment on the result.

(3) (9 points) Find all pooling and separating equilibria in the following version of the job market game. For each candidate, specify the posterior beliefs. Moreover, Specify clearly under which conditions the pooling equilibria occur.



(4) (5 points) Consider the following game in normal form:

		2		
		L	C	R
1	U	6, 0	0, 5	2, 2
	M	1, 8	4, 0	8, 6
	D	3, 3	2, 6	5, 5

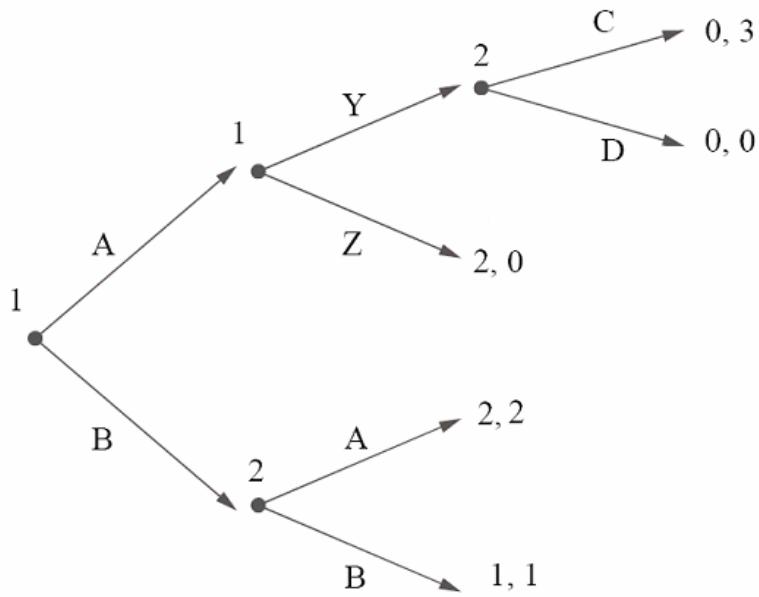
(a) Find $BR_1(\mu_2)$ for $\mu_2 = (\frac{1}{3}, \frac{1}{3}, \frac{1}{3})$.

(b) Find $BR_2(\mu_1)$ for $\mu_1 = (\frac{1}{2}, \frac{1}{2}, 0)$.

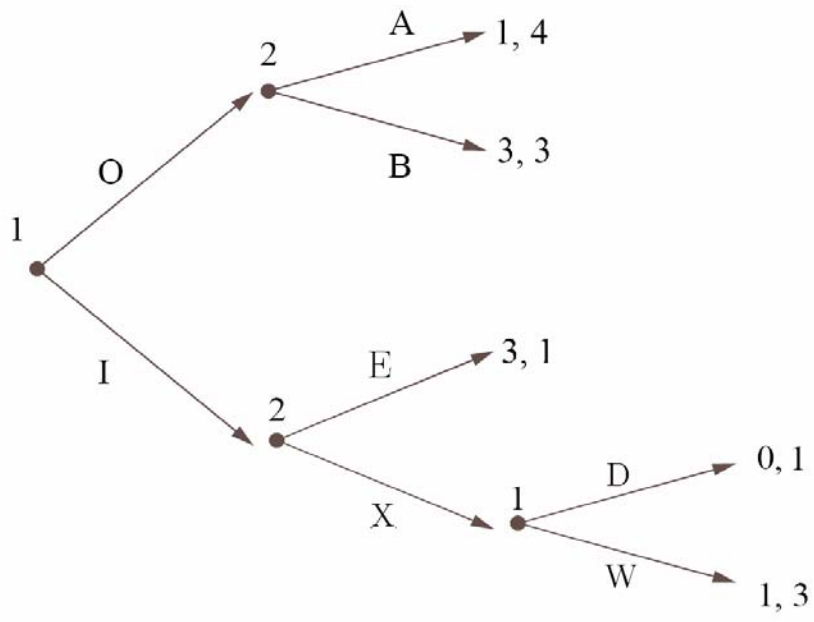
(c) Find all dominated strategies. Show your work. If a strategy is dominated by a mixed one, you need to find at least one candidate σ_1 or σ_2 for which this holds.

(5) (6 points) Consider the following two sequential move games in extensive form. Write down the strategy space for each player, find all pure-strategy Nash equilibria and all subgame perfect Nash equilibria.

a)



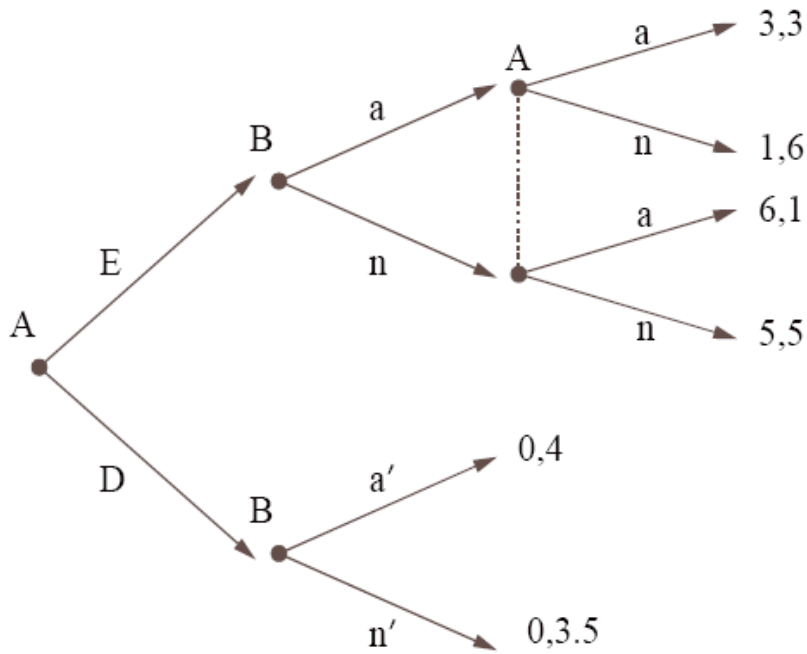
b)



(6) (4 points) Find the set of rationalizable strategies for the following game:

		2		
		L	C	R
1	U	5,1	0,4	1,0
	M	3,1	0,0	3,5
	D	3,3	4,4	2,5

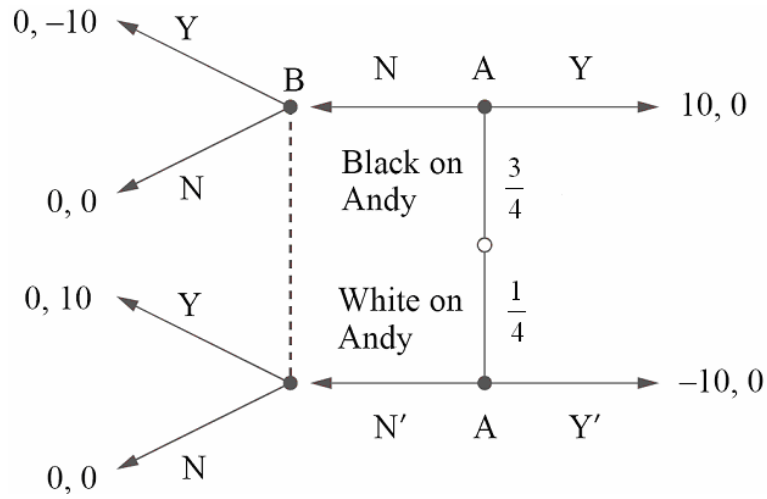
(7) (5 points). Consider the following game in extensive form:



a) Describe the strategy spaces of the players.

b) Find all pure strategy Nash equilibria of the game.

(8) (6 points) Consider the following version of Andy & Brian guessing game.



a) Draw the Bayesian normal form of the game and find the Bayesian Nash equilibrium.

b) Find the set of rationalizable strategies.