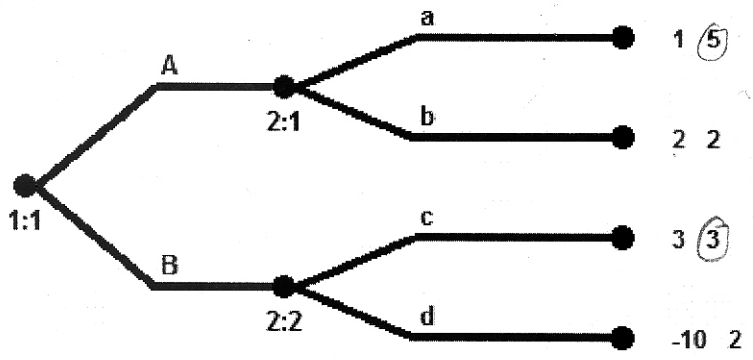
Game theory exam 17.10. 1012/Kultti

1. Determine all the equilibria of the following game

		c		d	
P	A	5	5	2	1
1-P	B	3	1	4	4

2. Express the following extensive form game in normal form; be certain to determine the strategies of the players carefully.



- Go back to the game tree representation and determine whether all the equilibria are reasonable or sensible.

3. A captain of a pirate ship keeps each crew member's money in a safe. In the safe there is a named box for each of the crew members with his money. A storm breaks out and the boxes in the safe open and all the money gets mixed up. As each crew member knows how much money he has the captain could just go and ask the crew. But the captain does not trust that the members speak the truth. Design a mechanism/game such that in its equilibrium the crew members truthfully tell how much money they had in their boxes.

ANSWER ONLY 4.a) OR 4.b) NOT BOTH OF THEM.

4. a) What is the smallest value of the discount factor that can sustain co-operation, or choices (C, C), in the following infinitely repeated prisoners' dilemma game.

	C		D	
C	5	5	0	7
D	7	0	1	1

4. b) Let there be two possible states of the world ω_1 and ω_2. Player 1 (row player) knows the state of the world while player 2 associates probability p to state ω_1. Determine the equilibrium for all values of p.

ω_1	E	F
C	$1,0$	$3,1$
D	$3,2$	$4,1$

ω_2	E	F
C	$4,0$	$6,1$
D	$3,2$	$4,1$