1. Solve the four player game below back to front. The number at each node indicates which player gets to move. The numbers at the end show payoffs (Player1,Player 2, Player 3, Player 4). Pay careful attention to who moves when:
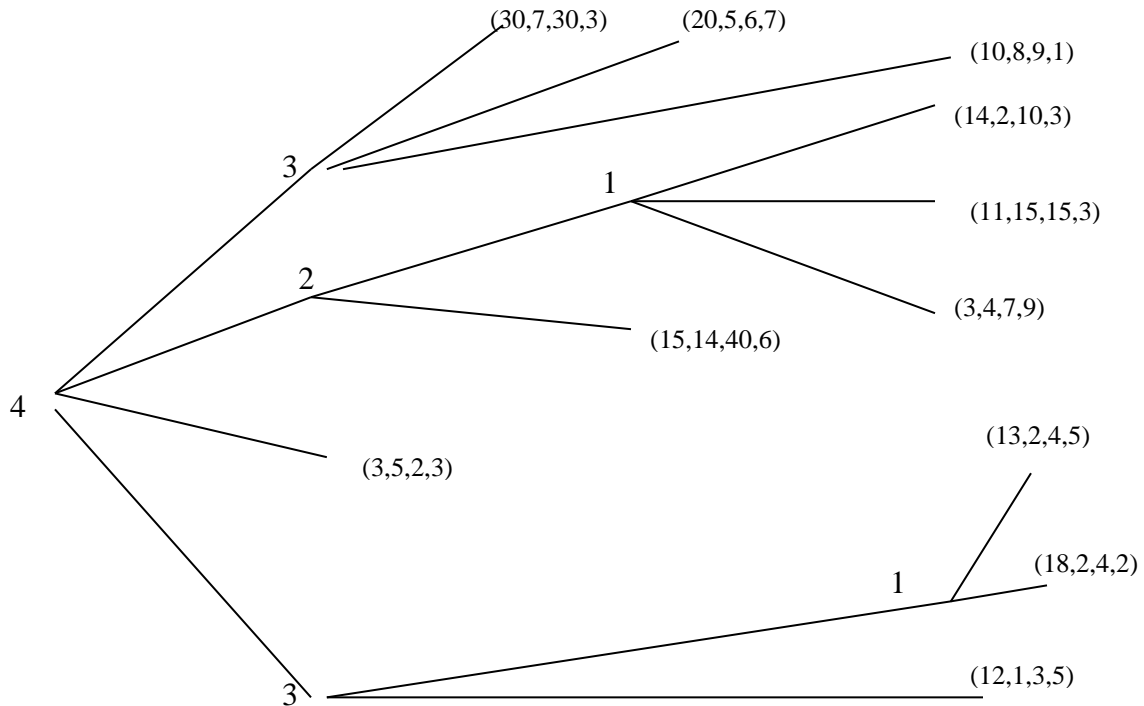
2 . Find all the (pure strategy) Nash Equlibria of the following game:

	C1	C2	C3
R1	(2,3)	(-11,5)	(1,10)
R2	(10,1)	(-7,0)	(0,-1)
R3	(10,6)	(-5,7)	(-2,-4)

3. Construct games with the following characteristics.
    i)   A simultaneous move game with three strategies for one player and two strategies for the other player which has no equilibrium in pure strategies (no deterministic equilibrium). Provide support for the claim that the game has no pure strategy equilibrium.
    ii) A sequential move game with three players where player one has three strategies and players 2 and 3 always have two strategies when they are asked to play. Determine the back to front equilibrium of the game.

4. In the game below, Row wants to maximize probabilities and Column player wants to minimize probabilities. Argue that there is no pure strategy Nash Equilibrium of the game and find the minimax/maximin equilibrium in mixed strategies:

	C1	C2
R1	60%	55%,
R2	50%	70%

5. Apply elimination of dominated strategies to solve the following game. Be sure to indicate which rows or columns are dominated and by what other rows or columns in each round of elimination.

	C1	C2	C3	C4
R1	(2,4)	(3,4)	(3,5)	(5,4)
R2	(4,10)	(3,20)	(4,5)	(1,10)
R3	(3,10)	(3,15)	(2,20)	(4,2)
R4	(2,2)	(5,3)	(4,4)	(3,2)

6. A certain college basketball player is attempting to decide how to practice for an upcoming game. The player had 8 hours in which to practice. She has already spent 3 of those hours trying to improve her left handed layup. It is still not reliable but she thinks that if she spends two more hours, it will increase her average points per game by 4 points. Any less, and she does not trust it, any more hours will have no effect. She can also work on her jump shot. One hour of jump shot practice will raise her average ppg by 6, two hours will raise it by 9, three hours will raise it by 10, four hours will raise it by 11, and five hours will raises the ppg by 12 points. She can always work on her free throw. Each hour of practice on free throws raises her average points per game by an additional 1.5.
    a. From this information, characterize an example of each of the following:
        i) Opportunity cost
        ii) Sunk cost
        iii) Fixed cost
    b. Assuming the player only wants to maximize her points per game, how much should she practice?
    c. Assuming the player only wants to maximize her points per game, how would she practice if she only had six hours in which to practice?