1. 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	C5
R1	(15,4)	(2,7)	(3,10)	(4,1)	(5,5)
R2	(10,0)	(4,0)	(3,2)	(4,5)	(1,10)
R3	(.5,2)	(3,20)	(3,1)	(0,20)	(1,2)
R4	(1,5)	(2,2)	(2,10)	(4,4)	(3,1)

2. 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) :
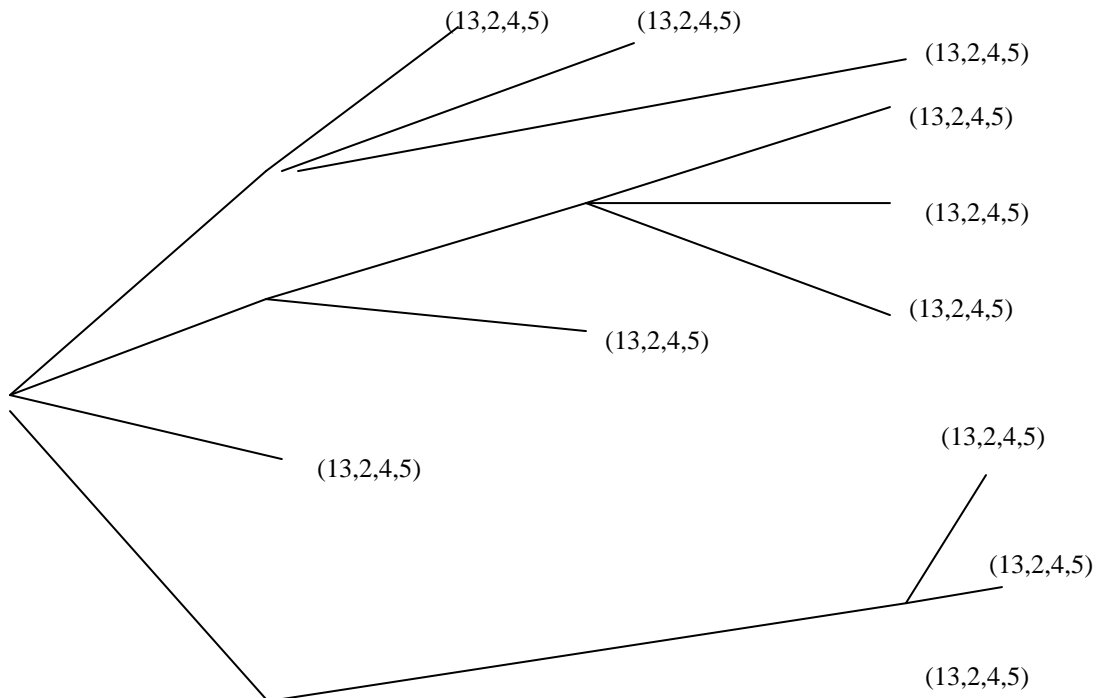
3. After graduating from UMD, you work for a firm for two years. You and the firm recognize that you would be much more valuable to the firm if you studied at night for an MBA. The MBA takes four years of night school and costs $80,000. The firm is afraid that if it pays for your tuition, you will leave and go to another firm. Recalling that slavery (and therefore contracts that force you to work for any given firm) is illegal. Suggest two ways you might use to persuade your firm to pay your way and discuss some problems with each.

4. Find all the (pure strategy) Nash Equlibria of the following game:

	C1	C2	C3
R1	(2,6)	(1,5)	(1,0)
R2	(0,9)	(0,12)	(0,12)
R3	(2,60)	(-5,6)	(-20,-40)

5. 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 equilibrium in mixed strategies:

	C1	C2
R1	(50%,50%)	(40%,60%)
R2	(40%,60%)	(60%,40%)

6. A certain student is attempting to decide how much to study for an upcoming midterm. The student has a part-time job which promises to pay him an extra $50 if he passes, a further $20 if he gets a C, a further 15$ if he gets a B and a further $10 if he gets an A. The student also has another job tutoring for which he is paid $12 an hour. He has already studied 2 hours. To pass, he needs to have studied a total of 4 hours. A C requires 5 hours in total, a B requires 6 hours in total, an A requires 7 hours in total.
   a) From this information, characterize an example of each of the following:
      i) Opportunity cost
      ii) Sunk cost
      iii) Variable cost
   b) Assuming the student only wants to maximize the dollar benefit from his activities, how much should he study?
   c) Assuming the student only wants to maximize the dollar benefit from his activities, what would his tutoring wage have to be to lead the student to be satisfied with merely passing the exam? (a range would be fine as an answer or a specific number is also OK.)