

Economics 308: Intermediate Microeconomics
 Department of Economics, Finance and Legal Studies
 University of Alabama

Problem Set #8

1. In the following normal form game, what strategies survive iterated elimination of strictly dominated strategies.

	L	C	R
T	2,0	1,1	4,2
M	3,4	1,2	5,3
B	1,3	0,2	3,0

2. Players 1 and 2 are bargaining over how to split one dollar. Both players simultaneously name shares they would like to have, s_1 and s_2 , where $0 \leq s_1$, and $s_2 \leq 1$. If $s_1 + s_2 \leq 1$, then the players receive the shares they named; if $s_1 + s_2 > 1$, then both players receive zero. Assuming that they can only bet in 25 cent increments, what are the dominated strategies? What are the pareto sub-optimal points? What are the pareto optimal points?
3. Consider the following lottery:

Probability	.5	.25	.25
Payoff	100	150	50

In a decision between 100 dollars and the lottery, what would the following types of agents choose: risk averse, risk neutral and risk loving?

4. Historically, Coke has been the leader in the carbonated beverage market. In that sense, Coke might be considered to play first in any games that Coke and Pepsi play. Consider the following sequential game. Coke is trying to decide whether to develop a new product. The payoff situation (in profit) is the following: If Coke does develop the product, Coke will get \$600 million if Pepsi develops a new product too and \$800 million if Pepsi chooses not to develop a new product. If Coke doesn't develop a new product, Coke will get \$200 million if Pepsi does develop a new product and \$400 million if Pepsi doesn't develop a new product. If Coke does develop a new product, then Pepsi will get \$600 million if it develops one too and only \$200 million if it doesn't develop one. If Coke does not develop a new product, then Pepsi will get \$800 million if it develops a new product and only \$400 million if it doesn't develop a new product. Create an extensive form of this game that represents this situation and use backward induction to find the outcome of the game.