Problem Set 5

1. Bayes Law

A pacakaged vase was found to be broken when it arrived at the customers house. Suppose that 10% of such cases arise out of bad packaging. Further investigation reveals evidence that would have a 90% chance of being found if the fault lay with the packaging and a 30% chance of being found if the fault lay elsewhere. How probable is it that the vase broke due to bad packaging?

2. Expected Utility

Suppose your utility from consuming x is given by the function, $u(x) = 20 - \frac{20}{x}$. There are two gambles, A and B, available to you, whose payoff is determined by flipping a fair coin. Gamble A results in $x = 5$ if it's Heads and $x = 2$ if it's Tails. Gamble B gives $x = 10$ for Heads and $x = 1$ for Tails. Write down the expected utility for each gamble. Which gamble should you choose?

3. Mixed Strategy Equilibrium

In each of the following games, find all of the pure strategy Nash Equilibria. Further, determine whether or not there is a mixed strategy Nash Equilibrium.

a)

	L	R
U	2, 4	3, 7
D	1, 5	4, 6

b)

	L	R
U	0,0	30,60
D	90,10	20,0

c)

	L	R
U	8,4	6, 10
D	4, 8	8, 4