Question 1.

Assume that you receive diminishing marginal utility from income, which can be described as:

1. Show the relationship between Income and Utility
2. Calculate the utility from $35,000 certain income and show it on the graph.
3. Calculate the expected income from shaving $35,000 of income and taking a fair gamble with a 50:50 chance of winning or losing $5,000.
4. Calculate the expected utility from the uncertain income outcomes described in (c).
5. Calculate the expected income from taking a fair gamble with a 50:50 chance of winning or losing $15,000.
6. Calculate the expected utility from the uncertain income outcomes described in (e).
7. Calculate how much would you be willing to pay to avoid the risk associated with gambling in f.

**Question 2.**

Assume that

and you make $35,000/year. There is a 50% chance you will incur medical bills of $15,000.

1. Calculate the fair insurance premium.
2. Calculate the unfair (insurance market premium)

**Question 3.**

Suppose You have $35,000 to invest $15,000 in Company A and/or B. One share in each company costs $1. At the end of the year there is a 50:50 chance that the share price will rise to $2 and a 50:50 chance it will fall to $0. Finally assume that

Calculate the expected income and expected utility of the following investment choices:

1. Investing all your money in company A and company B.
2. Diversifying your portfolio.