

Homework #1

Due October 20

1. Suppose a person has a utility function of $\sqrt{x}$, where x is his total wealth. Initially, he has a wealth of 400, and is considering how much he is willing to pay for a lottery. The lottery has a 1/2 chance of giving 500, and 1/2 chance nothing. What is the maximum price the person is willing to buy the lottery? (50%)
2. Consider the example in page 8 of the Coase Theorem slide. If the smoker has the legal right to consume, then the victims have to bargain with the smoker to reduce their loss. We have shown that, if the smoker is compensated by exactly the amount of loss of reducing his consumption, he will agree with the victims' proposal. In that case, the consumption level among the bargaining outcomes that is the best for the victims is 2, which is also the social optimum. Now assume that in order for the smoker to accept a proposal, he insists that he must share half of the victim's gain from bargaining outcome. For example, if the victims' loss reduces by 6, then in addition to the above compensation, he needs $6/2=3$ more to agree. Does Coase Theorem still hold in this case? Show your answer by using a table similar to that in page 21 of slide. Why is this so? (50%)