

SUNY-Stony Brook. Economics Department
Economics 323: Fall 2011
Professor: Hugo Benítez-Silva

Problem Set 3: Due Tuesday October 25, 2010

1.Short Questions. Remember to justify your answers.

- a) A risk-averse individual is offered a choice between a gamble that pays \$1000 with a probability of 25% and \$100 with probability of 75%, or a payment of \$325. Which would he choose?

- b) What if the payment was \$320?

- c) Why might a neighborhood group have a harder time self insuring for flood damage versus fire damage? What if the neighborhood was in southern California (there a lot of wild fires in Southern California, especially in the canyons)?

2.Verdadero o Falso. (Again, justify your answers).

- a)If Paul is risk-loving and his basketball team has a probability of .6 of winning, then Paul would rather bet \$10 on his team than \$1000. (When Paul bets X, he wins X if his team wins and loses X if his team loses) **True or False.**

- b)Will is not risk averse. He is offered a chance to pay \$10 for a lottery ticket that will give him a prize of \$100 with probability .06, a prize of \$50 with probability .09, and not prize with probability .85. If he understands the odds and makes no mistakes in calculation, he will buy the lottery ticket. **True or False.**

3. Multiple Choice (Please justify your answers as much as possible. No justification, no credit.)

A) Yuri owns just one ship. The ship is worth \$200 million dollars. If the ship sinks, Yuri loses \$200 million. The probability that it will sink is .02. Yuri's total wealth, including the value of the ship is \$225 million. He is an expected utility maximizer with von Neuman Morgensten utility $U(W)$ equal to the square root of W . What is the maximum amount that Yuri would be willing to pay in order to be fully insured against the risk of losing his ship?

- a) \$4 million
- b) \$ 2 million
- c) \$ 3.84 million
- d) \$ 4.82 million
- e) \$ 5.96 million

B) Harley's current wealth is \$600, but there is a .25 probability that he will lose \$100. Harley is risk averse. He has an opportunity to buy insurance that would restore his \$100 if he loses it.

- a) Harley would be willing to pay a bit more than \$25 for this insurance
- b) Harley would be willing to pay up to \$25 for this insurance
- c) Since Harley is risk averse, he would not be willing to pay anything for this insurance, it is too risky.
- d) Since Harley's utility function is not specified, we cannot tell how much he would be willing to pay for this insurance.
- e) Harley would not be willing to pay more than \$16.66 for this insurance.