

Finance 30210
Quiz #10

Name _____

Section _____

- 1) Suppose that the probability of getting in an accident is 2%. The average cost of an accident is \$120,000. Suppose that the average car driver has preferences given by

$$U(I) = \sqrt{I}$$

- a) Assuming that this individual earns \$160,000 per year in income, calculate his expected utility if he buys no insurance.

If there is no accident, this individual receives his full income of \$160,000 and receives utility equal to

$$U(160,000) = \sqrt{160,000} = 400$$

If an accident occurs, this individual pays out \$120,000 leaving him \$40,000 of income left over. This generates utility equal to

$$U(40,000) = \sqrt{40,000} = 200$$

Therefore, expected utility is equal to $.02(200) + .98(400) = 396$

- b) Calculate the amount this individual would be willing to pay for a full coverage insurance policy.

We need to calculate the amount of income this individual could receive with certainty that would generate 396 units of utility.

$$396 = \sqrt{I}$$

$$I = 396^2 = 156,816$$

Therefore, this individual would pay $160,000 - 156,816 = \$3,184$ for a policy.