

BAYLOR UNIVERSITY
HANKAMER SCHOOL OF BUSINESS
DEPARTMENT OF FINANCE, INSURANCE & REAL ESTATE

Risk Management
Dr. Garven
Problem Set 3

Name: _____

Show your work and write as legibly as possible. Good luck!

Problem 1 (40 points). Suppose Fortunate, Grimy, and Otto are identical in all aspects, except utility. Fortunate has $U = W^{1.5}$, Grimy has $U = 1 + 2W$, and Otto has $U = \ln W$. Fortunate, Grimy and Otto each have an initial wealth of \$280 and have a 25% probability of losing \$200.

A. Calculate the certainty equivalents of wealth (W_{CE}) for Fortunate, Grimy and Otto.

B. Who is willing to pay the most to insure this risk? Explain why.

Problem 2 (60 points). Suppose you wish to insure an asset valued at \$1,800. Only two states of the world can occur in the future, Windstorm and No Windstorm, with probabilities of .20 and .80, respectively. The asset is completely destroyed in the Windstorm event. Your initial wealth (including this asset) is \$2000, and your utility $U(W) = \ln W$.

A. Suppose an insurer offers to fully insure your windstorm risk for a price of \$360. Should you purchase this insurance policy? Why or why not?

B. If the price for full coverage is \$500, should you fully insure? Why or why not?

C. What is the maximum price you will pay to fully insure this risk? Explain how you determined the answer to this question.