Baylor University
Hankamer School of Business
Department of Finance, Insurance & Real Estate

Risk Management
Dr. Garven
Problem Set 3

Name: _____

Problem 1 (40 points). Suppose Lucky, Dusty and Ned are identical in all respects, except utility. Lucky has $U = W^{1.5}$, Dusty has $U = 1 + 2W$, and Ned has $U = \ln W$. Lucky, Dusty and Ned each have initial wealth of \$140 and have a 25 percent probability of losing \$100.

A. Calculate the certainty equivalents of wealth (W_{CE}) for Lucky, Dusty and Ned.

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 \$900. Only two states of the world can occur in the future, FIRE and NO FIRE, with probabilities .20 and .80 respectively. In the FIRE event, the asset is completely destroyed. Your initial wealth (including this asset) is \$1,000, and your utility $U(W) = \ln W$.

A. Suppose an insurer offers to fully insure your fire risk for a price of \$180. Should you purchase this insurance policy? Why or why not?

B. If the price for full coverage is \$250, should you fully insure? Why or why not?

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