Apply the Concepts

1. *Your Certainty Equivalent and the Start-Up Lottery*. Determine your values for the relevant parameters of prospect theory. Your value for μ = [\_\_\_] and your value for λ = [\_\_\_]. Based on these values, your certainty equivalent for the start-up lottery is *c*(L) = [\_\_\_]. Your willingness to pay (certainty equivalent) is [\_\_\_] (>, <, =) to the text example *c*(L) = $49 because [\_\_\_].
2. *Euro Lottery and the Start-Up Lottery*. Consider the experimental results for the euro lottery L{0,0.50, 300, 0.50}. Recall that the average switching price was 100 euros.
3. The average switching price is consistent with a value of μ = [\_\_\_].
4. Suppose λ = 2. For the average participant in the euro lottery, the certainty equivalent of the start-up lottery = $ [\_\_\_].
5. The average participant in the euro lottery is willing to pay [\_\_\_] (more, less) than the person in the text example because [\_\_\_].
6. *Linear Utility and the Start-Up Lottery*. Consider an individual with linear utility function *u*(*x*) = 2 ⋅ *x* and λ = 3. The utility value of the start-up lottery (in the text) is *v*(L) = [\_\_\_]. The certainty equivalent is *c*(L) = [\_\_\_] and the risk premium is *r*(L) = [\_\_\_]. The individual experiences risk [\_\_\_].
7. *Loss Neutrality and and the Start-Up Lottery*. Consider an individual with the square-root utility function and λ = 1. The utility value of the start-up lottery (in the text) is *v*(L) = [\_\_\_]. The certainty equivalent is *c*(L) = [\_\_\_] and the risk premium is *r*(L) = [\_\_\_]. The individual experiences risk [\_\_\_].
8. *Willingness to Pay for a Gain Lottery*. Consider a lottery in which there is a 40 percent chance of gaining $100. The utility function is *u*(*x*)=*x*1/2, where *x* is the money gained.
9. The monetary value of the lottery is *m*(L) = $[\_\_\_].
10. The certainty equivalent of the lottery is *c*(L) = $[\_\_\_].
11. The willingness to pay is less than the monetary value because [\_\_\_].
12. *Aging, Weight of Loss, and Certainty Equivalent*. Use Widget 15.4. Consider the lottery L ={–100, 0.80; 2000, 0.20} . For Ochocho at age 30, the parameter values are {μ, λ} ={0.88, 1.30}.
13. The monetary value of the lottery is *m*(L) = $[\_\_\_]. The utility value of the lottery is *v*(L) = [\_\_\_] utils. The willingness to pay for the lottery is *c*(L) = $[\_\_\_\_\_\_].
14. Illustrate with a graph that shows the numbers from (a) as well as (i) the utility of the gain and (ii) the utility of the loss.
15. Suppose that as Ochocho ages, the value of λ increases by 0.01 per year. At age 60, Ochocho’s willingness to pay for the lottery is *c*(L) = $[\_\_\_].
16. *Billinda’s Meditation Program*. For Billinda the philanthropist, utility is determined by the number of malaria cases in Tanzania, with μ = 1/2. A proposed project has equal chances of (i) decreasing the number of malaria cases by 900 (a gain) and (ii) increasing the number of malaria cases by 36 (a loss).
17. Suppose Billinda experiences greater weight of loss, with λ = 2.50. The willingness to pay for the project is $[\_\_\_].
18. Suppose Billinda enrolls in an aggressive meditation program. If the meditation program eliminates the greater weight of loss, the willingness to pay changes to $[\_\_\_].
19. *How Many Shares?* Use Widget 15.4. In your job as an investment advisor, your clients have a common relative weight of loss, with λ = 1.5. Your clients vary in the curvature of their utility functions, with μ varying uniformly between 0.71 and 0.90, with one client in each 0.01 interval (a total of 20 clients) You have the opportunity to sell each client one unit of stock, described by the lottery L ={–100, 0.80; 2000, 0.20} . The purchase price of the stock is $126.
20. Ochocho, a client with μ = 0.88, is willing to pay $[\_\_\_] for the stock lottery. Illustrate with a graph that shows all the relevant values.
21. The stock will be relatively attractive to a client with a relatively [\_\_\_] (large, small) values of μ. You will sell [\_\_\_] units to your clients.