

Quiz #4 (Answer Key)
ECNS 316
Spring 2021

Name _____

1.) Indicate whether the below utility function belongs to a risk neutral, risk seeking, or risk averse individual:

$U(I) = I^{1/4}$. (i) risk neutral; (ii) risk seeking; (iii) risk averse
risk averse

2.) Indicate whether the below utility function belongs to a risk neutral, risk seeking, or risk averse individual:

$U(I) = \ln(I)$. (i) risk neutral; (ii) risk seeking; (iii) risk averse
risk averse

3.) Indicate whether the below utility function belongs to a risk neutral, risk seeking, or risk averse individual:

$U(I) = I + (.001)I^2$. (i) risk neutral; (ii) risk seeking; (iii) risk averse
risk seeking

4.) Claire's utility of income is

$$u = 10I - (.001)I^2.$$

At her current job, she earns $I_L = \$2,000$ and has the opportunity to embezzle \$2,000, so that $I_i = \$4,000$. If she is caught, the sanction is such that $I_i - s = \$0$. Solve for the probability of conviction, p_c , that would cause Claire to be indifferent between legal and illegal activity.

Solve for p_c such that the following equality holds:

$$u(I_L) = E[U(I_i)]$$
$$u(I_L) = p_c u(0) + (1 - p_c) u(I_i)$$

$$\Rightarrow 16,000 = (1 - p_c)(24,000)$$

$$\Rightarrow p_c = .333$$