

# Econ 602 – Quiz #1 (November 9, 2000)

Closed book quiz. You have 50 minutes. All questions are worth 10 points.

Have fun: After all, if the quiz hurts your grade, it doesn't count.

Note: T/F means "True or False, and correctly justify."

1. Draw the standard triangular probability simplex with prizes \$1M, \$2M, \$3M at the vertices. First depict three indifference curves for the risk averter Katya (dashed lines). Then add on three solid line indifference curves for Peter who is unambiguously strictly more risk averse than Katya. Explain your diagram briefly. [10]

2. Consider the following gambles:

- $G_i$ :  $p_i$  chance of prize \$X,  $1 - p_i$  chance of 0
- $H_i$ :  $rp_i$  chance of prize \$Y,  $1 - rp_i$  chance of 0

Suppose that  $0 < r < 1$  and  $0 \leq p_1 < p_2 \leq 1$ , and  $0 < X < Y$ . [10]

T/F: An expected utility maximizer chooses  $G_1$  over  $H_1$  iff he chooses  $G_2$  over  $H_2$ .

3. Fix  $p_1 > 0$ ,  $X > 0$ , and  $0 < r < 1$ . For which values of  $Y$  must every risk averse individual strictly prefer gamble  $G_1$  to gamble  $H_1$  above? [10]
4. T/F: Katya finds herself in a two-state world with state-independent preferences: She has the same natural log von Neumann Morgenstern utility function over some numeraire measured in terms of wealth. If the price of consumption in the good state rises, then her total expenditures on consumption in that state rise too. [10]