

Exercise 1

Name:

INR 3303: International Relations of the U. S.

Due: September 13, 2005

Show the utility equation, as well as the answer, for each problem.

1. What is the expected utility of working 6 weeks, 40 hours a week, in a job that pays \$10.00 an hour?
2. What is the expected utility of betting \$150, "double or nothing" (double if you win, nothing if you lose), on a coin toss? (Hint: remember that you must give up \$150 in order to place the bet.)
3. What is the expected utility of betting \$12 on "boxcars" (rolling two fair, six-sided dice to produce a score of 12 — that is, each die shows 6) when the payoff, if you roll boxcars, is \$540? (Hint: what are the odds of rolling two six-sided dice and getting exactly 12?)
4. Suppose a friend challenges you to guess a (whole) number between 1 and 10 (inclusive of 1 and 10). If you can do it twice in a row, she'll pay you \$300, but you must pay \$2 for *each time* you play the game (e.g., twice). What is your expected utility for playing? (Hint: what are the odds of successfully guessing the right number once *and* then successfully guessing it again?)
5. What is the **total** expected utility of buying 3 lottery tickets with the odds, payoffs, and ticket prices as follows (show all of your work):

	<u>Winner's Payoff</u>	<u>Odds of Winning</u>	<u>Ticket Price</u>
Ticket A	\$2000	1 in 500	\$1
Ticket B	\$500,000	1 in 500,000	\$3
Ticket C	\$100	1 in 20	\$5