6). How much would you be willing to pay to roll a pair of standard dice if you will be paid $5 for rolling a 'double' and paid $0 for any other roll.

7). A punch-out card contains 100 spaces. One space pays $100, 5 spaces pay $10, and the rest of the spaces pay $O. How much should you pay to punch out one space?

8). Suppose that you have 5 quarters, 5 dimes, 10 nickels, and 5 pennies in your pocket. You reach in and choose a coin at random. What is the expected value of a single draw? Which coin is most likely to be picked?

9). Krinkles Potato Chips is having a "Lucky Seven Sweepstakes". The one grand prize is $70,000; 7 second prizes each pay $7000; 77 third prizes each pay $700; and 777 fourth prizes each pay $70. What is the expected value of this contest if there are 10 million entries?

10). In old gangster movies on TV, you often hear of "numbers runners" or the "numbers racket". This numbers game, which is still being played today, involves betting $1 on the last three digits of the number of stocks sold on a particular day in the future as reported in *The Wall Street Journal*. If the payoff is $500, what is the expected value for this numbers game?

11). A game involves drawing a single card from a standard deck. If an ace is drawn, you receive $.50; if a heart is drawn, you receive $.25; if the queen of spades is dawn, you receive $1.00. If the cost of playing is $.10, what is the game's expected value? Should you play the game?

12). Consider the game in which a player rolls a single die. If a prime number (2, 3, or 5) is rolled, the player wins $2.00. If a square (1 or 4) is rolled, the player wins $1.00. However, if the player rolls a perfect number (6), it costs the player $11.00. Is this a good deal for the player or not?

13). An oil-drilling company knows that it costs $25,000 to sink a test well. If oil is hit, the income for the drilling company will be $825,000. If only natural gas is hit, the income will be $225,000. If nothing is hit, there will be $0 income. If the probability of hitting oil is $\frac{1}{40}$ and the probability of hitting gas is $\frac{1}{20}$, what is the expected income for the drilling company? Should the company drill the well?