CS 228, Probability Exercises I

Name:

Some questions are from **Discrete Mathematics and It's Applications 7e** by Kenneth Rosen.

- What is the probability that a five-card poker hand does not contain the queen of hearts?

- What is the probability that a five-card poker hand contains two pairs?

- What is the probability that a fair die never comes up an even number when it is rolled 6 times?

- Find the probability of selecting *exactly* one of the correct six integers in a lottery, where the order in which these integers are selected does not matter, from the positive integers not exceeding 40.

- A pair of dice is loaded. The probability that a 4 appears on the first die is 2/7, and the probability that a 3 appears on the second die is 1/2. All other outcomes for the two dice are equally probable. What is the probability of 7 appearing as the sum of the numbers when the two dice are rolled?