

Be Sure to Show ALL Your Work!!!

Special Note: Reduce all fractions to lowest terms.

1. A card is chosen at random from a deck of 52 cards. It is then *replaced* and a second card is chosen. What is the probability of choosing a Jack first and a 3 second?
  
2. What is the probability that from a normal 52 card deck, you randomly draw a 3, and then *without replacing* the 3, you draw the Queen of Hearts?
  
3. A jar contains 6 red balls, 3 green balls, 5 white balls and 7 yellow balls. Two balls are chosen from the jar, with replacement. What is the probability that both balls chosen are green?
  
4. A box contains a penny, a nickel, and a dime. Find the probability of choosing a dime first and then, without replacing the dime, choosing a penny.
  
5. A coin is tossed and a single 6-sided die is rolled. Find the probability of landing on the head side of the coin and rolling 3 on the die.
  
6. The teacher of a class that contains 12 boys and 16 girls needs to pick two volunteers. She randomly selects one student, and then selects another student from the class. Find the probability that
  - a. she chooses a girl first, then a boy
  - b. she chooses two boys