

B. Probability of the Complement of an Event and Events in Sequence

1. A card is randomly chosen from a normal deck of cards (one with no jokers).
 - a. What is the probability of the simple event that the card drawn will be the Queen of Hearts? Express your answer as a fraction.

 - b. What is the probability of the event that the card drawn will not be the Queen of Hearts? Express your answer as a fraction.

 - c. What is the sum of the answers to 1a and 1b?

- 2 a. What is the probability of tossing a coin 3 times and having it come up heads all 3 times?
 - b. What is the probability of tossing a coin 3 times and not having it come up heads all 3 times?

 - c. What is the probability of tossing a coin 3 times and not having it come up tails any one of the three times?

3. a. What is the probability of the event of randomly drawing 2 cards from a normal deck of cards (one with no jokers) and having both be Queens?
 - b. What is the probability of the event of randomly drawing two cards from a normal deck of cards (one with no jokers) and having neither be a Queen?

4. What is the probability of the event of flipping a coin and drawing a card at random from a normal deck of cards (one with no jokers) and having the coin come up heads and the card be black card?

5. Assuming that any date is equally likely to be the birthday of a random person and that there are 365 days in a year, what is the probability that a randomly chosen person's birthday is not July the Fourth?