

Practice Problems for Test-1

1. There are 13 students in our class.
 - (1) What is the probability that Jack and Mike have the same birthday?
 - (2) What is the probability that no one has the same birthday as the professor?
 - (3) What is the probability that there are two and only two having the same birthday?
2. A box contains 5 red balls, 3 blue balls and 1 black balls. Take two balls out randomly.
 - (1) Find the sample space.
 - (2) Find the probability that there exists at least a red ball.
 - (3) Find the probability the two balls have two different colors.
 - (4) Given one of the two balls is red, find the probability that the two balls have the same color.
3. Flip a fair coin until we get a head. What is the probability that we have to flip at least 4 times.
4. It is known that a quarter of the population in Lubbock catches a specific flu. An investigation shows that in a test, the probability for correct positive and correct negative are 0.81 and 0.99. Denis receives 1 positive result and 1 negative result. What is the probability that Denis catches the flu?