

- A) What is the probability of obtaining 6 or fewer heads on 15 tosses of a fair coin?
B) Find the mean and standard deviation for this experiment. **0.3036**
- The average number of phone calls received per day at the poison control center is 4.
A) Find the probability that it will receive 5 calls on a given day. **0.1563**
B) Find the mean and standard deviation. **$\mu = 4, \sigma = 2$**
- The probability that a student is accepted to a prestigious college is 0.30. A) If 5 students from the same school apply, what is the probability that at most 2 are accepted? B) Find the mean and standard deviation for this experiment. **A) 0.837 B) $\mu = 1.5, \sigma = 1.0247$**
- Chef Bob likes to be adventurous with spices. He has 7 different spices in a cabinet – 4 are Indian Spices (like curry), 2 are Asian (like ginger), and 1 is chile pepper. He makes his famous chicken chili 6 different times and chooses one spice out of his cabinet. What is the probability that he will choose (randomly with his eyes closed) an Indian spice 3 times, an Asian spice 2 times and chile pepper once? **0.1306**
- Suppose that in a certain town, 70% of the voters favor building a new ballpark. A) Find the probability that in a random sample of 5 voters exactly 2 of them favor a new ballpark. B) Find the mean and standard deviation. **A) 0.1323 B) $\mu = 3.5, \sigma = 1.0247$**
- Suppose the average number of lions seen on a one-day safari is 5. A) What is the probability that a tourist will see fewer than 4 lions on the next one-day safari? B) Find the mean and standard deviation. **A) 0.265 B) $\mu = 5, \sigma = 2.2361$**
- A company purchases shipments of machine components and randomly tests a sample to see if they are defective. It is known that 3% of all components are defective. 28 components were tested. The whole batch is accepted if there are fewer than 3 defectives. A) What is the probability that the batch will be accepted? B) Find the mean and standard deviation.
A) 0.9494 B) $\mu = 0.84, \sigma = 0.9027$
- The MLB World Series is a “best of 7” series, that is, the champion is the team that wins 4 out of 7 games. Assuming the teams are evenly matched, what is the probability that the World Series will last 5 games? **0.125**
- People were asked their opinion on whether there should be a balanced budget amendment for the federal government. 78% responded yes, 12% responded no, and 10% had no opinion. If 10 randomly selected people are asked the same question, what is the probability that 5 will respond yes, 3 will respond no, and 2 will have no opinion? **0.0126**
- The probability that I will win money playing the lottery varies depending on the amount. I could win \$1, \$5, \$10, or \$500 with probabilities 0.05, 0.025, 0.01, and 0.001 respectively. What is the probability that I would win at least \$10? **0.011**