1. In the past 30 days, Roger’s Rural Roundup has sold either 8,9,10, or 11 lottery tickets. It never sold fewer than 8 or more than 11. Assuming that the past is similar to the future, find the probabilities for the number of ticket sold if sales were 8 tickets on 10 days, 9 tickets on 12 days, 10 tickets on 6 days, and 11 tickets on 2 days.
2. A class contains 30 students. Ten are female (F) and U.S. citizens (U); 12 are male (M) and US citizens; 6 are female and non-US citizens (N); 2 are male and non-US citizens.

A name is randomly selected from the class roster and it is female. What is the probability that the student is U.S. citizen?

1. Your professor tells you that if you score an 85 or better on your midterm exam, then you have a 90% chance of getting an A for the course. You think you have a 50% chance of scoring 85 better. Find the probability that both your score is 85 or better and you receive an A in the course.
2. A statistics class was asked if it believed that all tests on the Monday following the football game win over their archrival should be postponed automatically. The results were as follows:

Strongly agree 40

Agree 30

Neutral 20

Disagree 10

Strongly disagree 0

100

Transform this into a numeric score, using the following random variable scale, and find probability distribution for the results:

Strongly agree 5

Agree 4

Neutral 3

Disagree 2

Strongly disagree 1

Let X the numeric score. Compute the expected value, Variance and standard deviation for the random variable X.

1. A candidate for public office has claimed that 60% of voters will vote for her. If 5 registered voters were sampled, what is the probability that exactly 3 would say they favor this candidate?
2. The length of the rods coming out of our new cutting machine can be said to approximate a normal distribution with a mean of 10 inches and a standard deviation of 0.2 inch. Find the probability that a rod selected randomly will have a length
3. Of less than 10 inches
4. Between 10.0 and 10.4 inches
5. Between 9.9 and 10.4 inches