

Daffodil International University
 Department of Computer Science and Engineering
 Statistics and Probability (STA101), Fall 2025

ID:

Section:

Date:

- 1) A test has scores that follow a normal distribution with a mean of 62 and a standard deviation of 7. What percentage of students score higher than 67? [$P(Z < 0.714) = 0.762$].
- 2) A bookstore sells an average of 2 rare books per day. What is the probability that exactly 8 rare books are sold in the next week?
- 3) A bookstore sells an average of 2 rare books per day. What is the probability that next book will be sold in 2 days?
- 4) If the probability a randomly chosen fan buys a hotdog is 0.4 and the probability, they buy a burger is 0.3, what is the probability they buy either a hotdog or a hamburger?
- 5) A bakery sells chocolate muffins. The probability that a customer chooses a chocolate muffin is 0.45. The probability that it is sunny on a given day is 0.6. Are the events independent?
- 6) A fair die is rolled 8 times. Probability of getting even number is $X/1000$ (X is the last 3 digits of your student ID). Find expected even number and its standard deviation.
- 7) A school reports that 40% of its students play sports. Among the students who play sports, 70% pass their fitness test. If a randomly selected student plays sports, what is the probability that this student passed the fitness test?
- 8) What type of error (i) A smoke detector fails to sound even though there is a fire. and (ii) A medical test says a patient has a disease, but the patient is actually healthy.
- 9) You have 10 numbers in a box. What is the probability that you get an even number in first and second draw(without replacement)?
- 10) Tabulated value is $t = 1.845$ for a one-sample mean test. What will be your decision if calculated value is (i) 1.728 and (ii) 1.875?