1) A farmer will earn a profit of $30 thousand in case of heavy rain next year, $60 thousand in case of moderate rain, and $15 thousand in case of little rain. A meteorologist forecasts that the probability is 0.35 for heavy rain, 0.4 for moderate rain, and 0.25 for little rain next year. Write the probability distribution of X – random variable that represents next year profit in thousand dollars for this farmer. Find the mean and standard deviation of X. Give an interpretation of the values of the mean and standard deviation.

2) At a particular university it has been found that 20% of the students withdraw without completing the business statistics course. Assume that 10 students have registered for the course.

A) What is the probability that exactly 10 will withdraw?

B) two or fewer will withdraw?

C) more than three will withdraw?

D) What is expected number and standard deviation of withdrawals?

3) More than 50 million guests stay at bed and breakfast (B&B) each year. The Web site for the Bed and Breakfast Inns of North American, which averages approximately seven visitors per minute, enables many B&Bs to attract guests.

A) Compute the probability of no Web site visitors in a one-minute period.

B) Compute the probability of two or more Web site visitors in a one-minute period.

C) Compute the probability of one or more Web site visitors in a 30-second period.

D) Compute the probability of five or more Web site visitors in a one-minute period. 