1. A student takes an eight question true-false exam and guesses on each question. Find the probability of passing if the lowest passing grade is six out of eight.

2. If the quiz in Exercise 1 was a multiple-choice quiz with five choices for each question, find the probability of guessing at least six out of eight correctly.

3. If 20% of all automobiles in a large city are foreign-made, find the probability that if there are eight automobiles in a parking lot, three are foreign-made.

4. If 1/4 of the roses grown are white, find the probability that 2 out of 5 will be white.

5. If 20% of the people in a community use the emergency room at a hospital in one year, find these probabilities for a sample of 7 people.

   (a) At most three used the emergency room.

   (b) Exactly three used the emergency room.

   (c) At least five used the emergency room.

6. If 60% of the children had German measles by the time they were 12 years old, find these probabilities for a sample of 8 children.

   (a) At least 5 have had German measles.

   (b) Exactly 7 have had German measles.

   (c) More than 3 have had German measles.

7. A recent study found that 80% of all people over 60 years of age wear glasses. If a random sample of 6 people over 60 years of age is selected, find these probabilities.

   (a) Exactly 4 people will wear glasses.

   (b) At most 2 people will wear glasses.

   (c) At least 2 people will wear glasses.

8. Find the mean, variance, and standard deviation for each of the values of n and p when the conditions for the binomial distribution are met.

   (a) $n = 100$, $p = 0.75$

   (b) $n = 20$, $p = 0.5$

   (c) $n = 1000$, $p = 0.1$

   (d) $n = 50$, $p = 2/5$

   (e) $n = 36$, $p = 1/6$

9. Find the mean, variance, and standard deviation for the number of heads when ten coins are tossed.

10. Tasteful Tomato Seeds have an 80% germination rate. Find the mean, variance, and standard deviation of a package of 200 seeds.