BINOMIAL REVIEW

1. A burglar alarm system has 6 fail-safe components that act independently. The probability of each failing is 0.05.
2. Check to see that this is a Bernoulli trial/ Binomial model
3. Find the probability that exactly 3 will fail.
4. Find the probability that fewer than 2 will fail.
5. Find the probability that none will fail.
6. A student takes a 10-question multiple choice quiz with four choices for each question, and guesses on each question.
7. Check to see that this is a Bernoulli trial/binomial model
8. Find the probability of guessing at least 6 correct.
9. Find the probability of guessing less than 4 correct.
10. Find the probability of guessing more than 7 correct.
11. We take a sample of 9 American children. It is known that 60% of American children have had German measles by the time they were 12 years old. We know that this is a Bernoulli trial. Find the probability that…
12. At least 5 have had German measles.
13. Exactly 7 have had German measles.
14. More than 3 have had German measles.
15. Between 2 and 7 have had German measles.
16. In a restaurant, a study found that 42% of all patrons smoked. The seating capacity of the restaurant is 80 people. Assume this is a Bernoulli trial. Find the mean and standard deviation for the number of patrons smoking.