Statistics Test 2 Review Name _____

1. a) What is the 5th term in the expansion of $(2x-3)^7$?
   b) What is the 3th term in the expansion of $(4+3x)^5$?

2. The probability a student passes a team physical is 0.39. What is the probability that at least 4 of 5 randomly chosen students will pass the physical?

3. A quiz has five multiple-choice questions. There are four possible responses for each question. Jennifer selects her responses at random on every question. What is the probability that she will select the correct response for
   a) at most one question?
   b) at least three questions?

4. Find the binomial expansion of
   a) $(2-3y)^5$ b) $(4x+3)^3$

5. a) What is the coefficient to x^4y^3 in the expansion of $(4x+y)^7$?
   b) What is the coefficient to y^3 in the expansion of $(1-3y)^5$?

6. Assume that in the U.S. 1/5 of all cars are red. Suppose you are driving down the highway and you pass 6 cars. What is the probability that
   a) at most one of the cars you pass is red?
   b) at least four of the cars you pass are red?

7. A varsity basketball player makes ¾ of the foul shots she attempts. You randomly select 8 varsity players. Find the mean and standard deviation.

8. The probability that the bus arrives on time is 5/6. Yolanda takes this bus on 4 consecutive days. Find the probability that this bus will arrive on time all four days.

9. Dave is the manager of a construction supply warehouse and notes that 60% of the items purchased are heating items, 25% are electrical items, and 15% are plumbing items. Find the probability that
   a) at least three of the next five items purchased are heating items.
   b) at least three of the next five items purchased are plumbing items.

10. Jim can drive a golf ball over 220 yards 40% of the time. He regularly plays on a golf course where drives of that distance are needed on 12 holes. What is the mean and standard deviation?