Math 101 - Worksheet for Section 10.3

Name: _____

1. Evaluate each expression:

   (a) ${}_8P_5$

   (b) ${}_8P_3$

   (c) ${}_7P_7$

   (d) ${}_7P_6$

   (e) ${}_8C_5$

   (f) ${}_8C_3$

   (g) ${}_3P_8$

   (h) ${}_3C_8$

2. The golf club with ten members is to choose three officers captain, co-captain, and secretary, how many ways can those offices be filled?

3. For a segment of a radio show, a disc jockey can play 4 songs. If there are 8 to select from, in how many ways can the program for this segment be arranged?

4. Suppose you are asked to list, in order or preference, the three best movies you have seen this year. If you saw 10 movies during the year, in how many ways can the three best be chosen and ranked?

5. An election ballot asks voters to select three city commissioners from a group of six candidates. In how many ways can this be done?

6. To win the small county lottery, one must correctly select 3 numbers from 30 numbers. The order in which the selection is made does not matter. How many different selections are possible?

7. There are 70 applicants for 8 scholarships. An applicant can receive 0,1,2, or all 3 scholarships. In how many different ways can the scholarships be distributed?

8. You want to get a cell phone and you must decide on the right plan. If there are 10 different phones, 6 different calling plans and 3 different texting plans, how many different plans could you pick from if you can choose one phone, one calling plan and one texting plan?

9. John bought a machine to make fresh juice. He has five different fruits: strawberries, oranges, apples, pineapples, and lemons. If he only uses two fruits, how many different juice drinks can John make?

10. How many different eight-letter passwords can be created for a software access?