

Name \_\_\_\_\_

Date \_\_\_\_\_

Advanced Algebra

**Unit 8 Probability Assignment #3**

- 1) You have 9 green marbles and 6 blue marbles. You are going to select three marbles WITHOUT replacement.  
Make a tree diagram to represent this scenario.  
What is the probability that you select EXACTLY 2 green marbles.

2)  $\frac{{}^3C_2 \cdot {}^8P_2 \cdot {}^6P_1}{{}^{14}P_3}$

3)  $\frac{{}^5C_2 \cdot {}^9P_2 \cdot {}^7P_3}{{}^{16}P_5}$

Now you try.....

You have 12 red marbles and 5 green marbles. You are going to select three marbles WITHOUT replacement.

Make a tree diagram to represent this scenario.

- 1) What is the probability of selecting all red?
- 2) What is the probability of selecting at most 2 red?
- 3) What is the probability of selecting exactly 2 red?
- 4) What is the probability of selecting exactly 1 green?