ADVANCED QUANTITATIVE REASONING – Homework 5 **Due Date: 9/21/2015**

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period\_\_\_\_\_\_\_\_ Date

1. Suppose a business owner has a choice of five locations in which to establish her business. She decides to rank each location according to certain criteria, such as price of the store and parking facilities. How many different ways can she rank the five locations?

2. A bicycle shop owner has 12 mountain bicycles in the showroom. The owner wishes to select 5 of them to display at a bicycle show. How many different ways can a group of 5 be selected?

3. A television news director wishes to use three news stories on an evening show. One story will be the lead story, one will be the second story, and the last will be the closing story. If the director has a total of eight stories to choose from, how many possible ways can the program be set up?

4. The digits 0, 1, 2, 3, and 4 are to be used in a four-digit ID card. How many cards are possible if repetitions are permitted?

5. The digits 0, 1, 2, 3, and 4 are to be used in a four-digit ID card. How many cards are possible if repetitions are not permitted?

6. How many different ways can a chairperson, an assistant chairperson, and a treasurer be selected to start a new company if there are fifteen people available to choose from?

7. Evaluate each of these. SHOW YOUR STEPS CLEARLY

(a) 8! (b) 0!

 (c) 6P2 (d) 8C3

8. A paint manufacturer wishes to manufacture several different paints. The categories include

 Color Red, blue, white, black, green, brown, yellow

 Type Latex, oil

 Texture Flat, semigloss, high gloss

 Use Outdoor, indoor

 How many different kinds of paint can be made if a person can select one color, one type, one texture, and one use?

9. In a club there are 7 women and 5 men. A committee of 3 women and 2 men is to be selected. How many different possibilities are there?

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