Organizational Notes

1. A Zoom recording link and class notes will be sent out after each class.

2. Remember to send your answers to the classroom worksheets. Title your email with enough to help me record your ”participation”.

3. Homework #1 (h01) is due tomorrow (Wednesday).

Review

1. How can the Multiplication Principle be extended to more than two choices?

Permutations, Combinations, and Binomial Coefficients

1. A lottery ticket consists of a choice of 5 different numbers from 90 possible numbers. How many different choices are possible?

2. What is a permutation?

3. How many permutations are there of 4 (distinct) objects?

4. How many permutations are there of n (distinct) objects?
5. What is a combination?

6. How many combinations are there of 4 (distinct) objects?

7. How many combinations are there of 4 (distinct) objects, chosen 2 at a time?

8. How many combinations are there of \( n \) (distinct) objects, chosen \( k \) at a time?

9. A standard deck of cards has 52 cards, 13 different cards of each of 4 kinds “hearts”, “clubs”, “spades” and “diamonds”). How many possible 5-card hands are there?

10. **Notation.** What does \( \binom{n}{k} \) mean?