

Permutations and Organized Counting

| Specific Expectations | Section |
|---|-------------------------|
| Represent complex tasks or issues, using diagrams. | 4.1 |
| Solve introductory counting problems involving the additive and multiplicative counting principles. | 4.1, 4.2, 4.3 |
| Express the answers to permutation and combination problems, using standard combinatorial symbols. | 4.2, 4.3 |
| Evaluate expressions involving factorial notation, using appropriate methods. | 4.2, 4.3 |
| Solve problems, using techniques for counting permutations where some objects may be alike. | 4.3 |
| Identify patterns in Pascal's triangle and relate the terms of Pascal's triangle to values of $\binom{n}{r}$, to the expansion of a binomial, and to the solution of related problems. | 4.4, 4.5 |
| Communicate clearly, coherently, and precisely the solutions to counting problems. | 4.1, 4.2, 4.3, 4.4, 4.5 |