

Section 1.1 Problem Solving

Key Topics:

- Know the names of the 7 problem solving strategies.
- Be able to apply one of the strategies to a specific problem.
- Know what a counterexample is and how to use one to disprove a mathematical statement.

Section 1.2 Estimation

Key Topics:

- Rounding and compatible numbers.
- Over-estimates and under-estimates
- Estimating percentages.

Section 1.3 The Language of Sets

Key Topics:

- The definition of a set; set-builder and roster notation.
- Well definedness
- Common numerical sets, universal sets, the empty set, and sets of sets.
- \in , \notin , and the cardinal number of a set A : $n(A)$

Section 1.4 Comparing Sets

Key Topics:

- Equality of sets and equivalence of sets.
- Subsets and proper subsets.
- Counting the subsets of a set; Pascal's Triangle.

Section 1.5 Set Operations

Key Topics:

- Unions, intersections, differences, and compliments
- Disjoint sets
- Venn diagrams; counting the elements in the union of two sets.
- Combining multiple set operations; De Morgan's Laws.

Section 1.6 Survey Problems

Key Topics:

- Illustrating combinations of set operations by shading a Venn diagram.
- Naming regions in a Venn diagram using set operations.
- Counting and organizing survey information using sets and Venn diagrams.

Practice Exam: Chapter Test page 68 # 1, 4, 5, 7, 9, 10, 12, 14, 17, 18, 19, 21