

Applied Topics in Mathematics Midterm Exam Review

The following list is a guide to help you review each of the four units that will be assessed on the midterm exam. In addition, it is a good idea to review assessments that you have taken throughout the semester (particularly each unit test). You must have your own #2 pencil and calculator for the exam—no borrowing or sharing of materials will be allowed on the exam day. Exams are administered from 7:30-9:10 and 9:30-11:10 each morning.

Chapter 6 Algebra and Functions: 6.1-6.10

*Pgs. 407-410 #10-14, 25-28, 41-48, 75-78, 81, 83-86, 93-96, 100, 109, 110

Solve linear equations, linear inequalities, variation problems, and quadratic equations
Know and evaluate formulas (simple interest ($i=prt$), quadratic formula, slope formula, forms of writing linear equations), velocity/quadratic applications.
Vocabulary and concepts related to parabolas (min/max value, vertex, y-intercept, etc.)

Chapter 7 Systems of Equations and Inequalities: 7.1, 7.2, 7.5, 7.6

*Pgs. 464, 465 #1-2, 9-18, 31, 32, 33, 37, 40

Know how to use substitution and elimination methods to solve a system of linear equations
Be able to graph a system of equations/inequalities
Apply systems of equations in word problems
Apply systems of inequalities in linear programming and know vocabulary associated with linear programming (objective function, constraints, feasible region, vertices, min/max, etc.)

Chapter 2 Sets: 2.1-2.5

*Pgs. 94-95 #3-9, 27-32, 35-36, 38-43, 53-54

Know vocabulary and processes associated with sets (including equal sets, equivalent sets, cardinal number, null/empty set, union, intersection, complement, difference)
Know how to construct Venn Diagrams for the intersection of 2 sets and 3 sets

Chapter 12 Probability: 12.1-12.10

*Pgs. 825-827 #16-17, 19-20, 23-25, 27-28, 41-48, 54, 56, 59-62

Know how to determine odds against and odds in favor of and how it relates to probability
Know AND/OR formulas
Know how to find conditional probability
Expected value formula
Permutations, Combinations, if time permits (Probability involving Combinations)