1. Section 1.1
   a. Distance on a Number Line
      i. Order Properties
   b. Absolute Value
      i. Relationship to Distance
      ii. Properties
      iii. Equations and Inequalities
   c. Interval Notation
   d. Distance in the Plane
   e. Mid-Point Formula
   f. Graph of a Function
   g. Equation of a Circle
   h. Solving Trigonometric Equations

2. Section 1.2
   a. Slope of a Line
      i. non-Vertical Line
      ii. Vertical Line
   b. Forms of a Linear Equation
   c. Parallel and Perpendicular Lines
      i. Slope Criteria
   d. Modeling: Best-Fit Line

3. Section 1.3
   a. Definition of a Function
      i. Domain, Range, Rule of Assignment
      ii. One-to-One Functions
      iii. Onto Functions
      iv. Bounded Functions
      v. Functional Notation
   b. Piece-wise Defined Functions
   c. Domain Convention
   d. Composition of Functions
   e. Classifications of Functions
      i. Polynomial
      ii. Rational
      iii. Power
      iv. Algebraic vs Transcendental
      v. Trigonometric
      vi. Exponential
      vii. Logarithmic

4. Section 1.4
   a. Graph of a Function
   b. Vertical Line Test
   c. Intercepts
      i. x-intercepts (finding)
      ii. y-intercepts (finding)
   d. Symmetry
      i. y-axis symmetry (finding)
      ii. origin symmetry (finding)
   e. Even and Odd Functions
   f. Transformations of Functions
      i. Translations
         (1) Independent Variable
         (2) Dependent Variable
      ii. Scalings
         (1) Independent Variable
         (2) Dependent Variable

5. Section 1.5
   a. Inverse Functions
      i. Defined for One-to-One Functions
      ii. Switches the Role of Domain and Range
      iii. Inversion Formulas
         (1) $f \left( f^{-1} (x) \right) = x$
         (2) $f^{-1} (f(x)) = x$
      iv. Horizontal Line Test
      v. Solving an Equation for the Inverse
      vi. Monotonic Functions
         (1) Increasing / Decreasing
         (2) Guarantees Existence of an Inverse
      vii. Graphing the Inverse Function
         (1) Reflection about the Line $y=x$
         (2) Reciprocal Formulas
      viii. Inverse Trigonometric Functions
         (1) Restricting the Domain
         (2) Involving Inverse Functions
      ix. Trigonometric Identities
         (1) Reference Triangles
         (2) Reciprocal Formulas
6. Section 1.6
   a. Properties of the Graph of $y = b^x$
      i. Case $b > 1$
      ii. Case $0 < b < 1$
      iii. Monotonic
   b. Properites of Exponents
   c. Logarithm == Inverse of Exponential
   d. Properites of the Graph of $y = \log_b x$
      i. Case $b > 0$
      ii. Case $0 < b < 1$
      iii. Properties of Logarithms
   e. Solving Exponential Equations
   f. Solving Logarithmic Equations
   g. Common and Natural Logarithms
   h. Modeling: Exponential Growth and Decay

7. Section 2.1
   a. Secant Lines
      i. Difference Quotient
   b. Tangent Line as Limit of Secant Lines

8. Section 2.2
   a. Intuitive Notion of a Limit
   b. Informal Definition of $\lim_{x \to c} f(x) = L$
   c. One-side Limits, Two-Sided Limits
   d. Estimating Limits Graphically
   e. Estimating Limits using Tables
   f. Infinite Limits $\lim_{x \to c} f(x) = \infty$
   g. Formal Definition of $\lim_{x \to c} f(x) = L$

9. Representative Problems
   a. 1.1  5, 13, 21, 29, 39
   b. 1.2  3, 9, 21, 31, 35, 46, 50
   c. 1.3  3, 8, 11, 16, 20, 23, 33, 47
   d. 1.4  3, 9, 15, 28, 38
   e. 1.5  4, 14, 20, 30, 38, 43
   f. 1.6  3, 7, 15, 25, 39, 45-48, 60, 65, 68
   g. 2.1  17, 29
   h. 2.2  1-6, 8, 19, 27, 35, 53