

## Topics for Math 141 Review

### Chapter 1

- Exponents and Radicals (1.2.39, 1.2.47, 1.2.69)
- Scientific Notation (1.2.71, 1.2.79)
- Algebraic Expressions (1.3.39, 1.3.69, 1.3.98, 1.3.104)
- Rational Expressions (1.4.25, 1.4.49, 1.4.67, 1.4.71)
- Solving Equations (1.5.19, 1.5.49, 1.5.75, 1.5.83, 1.5.85, 1.5.91)
- Solving Inequalities (sign diagrams) (1.7.27, 1.7.37, 1.7.59)
- Midpoint Formula, Distance Formula (1.8.9)
- Intercepts (1.8.49)
- Equations of Circles (1.8.84, 1.8.89)

### Chapter 2

- Functions
  - Domain (2.1.43, 2.1.49, 2.1.51)
  - Difference Quotient (2.1.35)
- Graphs of Toolkit Functions (page 166)
- Piecewise Functions (2.2.49)
- Transformations of Functions (2.4.1-10, 2.4.17, 2.4.41)
- Graphing Quadratics, Local Extrema (2.5.15, 2.5.35, 2.5.53)
- Modeling (2.6.24, 2.6.30, 2.6.32, 2.6.35)
- Combining Functions (2.7.3, 2.7.23-28, 2.7.43)
- One-to-One and Inverse Functions (2.8.39, 2.8.47, 2.8.67)

### Chapter 3

- Graphing Polynomials (zeros) (3.1.5-10, 3.1.21, 3.1.33)
- Dividing Polynomials (long division, synthetic division) (3.2.17, 3.2.27, 3.2.39, 3.2.59)
- Finding Zeros of functions
  - Rational Zeros Theorems (3.3.3, 3.3.37, 3.3.63, 3.3.77)
  - Complex Zeros (3.5.23, 3.5.37, 3.5.39)
- Graphing Rational Functions (3.6.43, 3.6.55, 3.6.63, 3.6.83)

## Chapter 4

- Graphing Exponential Functions (4.1.38, 4.1.39, 4.1.67)
- Graphing Logarithmic Functions (4.2.3-36, 4.2.43, 4.2.61)
- Properties of Logarithms (4.3.7, 4.3.29, 4.3.43)
- Solving Exponential and Logarithmic Equations (4.4.21, 4.4.23, 4.4.25, 4.4.49, 4.4.77)
- Modeling with Exponential and Logarithmic Equations (4.5.5, 4.5.9, 4.5.15, 4.5.25)

## Chapter 9

- Solving Systems of Equations (9.1.7, 9.1.13, 9.1.29)
- Using Matrices to Solve Systems of Linear Equations (9.3.18, p661.1)
- Partial Fraction Decomposition (9.8.5, 9.8.25, 9.8.37)