

## Summary Chapter 2: Equations and Inequalities

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### Section 1:

#### Terminology

- Ordered pairs
- $x$ -intercepts and  $y$ -intercepts
- Distance
- Midpoint

#### Be Able To

- Plot ordered pairs in a Cartesian coordinate system
- Graph equations by plotting points
- Graph linear equations with a graphing calculator
- Find  $x$ -intercepts and  $y$ -intercepts (from graph and algebraically)
- Find the distance between two points
- Find the midpoint of a line segment
- **Apply the concepts:** Reference page 86 problems 60 - 64

### Section 2:

#### Terminology

- Linear equation
- Rational equation
- Parallel lines
- Perpendicular lines

#### Be Able To

- Solve linear equations in one variable
- Solve linear equations containing fractions
- Solve rational equations
- Given the equations of two lines, determine whether their graphs are parallel or perpendicular
- Write the equation of a line parallel or perpendicular to a given line
- **Apply the concepts:** Reference page 101 problems 55 - 59

### Section 3:

#### Terminology

- Linear equation

#### Be Able To

- Set up a linear equation to solve a real-world application
- Use a formula to solve a real-world application
- Solve formulas for a specified variable
- **Apply the concepts:** Reference pages 108 - 109 problems 1 - 31

### Section 4:

#### Terminology

- Imaginary unit
- Complex number

#### Be Able To

- Add and subtract complex numbers
- Multiply complex numbers
- Divide complex numbers
- Perform operations with square roots of negative numbers
- **Apply the concepts:** Reference page 299 problems 61, 62

### Section 5:

#### Terminology

- Quadratic equation
- Square root property
- Completing the square
- Quadratic formula
- Complex imaginary solution

#### Be Able To

- Solve quadratic equations by zero product principle
- Solve quadratic equations by factoring
- Solve quadratic equations by the square root property
- Solve quadratic equations by completing the square
- Solve quadratic equations by using the quadratic formula
- Solve quadratic equations with complex imaginary solutions
- **Apply the concepts:** Reference page 130 problems 54 - 58

### Section 6:

#### Terminology

- Rational equation
- Radical equation
- Absolute value equation

#### Be Able To

- Solve equations using factoring
- Solve rational equations
- Solve radical equations

- Solve absolute value equations
- **Apply the concepts:** Reference page 141 problems 46 - 49

### **Section 7:**

#### **Terminology**

- Linear inequalities
- Compound inequalities
- Absolute value inequalities
- Polynomial inequalities
- Rational inequalities

#### **Be Able To**

- Use interval notation
- Find intersections and unions of intervals
- Solve linear inequalities
- Solve compound inequalities
- Solve absolute value inequalities
- **Must include polynomial and rational inequalities with This section.**
- **Apply the concepts:** Reference page 150 problems 63 - 64