

# Exam 1 Outline

## College Algebra

To create an outline, you should look through class notes and homework to find the types of problems covered from each section. I recommend that you find 2 problems of each type (usually from our textbook) and solve them. If you have trouble, get help **before** the day before the exam.

### 1.1 Linear Equations

- Linear equations with no solutions
- Linear equations with one solution
- Linear equations with infinitely many solutions
- Word problems involving linear equations

### 1.2 Mathematical Modeling

- Figure out what a problem is asking for
- Convert a statement to an algebraic equation
- Solve & 'reality check' equations

### 1.3 Quadratic Equations

- Solve quadratic equations by factoring
- Construct and use quadratic models to solve applications problems

### 1.4 The Quadratic Formula

- Factor polynomials into parentheses
- Use the quadratic formula for factoring and finding zeros
- Find all solutions to a quadratic equation
- Find the zeros of a quadratic function

### 1.5 Other Types of Equations

- Rational Equations
- Equations with fractional powers
- Equations with radicals
- Absolute value equations

### 2.1 Graphs of Equations

- Plotting points
- Finding the distance between two points
- Finding the midpoint between two points
- X & Y-Intercepts
- Circle equations

### 2.2 Lines in the Plane

- Find the line passing through 2 points
- Sketch lines
- point-slope and slope-intercept forms of a line
- parallel and perpendicular lines

### 2.3 Linear Modeling and Direct Variation

- Word problems involving lines
- Interpret problems with direct variation
- Word problems using direct variation