

# Topics for Exam 1

This exam will be 22 questions. Fifteen of those questions are 4-points and seven of the questions are 6-points.

## Exponents and Radicals

- Be able to simplify expressions with exponents
- Be able to simplify radicals
- Be able to add and subtract radicals after simplifying
- Be able to multiply and divide radicals using fractional exponents
- Be able to rationalize a denominator

## Factoring

- Be able to factor out like terms
- Be able to use Difference of Squares method
- Be able to use Difference of Cubes method
- Be able to use the quadratic formula
- Be able to factor by grouping
- Be able to use a combination of all methods to factor
- Be able to state the quadratic formula
- Be able to multiply or divide expressions after factoring them
- Be able to multiply two factors together using the FOIL method

## Equations

- Be able to solve for a variable in an equation
- Be able to solve an equation by factoring or breaking into two equations
- Be able to solve an equation involving square roots
- Be able to solve an equation involving absolute values

## Inequalities

- Be able to solve for a variable in an inequality

- Be able to switch from interval notation to inequality notation
- Be able to switch from inequality notation to interval notation

### **Distance Formula: 1.1 in Text**

- Be able to find the distance between two points
- Be able to state the Distance Formula

### **Midpoint Formula: 1.1 in Text**

- Be able to find the midpoint between two points
- Be able to find the endpoint given one endpoint and the midpoint
- Be able to state the Midpoint Formula

### **Circles: 1.1 in Text**

- Be able to find the center and radius of a circle in standard form
- Be able to complete the square in order to put a circle equation in standard form

### **Intro to Graphs: 1.2 in Text**

- Be able to find the x and y intercepts of a graph
- Be able to find the equation of a horizontal or vertical line
- Be able to determine the type of symmetry of a graph

### **Functions: 1.3 in Text**

- Be able to identify the domain and range of a function
- Be able to determine if a relation is a function
- Be able to evaluate a function given a numerical value of a variable
- Be able to evaluate a function given an equation for a variable