

## GE-115 College Algebra Final Exam Check List

This is the check list I use to make the final exam. These are the things that I think are important in the course, so they will most likely show up on the final.

1. Union and intersections of sets
2. Simplifying exponential expressions
3. Scientific notation
4. Simplifying radical expressions
5. Rationalizing numerators or denominators
6. Using rational exponents
7. Algebraic operations on polynomials
8. Algebraic operations on polynomials in several variables
9. Factoring
  - 9.1. Greatest common factor
  - 9.2. Grouping
  - 9.3. Trinomials
  - 9.4. Difference of squares
  - 9.5. Perfect squares
  - 9.6. Sum or difference of cubes
  - 9.7. Fractional or negative exponents
10. Simplifying rational expressions
11. Algebraic operations with rational expressions
12. Simplifying complex rational expressions
13. Solving linear equations
  - 13.1. Containing fractions
  - 13.2. Variables in the denominators
  - 13.3. Applications
14. Models and applications
15. Algebraic operations with complex numbers
16. Solving quadratic equations
  - 16.1. By factoring
  - 16.2. By the quadratic formula
  - 16.3. Applications
17. Solving radical equations
18. Solving equations with rational exponents
19. Solving equations with with absolute values
20. Applications
21. Linear inequalities
22. Absolute value inequalities
23. Vertical line test
24. Evaluating functions
25. Piecewise functions
26. Difference quotient
27. Slope of a line
28. Point-slope form of the equation of a line
29. Slope-intercept form of the equation of a line
30. Slopes and equations of parallel lines
31. Slopes and equations of perpendicular lines
32. Graphs and transformations of common functions
33. Algebraic operations of functions
34. Compositions of functions
35. Decomposing functions
36. Inverse functions
37. Distance and mid-point formulas
38. Equations of a circle
39. Quadratic functions
  - 39.1. Properties of parabolas
  - 39.2. Max. or min.s of parabolas
40. Dividing polynomials