Final exams topics

1. Factoring polynomials (all methods)

2. Linear equations in two variables
   a. Graphing a line
   b. Finding the slope of a line
   c. Finding an equation of a line
   d. Finding and simplifying the difference quotient $\dfrac{f(a+h)-f(a)}{h}$
   e. Finding the inverse function

3. Simplifying expressions
   a. Radical
   b. Logarithmic
   c. Complex numbers
   d. Exponents
   e. Rational
   f. Summation notation
   g. Factorial notation

4. Finding the distance between two given points and the midpoint of the line segment.

5. Properties of logarithms

6. Exponential and logarithmic function
   a. Graphing a basic exponential function
   b. Graphing a basic logarithmic function

7. Solving equation
   a. Linear
   b. Quadratic (all methods)
   c. Polynomial of degree 3 or higher (by factoring)
   d. Radical
   e. Absolute value
   f. Exponential
   g. Logarithmic

8. Solving a system with three linear equation in three variables

9. Quadratic functions
   a. Graphing a parabola by plotting the vertex and the intercepts
   b. Finding the vertex of a quadratic function given in standard form or vertex form
   c. Finding the domain and range
   d. Solving quadratic inequalities using the graph

10. Applications
   a. Quadratic functions 8.3
   b. Systems of equations 3.3
   c. Exponential and logarithmic 9.5, 9.6

11. Conic Sections – Equation of a circle

12. Sequences and Series