Exam 1 review guide

Our first exam is Wednesday, September 20. It covers the material from the first four homework assignments.

Fundamentals

These topics are basic for doing algebra at the level of our class. There is not enough time to include everything on the test, but I expect anyone who gets a passing grade of C or higher to be ready for all the problems in this section.

Solve a simple equation (including the possibility of "no solutions" and "all numbers")
Factor to solve a quadratic equation
Complete the square to solve a quadratic equation
Equations with square roots
Graphs and equations of lines
Graphs and equations of circles
Determine if a graph shows a function by using the vertical line test
Graph a function using a table
For a graph, describe the following properties: domain, range, and intercepts
For a function given as an equation, find the domain
Describe the intervals where the graph of a function is increasing, decreasing, and constant
Find maximum and minimum values of a function on a graph
Determine if a graph has symmetry with respect to the x-axis, the y-axis, or the origin

In particular, make sure you look at the definition of parallel/perpendicular lines and horizontal/vertical lines. I posted practice problems for these topics under "Files" on our Canvas page. Some of these are the same problems we used in class.

We will look at some additional review materials for graphs and symmetry in class on Monday.

In-depth topics

To get an A, you should be able to solve the following additional problems.

Analyze an equation for symmetry
Simplify a difference quotient
Find the average rate of change for a function
Problems that combine two or more basic problems on the list above

One example of a combination problem is a quadratic equation that has "no solutions" or "all numbers" as the solution. The same idea applies to square root equations.