QUIZ 1 STUDY GUIDE

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Note: 1.2.15 means: Problem 15 in section 1.2

Know how to:

- Given a graph or given a formula, find values of a function, and solve equations such as: Find x such that $f(x) = 2$ (sort of like 1.1.1)
- Determine if a graph is a graph of a function
- Sketch graphs of functions representing real-life situations (e.g. My mood as a function of the time of the day)
- Find domains and ranges of functions (given a graph or given a formula)
- Solve word problems (1.1.57 or 1.3.55 are good examples)
- Know how to draw graphs of linear functions, power functions (e.g. x^3 or $\sqrt{x}$), and exponential functions (e.g. 3^x)
- Use the above functions in word problems (sort of like 1.2.15)
- Graph new functions from old ones (e.g. given f, graph $f(-x)$)
- Explain, for example, how you can get the graph of $-f(x+2)+3$ given the graph of f
- Compose, add, multiply, and divide functions and find their domains
- Compositions represent in real-life situations (look at 1.3.55)
- Find domains of functions involving e^x (e.g. Find the domain of $\frac{e^x}{1+e^x}$)
- Find the inverse of a function, given its graph (i.e. reflect about the line $y = x$)
- Do computations with ln and logs
- Simplify formulas like $tan(sin^{-1}x)$

The following will not be asked on this quiz, but it's useful to know, especially for the midterm:

Know the definitions of the following terms:
- Function
- Domain of f
- Range of f
- Absolute Value Function
- Increasing/Decreasing
- e
- Composition
- Inverse function (in particular ln and arcsin)

Also, know how to define 2^x (look up the book, pages 52-53 for a detailed explanation)