

## Study Guide: Quiz on Sections 2-4 to 2-6

**Your quiz will cover material from the following three sections. For each section, I listed important concepts that you should be familiar with and types of problems you should know how to do.**

### Section 2-4: Exponential Functions

- Formula for an exponential function:  $f(x) = ab^x$  and the restrictions on  $a$  and  $b$
- Be familiar with the properties of exponential functions (see page 108 and class handout: *2.4: Discovering Properties of Exponential Functions*)
- Given an exponential function, find
  - The domain and range
  - The y-intercept

### Section 2-5: Exponential Models

- Given a real-life situation, know how to find an exponential model by setting up a system of equations and solving for  $b$  and then substituting to find  $a$
- Half-life problems
  - Understand the definition of half-life
  - Make a table using the given information
  - Calculate an exponential regression using your calculator
- Given an exponential model, be able to answer questions relating to that model
  - Find the initial number of something
  - Make predictions about the future

### Section 2-6: Quadratic Models

- Know how to use the quadratic formula:  $\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
- Given a quadratic function, be able to find:
  - The x- and y- intercepts
  - Domain and Range
  - Maximum / Minimum point and the coordinates of that point

\*\*\* In addition, to further prepare for this quiz, you should look over these three sections in your textbook and review class handouts and homework assignments.