Exam 1

Exam 1 will cover sections 1.1 – 1.6 in the text, you are responsible for

1. All material covered in class including examples posted on the course website for each section
2. Examples from the course text.
3. Practice problems posted on the course website

Expectations

For exam 1, I expect you to be able to:

1. Understand the definition of a function and be able to interpret the meaning of function evaluations in the context of applications (e.g. Section 1.1 p25, 30,33)
2. Understand how to derive the equation of a line
3. Understand that processes that have a constant rate of change can be described by linear functions.
4. Be able to compare two processes that behave linearly. In class we compared to cost functions to determine which is better by finding their intersection point.
5. Interpret slope, intercepts in the context of applications (e.g., if the cost function is linear, then the slope corresponds to the marginal cost and the vertical intercept is the fixed costs.)
6. Understand how concavity impacts the shape of a graph
7. Compute average rate of change including appropriate units.
8. Compute relative change including appropriate units.
9. Understand the interpretation of Elasticity
10. Define cost, revenue and profit functions for various scenarios
11. Understand the idea of marginal cost, revenue, profit
12. Be able to plot linear cost, revenue and profit functions and understand the meaning of their intercepts.
13. Understand the significance of Supply and Demand curves
14. Find equilibrium price and quantity
15. Understand the impact of taxes on equilibrium price and quantity.
16. Understand how exponential functions ($P = P_0a^t$) describe exponential growth or decay.
17. Understand the difference between exponential growth and linear growth
18. Know how to derive an exponential function given data points.

19. Understand how to determine the percentage growth rate given an exponential function.

20. Know your laws of exponents.

21. Understand exponential functions with base $e$ and continuous growth rate.