Checklist
Math 151 – Spring 2019

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 ($P = P_0 a^t$) 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**