Checklist
MATH 151 – SPRING 2018
Functions

1. Interpretation of the derivative - *revenue, cost, profit functions, e.t.c*

2. Linear functions - *Constant rate of change; interpretation of slope, intercept; equations of lines*

3. Average rate of change and Relative rate of change

4. Marginal cost, revenue in the case of linear functions.

5. Break-even points of revenue and cost functions

6. Supply and Demand curves - *points of equilibrium*

7. Exponential functions - *constant % change; compounding interest; continuous growth*

Instantaneous Rate of change

1. Average velocity and Instantaneous velocity

2. Derivative as slope

3. Derivative function and interpretation

4. Using the derivative to approximate function values near tangent line - $f(x) \approx f(a) + f'(a)(x - a)$

5. Relative rate of change

6. Marginal values of cost, revenue, e.t.c - *Using the derivative to make decisions at the margins*

Formula for the Derivative

1. Know your formulas - Make a list of all of them and do at least one problem for each.

Application of the derivative

1. Local maxima and minima, critical points, inflection points

2. Global maxima and minima

3. Profit, Revenue and Cost -*maximizing profit*

4. Average cost function – *minimizing average cost*

5. Elasticity of demand

6. Impact of Elasticity on revenue

Accumulated Change

1. Estimate the change in a quantity from the rate of change of the quantity

2. $\int_a^b f(x)\, dx$ is the signed area under the graph of f.

3. Estimate the integral using the average of the left and right endpoint rules

4. Marginal cost and change in total cost.