# Review 1 Math 161

Any term in **bold face** know the definition well enough to state it on the test. The definition you give should be very similar to the one in the book or one with similar detail.

Section 2.1 - 2.2 **secant line**, tangent line, limit, left-hand limit, right hand limit.

be able to identify limits from graphs and tables, when do they exist? when don't they, examples be able to draw a secant line

sample problems **2.1** exercises5- **2.2** exercises 7,13,21

Section 2.3 limit laws pg 99

be able to apply limit laws to evaluate limits

Sample problems exercises 11,21,25,39

Section 2.4 Terms: $\delta$, $\epsilon$ **definition of the limit**

Know the $\delta$, $\epsilon$ **definition of the limit** and be able to prove limits exist using it

Sample problems exercises 15,17,19,21

Section 2.5 **continuity** Know continuity theorems and be able to apply them

Sample problems Exercises 3,25,41

Section 2.7 **tangent line, derivative, velocity, rate of change**,$\Delta x$, $f'(a)$, speed

Know how to calculate derivative from limit definition and be able to apply

Sample problems exercises 5,13,21,25

Section 2.8 Terms: **Derivative,** $y'$**,**$f'(x)$**,**$\frac{df}{dx}$**, higher derivatives**

Know Theorem 4, be able to give an example of function that is continuous but not differentiable, understand derivatives as functions

Sample problems Example 4, Example 7 exercises 19 ,21

Section 3.1 Terms: **power rule,sum rule difference rule, derivative of constant, derivative of** $e^x$

Sample problems exercises 15,17,23,33,61

Section 3.2 Terms:**product rule, quotient rule**

Sample problems exercises 9,13,31,51