Unit 5 – Logarithmic, Exponential, and other Transcendental Functions: Study Guide

Unit 1 - Limits: 1-2 through 1-5, and 3-5
Unit 2 - Differentiation: 2-1 through 2-6
Unit 3 – Applications of Differentiation: 3-1 through 3-4, 3-6, 3-7, 3-10

5-1
- ❑ I can find derivatives involving the natural log function.
- ❑ I know and can apply the logarithm properties.
- ❑ I know the graph of a logarithmic function and exponential function.

5-3
- ❑ I know the properties of inverse functions (i.e. horizontal line test, switch x and y, proof using composites, reflection across y = x).
- ❑ I can find the derivative of an inverse function.

5-4
- ❑ I know and can apply exponential properties.
- ❑ I know and can apply the derivative of e^x.

5-5
- ❑ I know the formulas for compound interest and half-life, and I can apply them.
- ❑ I know the properties of exponents and logarithms, and I can apply them.
- ❑ I can find the derivative of an exponential function of base other than *e*.
- ❑ I can find the derivative of a logarithmic function of base other than *e*.

5-6
- ❑ I know the domain and range of inverse trig. functions.
- ❑ I know the graphs of inverse trig. functions.
- ❑ I can evaluate pre-calculus problems involving inverse trig. functions both without a calculator (using the unit circle) and with a calculator.
- ❑ I know the 6 inverse trig. derivatives
- ❑ I can differentiate inverse trig. functions.

Unit 5 Homework Assignments

5-1: 5-33 (odd), 37-63 (odd), 71-79 (odd)
5-3: 3-7 (odd), 9-12, 19, 21, 23, 35-41 (odd), 59-69 (odd)
5-4: 3-17 (odd), 33-51 (odd), 55-71 (odd)
5-5: 1-33 (odd), 37-67 (odd), 99, 101
5-6: 1-23 (odd), 39-63 (odd)
Review: 1-13 (odd), 29-45 (odd), 57-63(odd), 71-75 (odd)