Chapter 7 Self-Assessment

Emerging: I am starting to understand the ideas
Developing: I am understanding many of the ideas but I make errors
Proficient: I have a complete understanding of the skills and concepts
Extending: I am pushing my learning to connect to advanced problems and ideas

Section		Level of comprehension	Assignment Completed
7.1	• I have reviewed the exponent laws and properties of exponential functions • I can use $\lim_{n \to 0} \frac{b^n - 1}{n} = \ln b$ and the definition of a derivative to find the derivative of $y = b^x$ and $y = e^x$ • I can find derivatives and integrals for e^u using the chain rule		
7.2	• I have reviewed properties of inverses • I can use the properties of inverses and their derivatives to find the derivative of an inverse. $g'(b) = \frac{1}{f'(g(b))}$		
7.3	• I have reviewed the log laws and properties of logarithmic functions • I can find the derivative for the following types of functions using the chain rule. $\qquad y = b^u, y = \ln u$, and $y = \log_b u$ • I can use logarithmic differentiation to find derivatives • I can find the following integrals using substitution. $\qquad \int \frac{1}{u} du \quad and \quad \int b^u du$		
7.4 7.5	• I can create exponential functions using the property $y' = ky$ • I can solve growth and decay problems • I can use the compound interest and compounded continuously formulas to solve problems.		

	• I understand that $\lim_{n \to \infty} \left(1 + \frac{x}{n}\right)^n = e^x$ and I can use this formula to find other limits		
7.7	• I can use L'Hopital's rule to find limits. • I know what kind of questions and when I can use L'Hopital's rule		
7.8	• I understand the relationship between inverse trig functions and trig functions. • I can take derivatives of inverse trig functions • I can integrate functions that result in inverse trig functions		

Work Habits	G 100% to 80% of the time	S 80% to 60% of the time	N less than 60% of the time
Assignments completed and handed in on time			
Arrive to class on time			
Return after break on time			
Work on the math assignment during class			
Phone use limited to checking math answer keys posted on the website			
If absent: watching the lesson video or reading the lesson notes			

1. Give a specific example of a function in which you must use logarithmic differentiation to find the derivative. **Explain why other methods won't work.**

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2. Give a specific example of a function in which you **could choose** to use logarithmic differentiation to find the derivative. Explain how logarithmic differentiation makes taking the derivative easier.

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