Name: _____   Period: _____

Chapter 4 Syllabus –Applications of Derivatives
- Do all of your homework problems….Make sure you TRY all of them!
- Check all of your answers.
- After you have checked your answers, ASK questions on the problems you can't figure out.
- BEFORE test get any additional help needed on concepts not mastered.

NP = Not Proficient   **P = Proficient**   **M = Mastery**

Section	Learning Target	Homework Questions	Self-Evaluation		
4-1	I can identify relative and absolute extrema from a graph. I can apply the Extreme Value Theorem to identify absolute extrema on a closed interval. I can identify an critical points in a function.	pg 193 # 1-11, 13, 14, 17, 18, 25, 31, 32, 45-50	NP	P	M
4-2	I can apply the Mean Value Theorem to find a location for which the instantaneous slope equals the average slope. I can identify when a function is increasing and when it is decreasing and I understanding the relationship between this and the derivative of the function. I can find the antiderivative of a function.	pg 202 # 1-4, 7, 9-14, 29-38, 43-45, 51-56	NP	P	M
4-3 day 1	I can use the first derivative test to find local extrema of a function. I can identify the intervals on which a function is increasing or decreasing.	pg 215 # 1-6, 23, 24	NP	P	M
4-3 day 2	I can identify an inflection on a graph and I understand the relationship between this point and the derivatives of the function. I can use the concavity test to find points of inflection. I can identify the intervals on which a function is concave up or concave down.	pg 215 # 7-18, 21, 22	NP	P	M

4-3 day 3	I can use the second derivative test to find local extrema of a function.	pg 215 # 25-30, 33, 36-40, 48, 51, 52, 55-59			
4-3 day 4	I can sketch a graph of the derivative of a function from the graph of the function. I can sketch a graph of the function given the graph of the derivative of a function and a point on the curve. I can identify extrema and inflection points of a function from the graph of the derivative (or second derivative) of a function. I can identify when a function is increasing, decreasing, concave up, or concave down from the graph of the derivative (or second derivative) of a function.	pg 216 # 32, 42- 47, 49, 50, 60	NP	P	M
4-4	I can use derivatives to identify to optimize quantities in real world situations.	day1: pg 226 #2, 3, 7, 9-11, 13, 16-19, 30, 47 day2: pg 226 # 5, 6, 15, 20-22, 32, 36-38, 46, 55, 56 day 3: pg 226 #23-26, 51, 52, 54, 62	NP	P	M
4-6	I can use derivatives and the process of related rates to find rates in real world situations where I know another rate.	pg 251 # 11, 13, 15, 16, 17, 19, 20, 22, 27, 33, 35, 38, 42	NP	P	M
Review	I can do AP Free Response Questions of the form: 1.) Min, Max, Inflection Point Problems – I can find extremas, inflection points, and intervals that a function is increasing, decreasing, concave up, or concave down from a function, a tables of values, or a graph of the derivative of the function. 2.) Related Rates Problems – I can use derivatives and the process of related rates to find rates in real world situations where I know another rate.	pg 256 #1, 4, 6, 8, 12, 13, 18, 21, 24, 31-33, 35-37, 39, 44, 54, 57, 58, 60, 62, 70	NP	P	M