What I would Like the Calculator to Do:

**Derivatives:**

“Upon input ensure you indicate powers with the ‘^’ key”

f(x) = X^2 + 2 for example,

How would I get 2x?

* If there is no x accompanying the number, get rid of it completely.
* If there is power on the x, get rid of said x and keep the original numbers
* If there is no coefficient subtract the power by one and put the original power as the number
* If there is an coefficient number, multiply that number by the power and subtract the power by one.

**Antiderivatives:**

f(x) = X^2 + 2

How would I get 1/3x^3 +2x + C?

* If there is no coefficient, the coefficient = 1.
* Multiply that number by 1/power.
* Add one to the power.
* If it is just a number, add an x to it
* Add ‘C’ to the end

**Mean Value Theorem:**

“f(x) = ?”

“From:”

“To:”

* Whatever if put after From is x1, and To is x2.
* Calculate a numerator. Every time there is an x in f(x) do the appropriate math for both x1 and x2.
* Denominator is just x2-x1.
* Numerator/Denominator

**Continuous and Differentiability:**

“f(x) = ?”

“f(x) = ?”

“x>? x<=?”

* Every time there is an x, multiply what x is less than or greater than by the power if there is one, and if there is no coefficient it is actually one, and THEN multiply the number that was. Repeat for second one, if equal then it is continuous.
* Calculate derivative, then do the above schtuff. If they Equal, then it is differential.

**Riemann Sum:**

“f(x)=?”

“Lower Bound?”

“Higher Bound?”

“Number of rectangles:”

“1. Right 2. Left 3. Trapezoidal”

* Higher bound – lower bound/number of rectangles= length of subintervals.
* Plug in each x subinterval into f(x) to get the y.
* Length of sub interval \*( y value + y value + y value)

PROBLEMS:

* Bounds…