Finding the Sum of a Series with a TI-83[1] Calculator

- Figure 1 (below) shows the calculator commands that are needed to get a TI-83 calculator to evaluate the sum of the series:

$$3^4 + 5^4 + 7^4 + ... + (2n+1)^4 + ... + 575^4$$

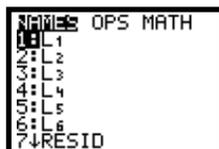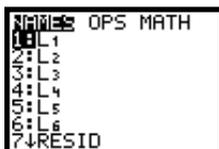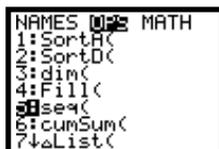|				
Figure 1(a): Access the LIST menus by pressing [2nd] [STAT]	Figure 1(b): Choose the MATH menu and option 5:sum	Figure 1(c): After pressing [ENTER], the screen of your calculator will resemble this	Figure 1(d): Access the LIST menus by pressing [2nd] [STAT]	Figure 1(e): Choose the OPS menu and option 5:seq

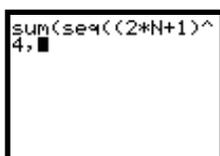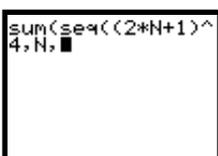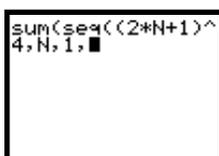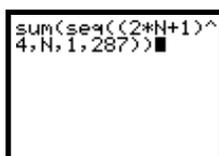|				
Figure 1(f): After pressing [ENTER], the screen of your calculator will resemble this	Figure 1(g): Enter the formula for the general term of the sum, followed by a comma	Figure 1(h): Enter the name of the independent variable, followed by a comma	Figure 1(i): Enter the first value of the independent variable, followed by a comma	Figure 1(j): Enter the last value of the independent variable, closing all brackets
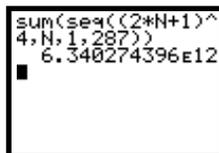
Figure 1(k): After pressing [ENTER], the screen of your calculator will resemble this

- Use your calculator to evaluate the sums of the series:

  - $1 + 3 + 5 + ... + (2n + 1) + ... + 101$

  - $\frac{1}{2} + \frac{1}{4} + \frac{1}{8} + ... + \left(\frac{1}{2}\right)^n + ... + \frac{1}{1024}$

  - $1 + 1.21 + 1.331 + ... + (1.1)^n + ... + 2.357947691$

  - $1 - 1 + 1 - 1 + ... + (-1)^n + ... + 1$

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[1] The TI-83 can handle series with up to 1000 terms added together. The TI-82 can only handle series with up to 100 terms added together. If you ever try to evaluate a series with more terms than the calculator can handle, the calculator reports an `INVALD DIM` error.