2.6 Sequences and Series

2.6.1 Sequences

The TI-83+/84+ has two built-in features in the LIST menu that are useful in analyzing sequences and series. The seq(command allows you to generate the terms of a sequence. Consider $a_n = \frac{(-1)^n}{n}$. Press 2nd [LIST] OPS 5 to select seq(. Complete the command as shown in Figure 65 and press ENTER. To use the symbol N use the alpha keys instead of pressing X,T,θ,n. The format for the seq(command is: seq(formula, variable, start, stop, increment). The first five terms of the sequence will be displayed on the screen. (Recall that you can view the last answer in fractions. See Section 2.1.4.)

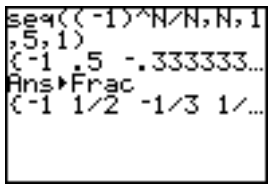

Figure 65: Generating the terms of a sequence

2.6.2 Series

The sum(command, in the LIST MATH menu, adds the terms of a sequence. For example, to add the terms of the sequence above, press 2nd [LIST] MATH 5 to select sum(, then press 2nd ANS ENTER. The sum of the first five terms of the sequence will be displayed on the screen (Figure 66).

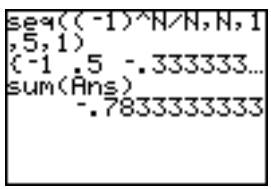

Figure 66: The sum of the terms of a sequence

For the sum of other sequences, select `sum(` then `seq(`, complete the command with the new formula for the sequence, the variable of the sequence, a starting value for the variable, a stopping value for the variable, and an increment. Then press ENTER.