Using the Ti-83 to Calculate the Mean and Standard Deviation of a Probability Distribution

Calculate the Mean

1. Input the x values in list 1 and the p(x) in list 2
   Stat    1:Edit

2. Go to List 3 highlight the top of the list L3
   Type in the formula L1 * L2
   (L1 is second function 1, L2 is second function 2)
   Enter  this should fill L3 with numbers

3. Find the sum of these numbers
   Stat    Calc    1:1 Variable Stats (don’t push enter yet)    L3    Enter

4. \( \sum X \) will give the summation of L3 which is the Mean.

Calculate the Standard Deviation

5. Go back to the lists (Stat    1:Edit) and over to List 4

6. Go to the top of List 4 highlight L4 input the variance formula:
   \((L1 - \text{mean})^2 \times L2\)
   Enter  this should fill L4 with numbers

7. Find the sum of these numbers
   Stat    Calc    1:1 Variable Stats (don’t push enter yet)    L4    Enter

8. \( \sum X \) will give the summation of L4 which is the Variance.

9. Find the square root of the Variance to get the Standard Deviation.