



## 11. TECHNOLOGY CORNER

# ANALYZING RANDOM VARIABLES ON THE CALCULATOR

TI-Nspire instructions in Appendix B; HP Prime instructions on the book's Web site.

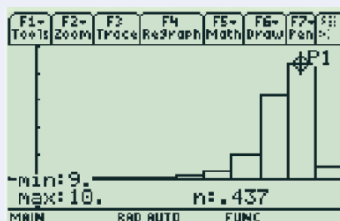
Let's explore what the calculator can do using the random variable  $X$  = Apgar score of a randomly selected newborn.

TI-89

- Start by entering the values of the random variable in L1/list1 and the corresponding probabilities in L2/list2.

F1- Toc+12	F2- Plots	F3- List	F4- Calc	F5- Distr	F6- Tests	F7- Infs	
list1	list2	list3	list4	list5	list6	list7	
0		.001					
1		.006					
2		.007					
3		.008					
4		.012					
5		.02					
list1(1)=0							
MAIN		RAD AUTO		FUNC		2/6	

- To graph a histogram of the probability distribution:
  - Set up a statistics plot with Xlist: L1/list1 and Freq: L2/list2.
  - Adjust your window settings as follows: Xmin = -1, Xmax = 11, Xscl = 1, Ymin = -0.1, Ymax = 0.5, Yscl = 0.1.
  - Press **GRAPH** (**◆**) **F3** on the TI-89).



- To calculate the mean and standard deviation of the random variable, use one-variable statistics with the values in L1/list1 and the probabilities (relative frequencies) in L2/list2.
  - In the Statistics/List Editor, press **F4** (Calc) and choose 1-Var Stats... Use the inputs List: list1 and Freq: list2.

F1- Toc+12	F2- Zoom	F3- Trace	F4- ReGraph	F5- Math	F6- Draw	F7- Fen	F8- Fen
1-Var Stats...							
list1							
0							
1							
2							
3							
4							
5							
list1							
Enter=OK							
MAIN		2ND RAD AUTO		FUNC		1/6	