



CHAPTER

5

Probability Distributions

*calculator keys*

Binomial Probabilities

To calculate an exact or cumulative binomial probability, press [2nd][VAR] to display the DISTR menu and then select either **A:binompdf** (or **B:binomcdf**) (choices **O:** and **A:** on older calculators) and press [Enter]. Enter the sample size, probability of success, and optionally, the number of successes, separated by commas, and press [Enter]. If you do not enter a value for the number of successes, you will get a list of probabilities that you can view by using the cursor keys.

*calculator keys*

Poisson Probabilities

To calculate an exact or cumulative Poisson probability, press [2nd][VAR] to display the DISTR menu and select either **C:poissonpdf** (or **D:poissoncdf**) (choices **B:** and **C:** on older calculators), and press [ENTER]. Enter the mean number of successes and the total number of successes and press [Enter].



calculator keys

Normal Probabilities

To calculate the cumulative normal probability for a specific X value: Press [2nd][VAR] to display the DISTR menu and then select 1:normalpdf and press [Enter]. Enter the X value, the mean, and the standard deviation, separated by commas, and press [Enter].

To calculate the normal probability for a range: Press [2nd][VAR] to display the DISTR menu and then select 2:normalcdf(and press [Enter]. Enter the lower value, the upper value, the mean, and the standard deviation, separated by commas, and press [ENTER].

To find a Z value from the area under the normal curve: Press [2nd][VAR] to display the DISTR menu and select 3:invNorm(. Enter the area value and press [Enter].



calculator keys

Normal Probability Plots

To display a normal probability plot for a set of data values previously entered as the values of a variable, press [2nd][Y=] to display the Stat Plot menu and then select 1:Plot1 and press [ENTER]. On the Plot 1 screen, select On and press [ENTER]; select the sixth type choice (a thumbnail normal probability plot) and press [ENTER]; and then enter the name of the variable as the **Data List**. Press [GRAPH]. If you do not see your plot, press [ZOOM] and then select 9:ZoomStat and press [ENTER] to re-center your graph on the plot.