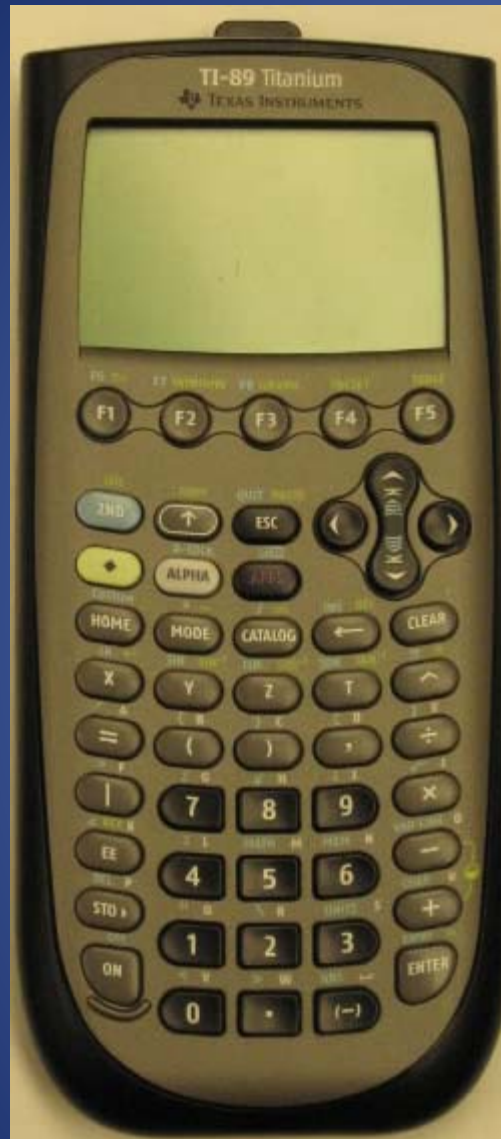# Using the normalcdf function on the TI-89

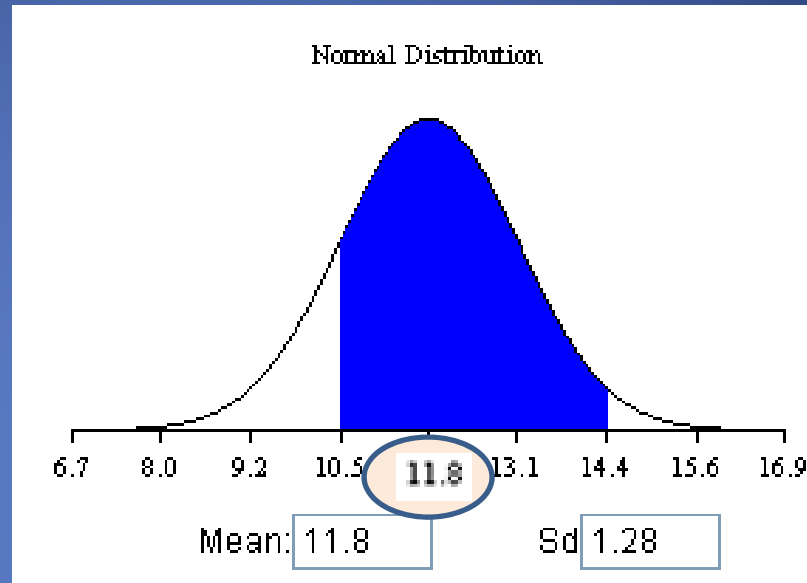These instructions will work for the TI-89 calculator.

Read the problem carefully:

Consider the weights of 18 month old boys in the U.S. According to published growth charts, the average weight is approximately 11.8 kg with standard deviation of 1.28 kg. Calculate the percentage of 18 month old boys in the U.S. who weigh between 10.5 kg and 14.4 kg.

Draw a picture illustrating the problem and identify the important numbers.

First, identify the average.

Normal Distribution

Mean: 11.8   Sd 1.28

Consider the weights of 18 month old boys in the U.S. According to published growth charts, the average weight is approximately 11.8 kg with standard deviation of 1.28 kg. Calculate the percentage of 18 month old boys in the U.S. who weigh between 10.5 kg and 14.4 kg.

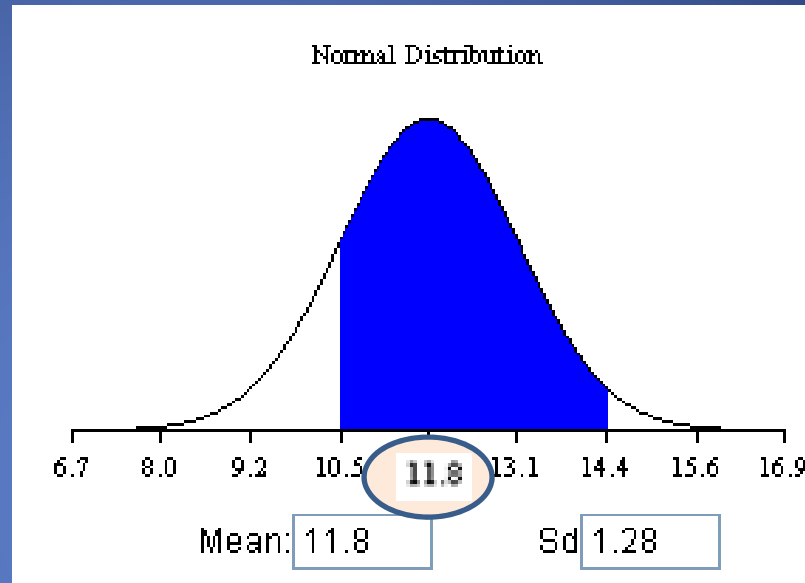Draw a picture illustrating the problem and identify the important numbers.

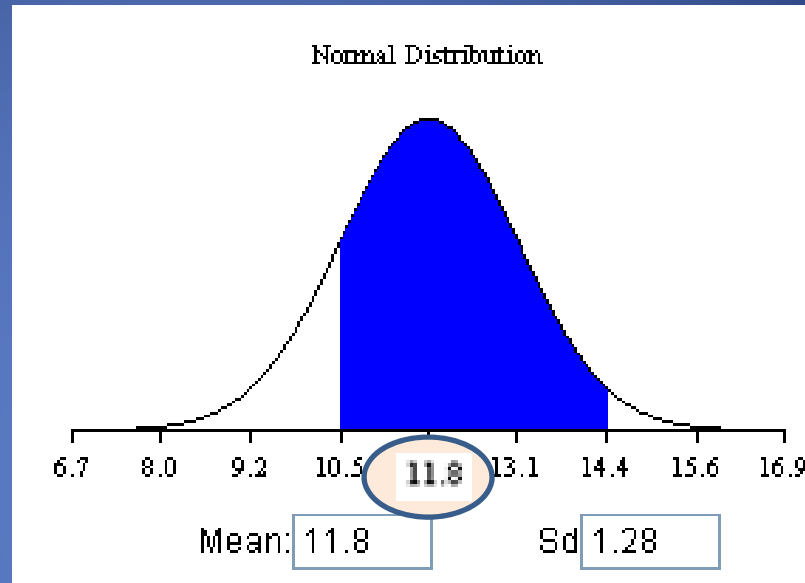Normal Distribution

Mean: 11.8   Sd 1.28

Next, identify the standard deviation.

Consider the weights of 18 month old boys in the U.S. According to published growth charts, the average weight is approximately 11.8 kg with standard deviation of 1.28 kg. Calculate the percentage of 18 month old boys in the U.S. who weigh between 10.5 kg and 14.4 kg.

Draw a picture illustrating the problem and identify the important numbers.

Now, identify the lower and upper boundary of the area you want.

Consider the weights of 18 month old boys in the U.S. According to published growth charts, the average weight is approximately 11.8 kg with standard deviation of 1.28 kg. Calculate the percentage of 18 month old boys in the U.S. who weigh between 10.5 kg and 14.4 kg.

Now you just need to enter the important numbers into the calculator in order. The rule is:

First: Lower boundary = 10.5
Second: Upper boundary = 14.4
Third: Average = 11.8
Fourth: Standard Deviation = 1.28

We'll go through this keystroke by keystroke.

Access the Stats/List editor on the calculator by pressing APPS. Scroll down and over to highlight the editor and press enter.

If you have an older TI-89, Press the APPS and the Stats editor should be listed under FlashApps. If it is not, contact me and I will help you update your calculator.

Then press F5 to access the DISTR menu.

IMPORTANT!! You must choose the Normal Cdf function, not the Normal Pdf. **Do not ever use normalpdf!!**

Highlight Normal Cdf and hit enter.

Now enter the 4 important numbers in order.

First, enter the lower boundary.

If you want all the numbers less than a certain value, your lower boundary will be negative infinity. Pressing the key and then the CATALOG button will enter infinity. Put a negative in front of it when necessary, or you can use any number more than 5 standard deviations above/below average.
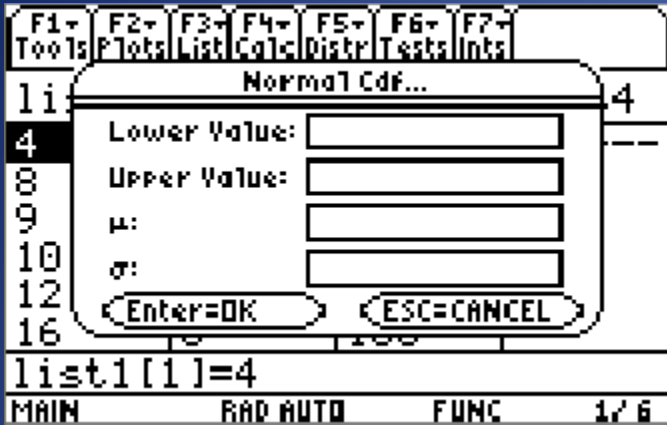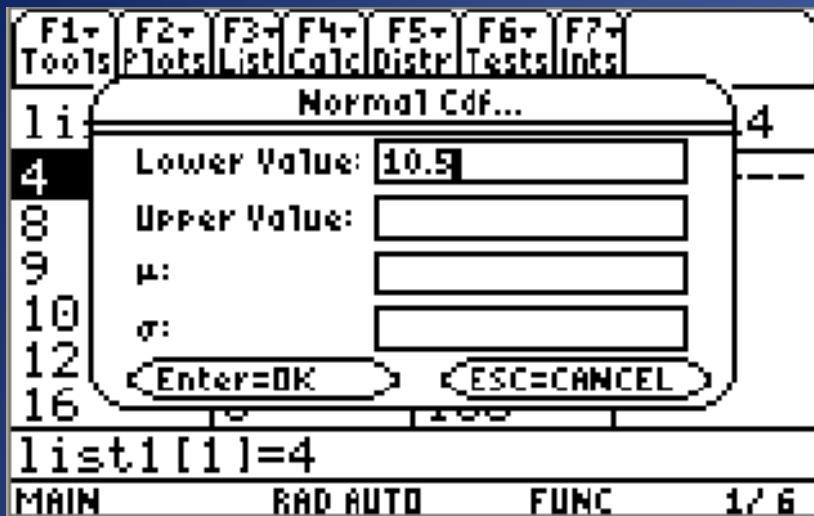
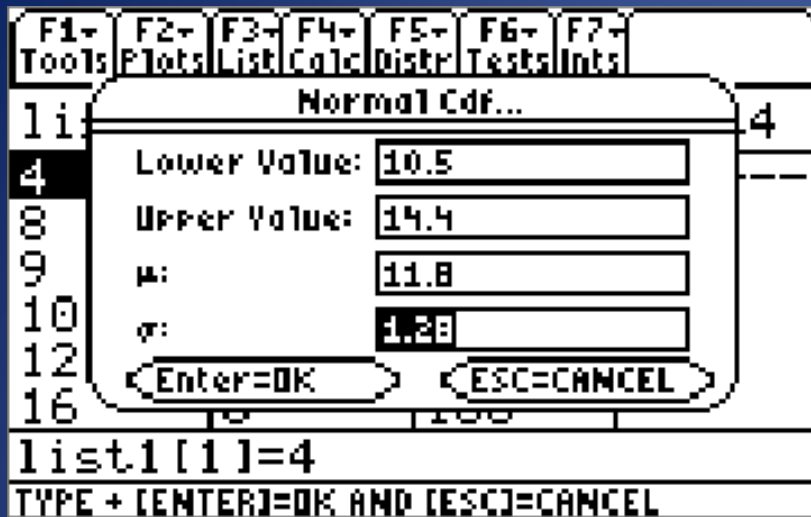Enter the lower boundary, 10.5, and then press the down cursor.
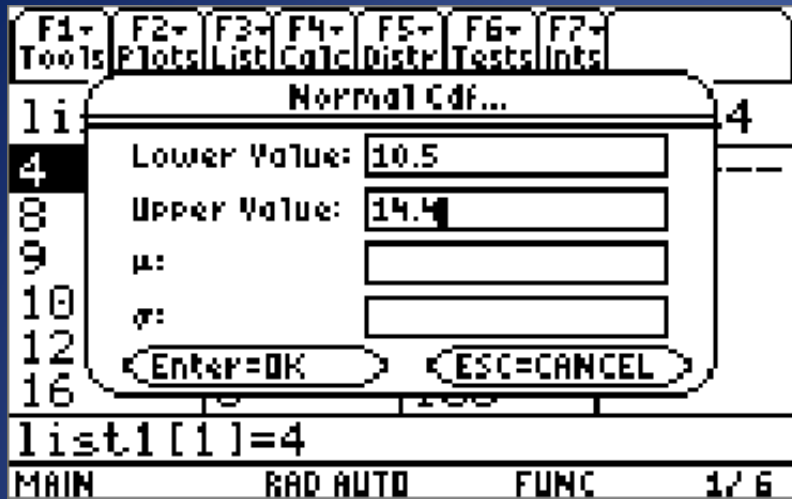
Next, enter the upper boundary, 14.4, and then press the down cursor again.

If you want all the numbers more than a certain value, your upper boundary will be positive infinity. Use either a large positive number like 1000 in these cases or enter infinity.

Enter the average, 11.8, and then press down cursor key.

Enter the standard deviation, 1.28, and then press ENTER.

When you are interested in values under the standard normal curve, enter 0,1 for the average and standard deviation.
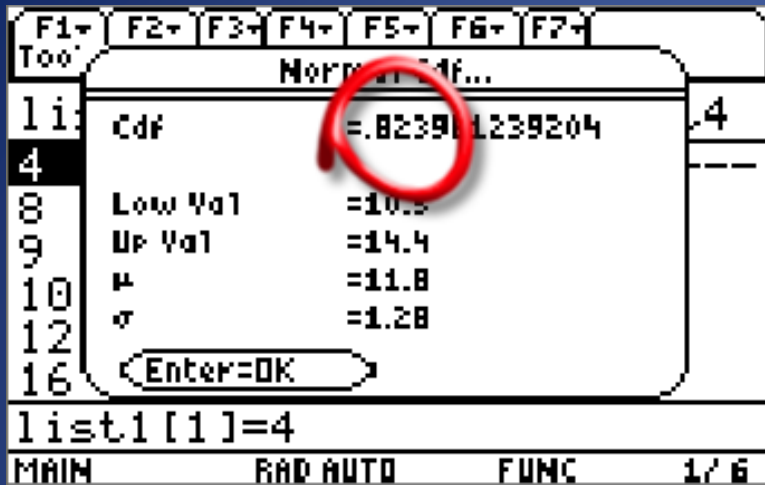
Press Enter once more to get your answer.

Your answer will be a decimal, the proportion or fraction of the area under the normal curve. You may want to convert this number to a percentage.

Our answer is 82.39%