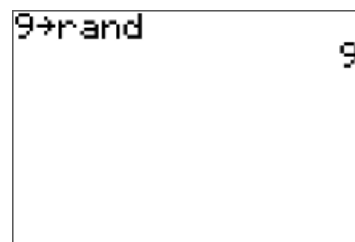


## Graphing Calculator Instructions

### Setting the Seed of the Random Number Generator to a Value

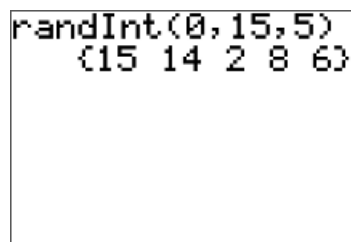
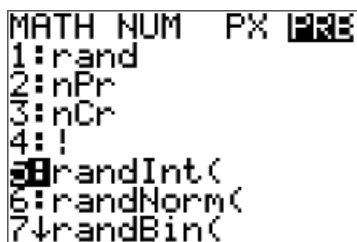
To set the seed of the random number generator you must assign a value to *rand*.

- a. To set *rand* to “9”, press **9**, press **STO>**, press **MATH**, go to the **PRB** submenu, and select **1:rand**. Press **Enter**.



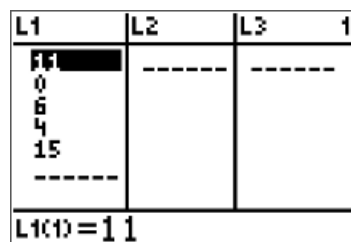
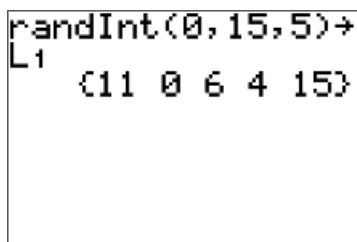
### Finding a Sequence of Random Integers Between 0 and $N$

- b. Press **MATH**, go to the **PRB** submenu, and select **5:randInt()**. The format of the command is `randInt(lower limit, upper limit, number of values to generate)`.
- c. To generate a list of 5 random integers between 0 and 15, enter `randInt(0,15,5)`.



### Storing a Sequence of Random Integers in a List

- a. Press **MATH**, go to the **PRB** submenu, and select **5:randInt()**, type in the lower limit, upper limit, and number of values to generate.
- b. Press **STO>**, select the name of the list to store the sequence of random integers. (The image below shows a sequence being stored in list  $L_1$ ), then press **ENTER**. The sequence of random numbers will appear in the list you specified.



### Sorting a List

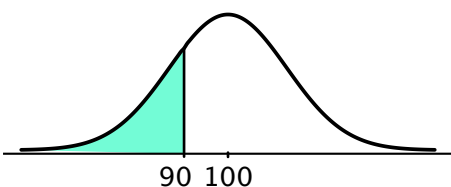
You can sort a list by using the **SortA** command. Press **STAT**, and select **2:SortA**. **SortA()** will appear on the home screen. Then enter the name of the list you want sorted (by pressing **2nd 1** (for  $L_1$ )), and press **ENTER**.

### Finding Areas Below a Normal Curve with Mean $\mu$ and Standard Deviation $\sigma$

Let  $x$  be a normal random variable with mean  $\mu = 100$  and standard deviation  $\sigma = 15$ .

Find the area to the left of  $x = 90$ .

- Press **2<sup>nd</sup> VARS** to get to **[DISTR]**. Select **2:normalcdf**.
- The format of the command is `normalcdf(lower limit, upper limit,  $\mu$ ,  $\sigma$ )`.
- To find the area *less than* a value, set the lower limit to 5 standard deviations below the mean. Lower limit is  $\mu - 5\sigma = 100 - 5(15) = 25$ . Enter `normalcdf(25, 90, 100, 15)`. The result is 0.2525.



```

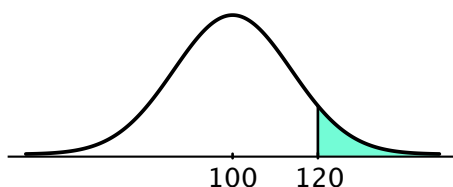
0:STAT DRAW
1:normalcdf(
2:normalcdf(
3:invNorm(
4:invT(
5:tpdf(
6:tcdf(
7:χ²Ppdf(
  
```

```

normalcdf(25,90,
100,15)
.2524921799
  
```

Find the area to the right of  $x = 120$ .

- Press **2<sup>nd</sup> VARS** to get to **[DISTR]**. Select **2:normalcdf**.
- The format of the command is `normalcdf(lower limit, upper limit,  $\mu$ ,  $\sigma$ )`.
- To find the area *greater than* a value, set the upper limit to 5 standard deviations above the mean. Upper limit is  $\mu + 5\sigma = 100 + 5(15) = 175$ . Enter `normalcdf(120,175,100,15)`. The result is 0.0912.

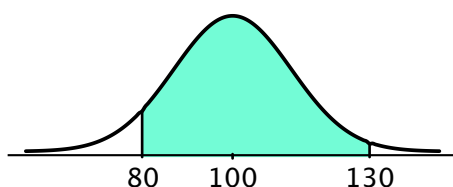


```

normalcdf(120,17
5,100,15)
.0912109948
  
```

Find the area between  $x = 80$  and  $x = 130$ .

- Press **2<sup>nd</sup> VARS** to get to **[DISTR]**. Select **2:normalcdf**.
- The format of the command is `normalcdf(lower limit, upper limit,  $\mu$ ,  $\sigma$ )`.
- To find the area *between two values*, set the lower limit to the lower value and set the upper limit to the upper value. Enter `normalcdf(80,130,100,15)`. The result is 0.8860.



```

normalcdf(80,130
,100,15)
.8860386561
  
```