Basic Commands in R:

What to do	Input	Example	Results
Add	+	2+3	5
Subtract	-	2-3	-1
Multiply	*	2*3	6
Divide	/	3/2	1.5
Exponent	^	3^2	9
Square root	sqrt()	sqrt(16)	4
Input data	c()	x=c(3,4,5,6,7)	> x [1] 3 4 5 6 7
Mean	mean()	mean(x)	5
Standard deviation	sd()	sd(x)	1.581139
Median	median()	median(x)	5
Five number summary; Min, Q1, Median, Q3, Max	fivenum()	fivenum(x)	3 4 5 6 7
Variance	var()	var(x)	2.5
Factorial	factorial()	factorial(6)	720
Permutation	factorial(n)/factorial(n-r)	factorial(6)/factorial(6-4)	360
Combination	choose(n,r)	choose(6,4)	15

Finding Expected Value and Variance for a Probability Distribution Table:

Example:

The following probability distribution is for the number of accidents in a day in a small city.

X	0	1	2	3	4	5
P(X)	0.1	0.2	0.45	0.15	0.05	0.05

R code:

```
> x=c(0,1,2,3,4,5)
> px=c(0.1,0.2,0.45,0.15,0.05,0.05)
> ex=sum(x*px)
> ex
[1] 2
> ex2=sum(x^2*px)
> vx=ex2-ex^2
> vx
[1] 1.4
> sx=sqrt(vx)
> sx
[1] 1.183216
```

Notes:

- Capitalization matters.
- You can input a data set into Excel then save as a Text (Tab delimited *.txt) file. Then open the dataset in R using the Tools >> Import Dataset >> From Textfile