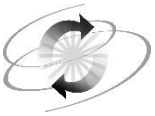

Solution

SP4R04s03.sas

1. Plotting Chi-Square Random Numbers

a. Create a data table with 1000 random deviates from a chi-square distribution with 20 degrees of freedom and a seed of 123.

```
data sp4r.hist;
   call streaminit(123);
   do i=1 to 1000;
      rchisq = rand('chisquare',20);
      output;
   end;
run;
```

b. Use PROC SGPLOT to plot a histogram of the data.

1) Alter the appearance of the plot by setting the BINWIDTH= option to 1.
2) Add both a normal and kernel density estimate.
3) Add the title 'My Random Chi-Square Distribution'.
4) Add the X-axis title 'Random Chi-Square Deviates'.
5) Use X-axis limits of 5 and 40.
6) Request the frequency instead of the percent by providing the option SCALE=COUNT in the HISTOGRAM statement.

```
proc sgplot data=sp4r.hist;
   histogram rchisq / binwidth=1 scale=count;
   density rchisq / type=normal;
   density rchisq / type=kernel;
   title 'My Random Chi-Square Distribution';
   xaxis label='Random Chi-Square Deviates' min=5 max=40;
run;
```