Creating a Normal Probability Plot using Graph Builder in JMP

1. Open the jmp data table as usual and sort the data by the variable of interest (say, y)
   a) Use Tables → Sort (this opens a dialog box)
   b) Select the variable to sort on as the By variable
   c) Assign a name to the jmp table to be output
   d) Click OK

2. Use the sorted data table for the rest of this task.

3. Creating a column i (containing the sequence 1 to n, the sample size).
   a) Create a new column (use double click or use Cols → New Column…)
   b) Name this column as i
   c) Right click on column name to get a drop down menu
      i. Select item Formula… to get the formula dialog box
      ii. Select the function Row → Sequence
      iii. Fill out the formula to get a sequence from 1 to n (n must be number=sample size)
      iv. Click OK (or Apply and OK). Column must contain the sequence 1 to n

4. Creating a column p (containing values of $p_i = (i - .5) / n$).
   a) Create a new column named p
   b) Right click on column name to get a drop down menu
      i. Select item Formula… to get the formula dialog box
      ii. Use the operator pad to create or enter the formula $(i-.5)/n$ where i is the variable i
      iii. Click OK (or Apply and OK). Column must contain the values for $p_i$

5. Creating a column z (containing values of $z_i = \Phi^{-1}(p_i)$)
   a) Create a new column named z
   b) Right click on column name to get a drop down menu
      i. Use the function Probability → Normal Quantile to create a formula for computing standard normal percentiles. Select the variable p as the value of "p" in the formula
      ii. Click OK (or Apply and OK). Column must contain the values for $z_i$

6. Now we will use the menu item Graph → Graph Builder to obtain a plot of the ordered data (y) against z, the corresponding normal percentiles
   a) Just drag the respective variables from the Selected Columns list towards the graph template and place them near the corresponding axis areas
   b) The plot will be automatically drawn as a scatter plot and an overlaid "smoothed" line. You may remove the "smoother" by right-clicking on the line and using Smoother → Remove from the drop down menu
   c) You may also edit the title and the axis labeling text strings