Sampling Distributions

Summary

The **Sampling Distributions** procedure calculates tail areas and critical values for four common sampling distributions. It also plots the calculated results.

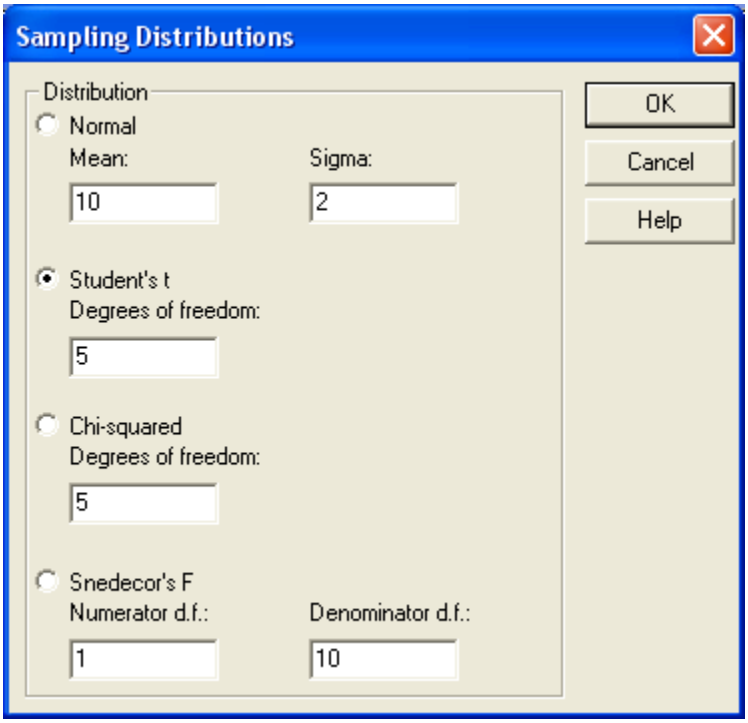
Sample StatFolio: *sampdist.sgp*

Sample Data:

None.

Data Input

The data input dialog box is used to select the distribution to be evaluated.



Select one of the 4 distributions listed and specify the value of that distribution's parameters. The distributions are defined in the pdf document titled *Probability Distributions*.

Analysis Summary

The *Analysis Summary* shows the distribution selected and the values of its parameters.

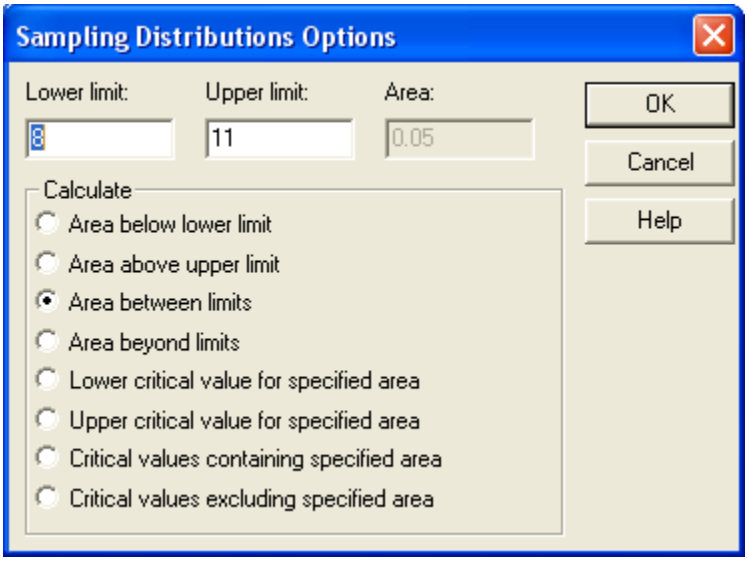
Sampling Distributions
Distribution: Normal

Mean	*Std. Dev.*
10	2

Area between 8.0 and 11.0 = 0.532809

Analysis Options

The *Analysis Options* dialog box is used to indicate the quantity that should be calculated and plotted:



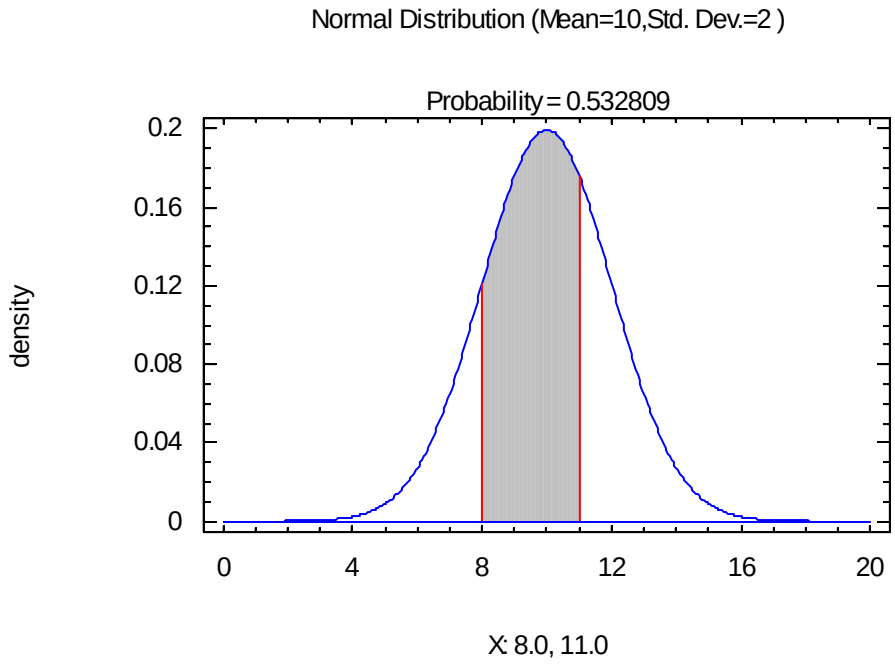
Two options are available:

1. *Calculating areas under the probability density function* - Specify values for the *Lower Limit* and/or *Upper Limit* and select one of the first four radio buttons.

2. *Calculating critical values* – Specify a value for *Area* and select one of the last four radio buttons.

Density Function

This pane plots the probability density function f(X) together with the critical values and calculated area.



The values below the X axis are the lower and upper critical values. *Probability* indicates the extent of the shaded area.