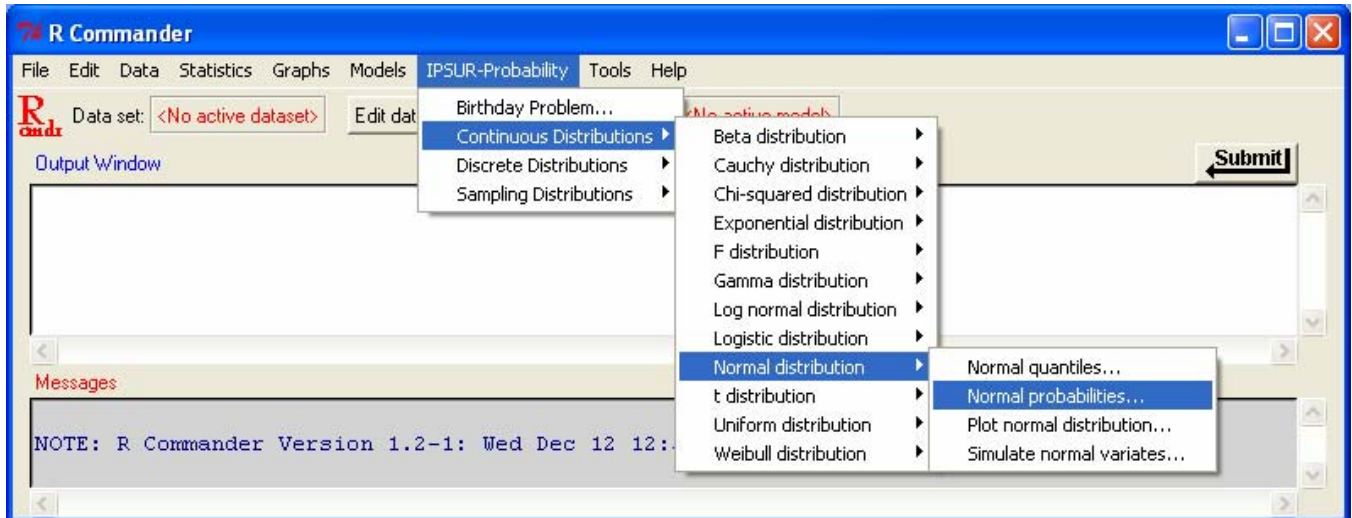


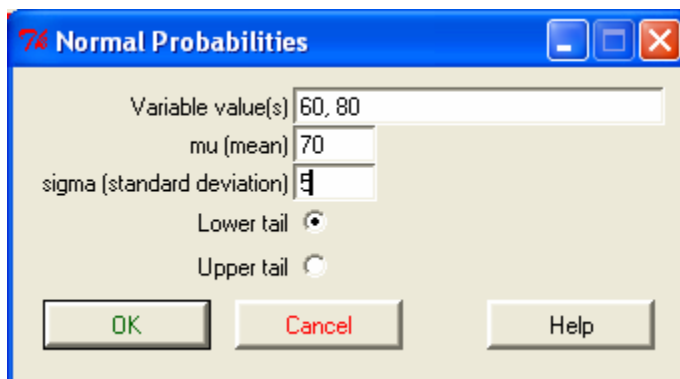
Normal Distribution

Example: The pulse rates for a certain population follow a normal distribution with a mean of 70 per minute and s.d. 5. What percent of this distribution that is in between 60 to 80 per minute?

- 1) From IPSUR, select **IPSUR-Probability, Continuous Distributions, Normal distribution, Normal probabilities ...**



- 1) In this dialog box, fill in the given value of 70 for the mean, 5 for the standard deviation, and then type the interval for the percent of distribution that you wish to find (60, 80 for this example). Also, check the box for lower tail.



- 2) Once you click OK, 2 values on the R output screen will appear and read as follows.

```
> pnorm(c(110,150), mean=130, sd=10, lower.tail=TRUE)
[1] 0.02275013 0.97724987
```

- 3) Simply subtract the two answers given to find the probability of the distribution between the given interval of 60-80.

$$.97724987 - .02275013 = \mathbf{.95449974}$$

- 4) By selecting Upper tail in the dialog box instead of Lower Tail, the same answer will be given, only the values will be switched. You will still use the difference of the probability values to find your probability