

## Appendix 2: Program Sample Size $n$ for a Confidence Interval for a Mean

The following program can be used to calculate the necessary sample size for a confidence interval for a mean. This is a program for the following formula:

$$n = \left( \frac{Z}{\frac{E}{S}} \right)^2 \quad \text{rounding up when finished}$$

```

PROGRAM:NMEAN
:ClrHome
:Disp "INTERVAL .95 ETC"
:Input C
:Disp "ENTER  $\sigma$ "
:Output(3,8," ")
:Input S
:Disp "ENTER ERROR"
:Input E
:((1-C)/2)|| A
:invNorm(A)|| Z ← 2nd, DISTR, 3:InvNorm(
:(Z*S/E)2|| M ← To get the squarred key push the  $x^2$  key left of the comma
:int(M+.9999999999)|| N ← MATH, >, NUM, 5:int(
:ClrHome
:Output(1,1,"CI")
:Output(1,5,C)
:Output(2,1," $\sigma$ ")
:Output(2,2," ")
:Output(2,5,S)
:Output(3,1,"E")
:Output(3,5,E)
:Output(5,1,"N")
:Output(5,5,N)
:

```

Note: The symbol  $\sigma$  can be found by pressing the **VARΣ** key, then 5:Statistics... , then 4:  $\sigma$