

Calculator Program: Factor

This calculator program was written for a TI-83. It is designed to compute the

How to use:

Run the program.

It will ask, "Number to be Factored?" Enter the number you want to factor.

It will either return two factors of your number or that the number is prime. Note, if your number factors, both of the factors may be composite.

Program: Factor

```
ClrHome
Disp " "
Disp "Number to be Factored?"
Input N
ClrHome
Disp " "
int( $\sqrt{N}$ ) $\rightarrow$ M
M $\rightarrow$ Z
M $\rightarrow$ W
If M2=N
Goto B
2 $\rightarrow$ W
N/2 $\rightarrow$ Z
If 2*int(Z)=N
Goto B
For(L,2,(N-1)/2,1)
2L-1 $\rightarrow$ W
N/W $\rightarrow$ Z
If W*int(Z)=N
Goto B
If W>M
Goto A
M+L-1 $\rightarrow$ X
 $\sqrt{X^2 - N} \rightarrow Y$ 
X+Y $\rightarrow$ Z
X-Y $\rightarrow$ W
If Y=int(Y)
Goto B
End
Lbl A
Disp "Prime"
Stop
Lbl B
Disp "Composite"
Disp " "
Disp "Factors"
Disp Z
Disp W
```