

File Name: CPLXR0OT.8XP Type: Program Protected: No
Comment:Program file 05/21/13, 10:46

```
a+b i
Degree
Fix 4
FnOff
PlotsOff
ClrHome

Disp "*****"
Disp ""
Disp "      COMPLEX"
Disp "      ROOTS"
Disp ""
Disp ""
Disp "*****"

Pause
ClrHome

Disp "FIND ROOTS FOR"
Disp "(a+b i)^(1/n)"

Prompt A
Prompt B
Prompt N

 $\sqrt{A^2 + B^2} \rightarrow R$ 

If A ≠ 0
Then
 $\tan^{-1}(B/A) \rightarrow \theta$ 

If (A < 0 and B < 0)
Then
 $(180 + \theta) \rightarrow \theta$ 

:Else
:If (A < 0 and B > 0)
Then
 $(180 - \theta) \rightarrow \theta$ 

Else
If (A > 0 and B < 0)
Then
 $(360 - \theta) \rightarrow \theta$ 

:::End
::End
:End

Else
If B > 0
Then
 $90 \rightarrow \theta$ 

Else
 $270 \rightarrow \theta$ 

End
```

End

Disp "ORIGINAL NUMBER"

A+B_i→X

Disp X

Disp "ROOTS"

For(K,0,N-1,1)

(R^(1/N))→S

:cos((θ+360K)/N)→C

:sin((θ+360K)/N) i→D

:Disp (S*C)+(S*D)

Pause

End

Float

Stop