

TI-85*/TI-86 Acid-Base Equilibrium Programs

*I personally haven't tried it on a TI-85, but I think it should work. I know it works for the TI-86

WEAK

```
PROGRAM  
NAME=WEAK
```

```
PROGRAM:WEAK  
:Prompt K  
:Prompt A  
:10^-14→W  
:Solver( $x^3+K*x^2-(W+K*A)*x-K*W$ ,x,4,{0,5})  
:x  
:Disp "pH=", $-\log(x)$ 
```

BUF

```
PROGRAM  
NAME=BUF
```

```
PROGRAM:BUF  
:Prompt K  
:Prompt A  
:Prompt B  
:10^-14→W  
:Solver( $x^3+(B+K)*x^2-(W+K*A)*x-K*W$ ,x,4,{0,5})  
:x  
:Disp "pH=", $-\log(x)$ 
```

TITRATE4

```
PROGRAM  
NAME=TITRATE4
```

```
PROGRAM:TITRATE4  
:Input "ACID CONC, M",A  
:Input "ACID VOL, mL",V  
:Input "BASE CONC, M",B  
:Input "BASE VOL, mL",U  
:Input "KA",K
```

```
:A*V/(U+V)→C  
:B*U/(U+V)→D  
:10^-14→W  
:Solver(x^3+(D+K)*x^2+(K*D-W-K*C)*x-K*W,x,4,{0,5})  
:x  
:Disp "pH=", -log(x)
```