SC 20086
B4-11.0
Nth Root 1 - Format Controlled Decimal

```
0000    xc6350'  a                 store a
0001     b0004'  alpha + 2
0002     a0052'  1 at 29           set up exit
0003     y0054'  exit
0004     b0000'  n at 29
0005     u0014'
0006    xb6356'  Yi**n1
0007     m0043'  Yi
0008    xc6356'                    powering
0009    xb6352'  counter
0010     u0032'
0011    xb6347'  correction        form new root
0012     a0043'  Yi                and re-iterate
0013     u0026'
0014     t0052'                    test for neg. n
0015    xc6360'  n at 29           store n
0016     b0052'  1 at 29
0017    xd6360'  n                 form and
0018    xc6324'  1/n               store 1/n
0019    xb6350'  a                 if a less than 0, test n for odd - even
0020     t0044'
0021     s0057'  1 at 30
0022     t0053'                    if a = 0, clear and exit
0023     b0059'  U 0042            initialization of exit -for pos. a
0024     c0040'
0025     b0029'  pos. lst guess
0026     h0043'  Yi
0027    xc6356'  Yi**n-1           initialization of powering loop
0028     u0030'
       ,0000001'
0029   7wwwwwww'  pos. lst guess
0030     b0052'  1 at 29
0031    xs6360'  n at 29
```

```
0032     a0061'  1 at 29
0033    xh6352'  counter          powering
0034     t0006'
0035    xb6350'  a
0036    xd6356'  Yi**n1
0037     s0043'  Yi                arithmetic
0038    xm6324'  1/n
0039    xh6347'  correction
0040    xz0000'  C6356 if a neg.  u0042 if a positive
0041    xs6356'  Yi**n1 change sign of correction
0042     u0055'
0043    xz0000'  Yi
0044    xb6360'  n                 test n for odd or even:
0045     e0060'  1 at 29           if odd continue;
0046     s0061'  1 at 29           if even stop
0047     t0052'
0048     b0027'  C6356             initialization of exit for a neg.
0049     c0040'
0050     s0029'  pos. 1st guess    initialization for a neg.
0051     u0026'
0052    xz0001'  1 at 29 and stop for imaginary root or neg. n
0053    xc6339'  clear
0054    xu0000'  exit
0055     t0011'                   exit - test
0056     u0062'
        ,0000001'
0057   00000002'  1 at 30
0058    xz0000'  spare
0059     u0042'  inst.             constant
0060    xz0001'  1 at 29
0061    xz0001'  1 at 29
0062     b0043'  Yi                bring answer
0063     u0054'                   and exit
```