Algorithm: ATVUDE in the **HP 32 SII Calculator**

```
A01 LBL A
A02 DEG
A03 CLVARS
A04 RADIX.
A05 FIX 5
A06  1
A07 INPUT N
A08  1 E-3
A09    x
A10    +
A11 STO i
A12 STO Z
A13  1.002
A14 STO V
A15 CLx
T01 LBL T
T02 VIEW i
T03 PSE
T04 FS? 0
T05 XEQ U
T06 XEQ D
T07   0
T08 STO R
T09 STO T
T10  R↓
T11  SF 0
T12 ISG i
T13 GTO T
T14  CF 0
T15 RCL Y
T16 RCL X
T17 y, x→θ,r
T18 STO R
T19 x<>y
T20 STO T
T21  SF 1
T22  ST 10
T23   1
T24 0.001
T25 RCLx N
T26   2
T27   x
T28   +
T29 STO i
T30 XEQ V
T31 24.025
T32 STO i
T33 XEQ V
T34 18.02002
T35 STO i
T36 CF 1
V01 LBL V
V02  TO CHECK
V03  PSE
V04 VIEW i
V05  PSE
V06 VIEW(i)
V07  PSE
V08 ISG i
V09 GTO V
V10  FS? 1
V11  RTN
V12   END OK
V13  PSE
V14  CF 10
V15  CLx
V16 ENTER
V17  RTN
U01 LBL U
U02 RCL i
U03 STO Z
U04  R↓
U05   RTN
D01 LBL D
D02 INPUT T
D03 INPUT R
D04  RCL T
D05  RCL R
D06  θ,r→ y, x
D07 STO+ X
D08 x<>y
D09 STO+ Y
D10 RCL V
D11 STO i
D12  R↓
E01 LBL E
E02  x<>y
E03 STO(i)
E04 ISG i
E05 GTO E
E06 2.002
E07 STO+ v
E08 RCL Z
E09 STO i
E10  R↓
E11 RTN
```

```
==================
|  i   |    Register   |
==================
                A← ax
 1.002
                B← ay
------------------------------
                C← bx
 3.004
                D← by
------------------------------
                E← cx
 5.006
                F← cy
------------------------------
                G← dx
 7.008
                H← dy
------------------------------
                 I← ex
 9.010
                J← ey
----------------------
                K← fx
11.012
                L← fy
----------------------------------
1.01102  X← A+C+E+G+I+K
    X = ax+bx+cx+dx+ex+fx
----------------------------------
2.01202  Y← B+D+F+H+J+L
    Y = ay+by+cy+dy+ey+fy
----------------------------------
```

To run the program: XEQ A and follow the instructions in the display.

This program will can add 2 or 3 or 4 or 5 or 6 vectors by Decomposition of the Compo-nents.

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