Mathematics with the HP48G Calc

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2006 February

1 Vector Algebra

1.1 Cross Product: Example 1

A first basic example is given as follows:

$$A = \begin{bmatrix} 2 \\ 2 \\ 3 \end{bmatrix} \tag{1}$$

$$B = \begin{bmatrix} 4 \\ 2 \\ 5 \end{bmatrix} \tag{2}$$

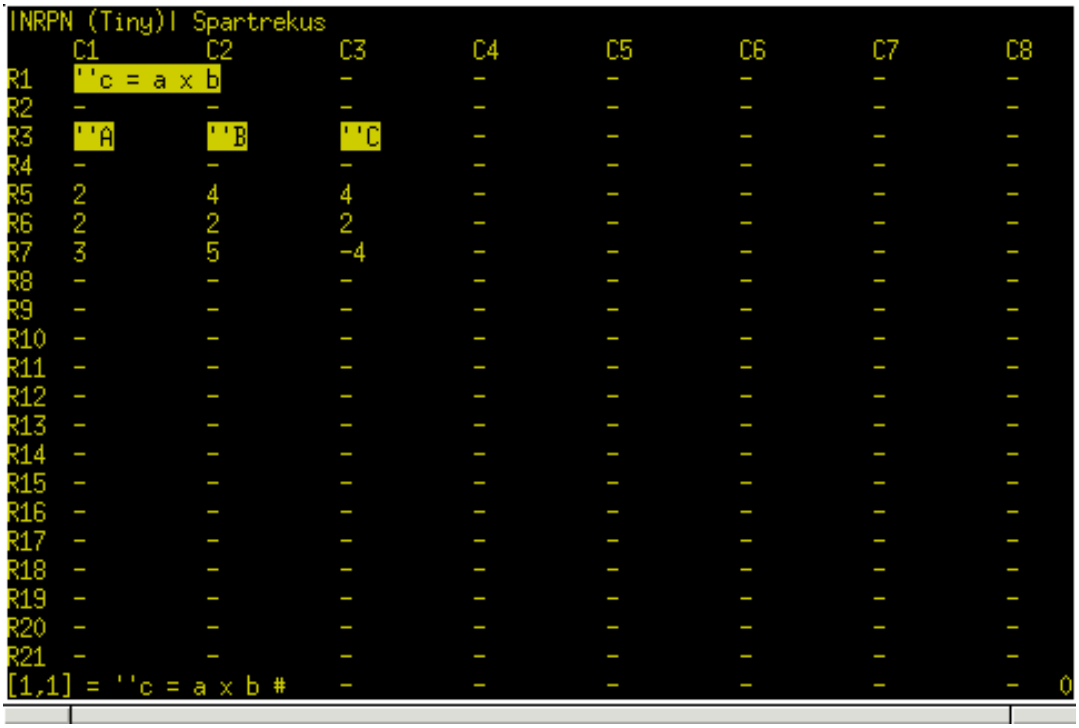
You may search for the cross-product with $A \times B = C$ It gives:

$$C = \begin{bmatrix} 4 \\ 2 \\ -4 \end{bmatrix} \tag{3}$$

- Example (1) using the HP48G
  - You may enter [2 2 3]
  - You may enter [4 2 5]
  - In order to calculate the cross product, the "CROSS" function in the HP48G/HP50G will allow to give the solution:
  - The solution is: [4 2 $-$ 4]


x48-0.6.4
HEWLETT PACKARD 48GX
128K RAM
{ HOME }
4:
3:
2: [2 2 3]
1: [4 2 5]
ABS DOT CROSS V→ →V2 →V3
wire: /dev/pts/19
IR: none
RAD POLAR CHARS MODES MEMORY STACK PREV MENU
MTH PRG CST VAR NXT
UP HOME DEF RCL →NUM UNDO PICTURE VIEW SWAP
STO EVAL
ASIN ∂ ACOS ∫ ATAN Σ LOG LN
SIN COS TAN
EQUATION MATRIX EDIT CMD PURG ARG CLEAR DROP
ENTER +/- EEX DEL
USER ENTRY SOLVE PLOT SYMBOLIC
TIME STAT UNITS
I/O LIBRARY EQ LIB
CONT OFF
ON
CANCEL
SPC

- Example (1) using nrpn:
  - nrpn is a rapid method to check the results with little GNU spreadsheet.


INRPN (Tiny)| Spartrekus
C1 C2 C3 C4 C5 C6 C7 C8
R1 ''c = a x b
R2
R3 ''A ''B ''C
R4
R5 2 4 4
R6 2 2 2
R7 3 5 -4
R8
R9
R10
R11
R12
R13
R14
R15
R16
R17
R18
R19
R20
R21
[1,1] = ''c = a x b #
0