

**POLYNOMIAL SUBTRACTION****PURPOSE**

Carry out the subtraction of 2 polynomials with real coefficients.

**SYNTAX**

LET <v3> = POLYNOMIAL SUBTRACTION <v1> <v2> <SUBSET/EXCEPT/FOR/qualification>

where <v1> is the variable whose elements are the ordered real coefficients of the first polynomial;

<v2> is the variable whose elements are the ordered real coefficients of the second polynomial;

<v3> is the variable whose elements are the ordered real coefficients of the resultant polynomial;

and where the <SUBSET/EXCEPT/FOR qualification> is optional and rarely used in this context.

**EXAMPLES**

LET Y3 = POLYNOMIAL SUBTRACTION Y1 Y2

**NOTE**

The first element of the variable is the coefficient of the constant term, the second element is the coefficient of the linear term, the third element is the coefficient of the quadratic term, the fourth element is the coefficient of the cubic term, and so on. Thus the polynomial  $4 + 11*X + 37*X^2 + 8*X^3 + 19*X^4$  can be stored in the variable Y with the following command:

```
LET Y = DATA 4 11 37 8 19
```

**DEFAULT**

None

**SYNONYMS**

None

**RELATED COMMANDS**

LET	=	Evaluates general functions.
POLYNOMIAL ADDITION	=	Carries out a polynomial addition.
POLYNOMIAL MULTIPLICATION	=	Carries out a polynomial multiplication.
POLYNOMIAL DIVISION	=	Carries out a polynomial division.
POLYNOMIAL SQUARE	=	Carries out a polynomial square.
POLYNOMIAL EVALUATION	=	Carries out a polynomial evaluation.
COMPLEX SUBTRACTION	=	Carries out a complex subtraction.
VECTOR SUBTRACTION	=	Carries out a vector subtraction.
MATRIX SUBTRACTION	=	Carries out a matrix subtraction.
COMPLEX ROOTS	=	Computes the roots of a complex polynomial.
PLOT	=	Plots data or functions

**APPLICATIONS**

Mathematics

**IMPLEMENTATION DATE**

87/10

**PROGRAM**

```
LET Y1 = DATA 4 11 37 8 19
LET Y2 = DATA 1 2 1
LET Y3 = POLYNOMIAL SUBTRACTION Y1 Y2
SET WRITE DECIMALS 0
WRITE Y1 Y2 Y3
```