SET UNION

PURPOSE
Carry out the union of 2 sets with numeric elements.

DESCRIPTION
The union of two sets is the set containing elements that are in either of the 2 original sets (but not neccessarily both sets). Repeats are only counted once. For example, the union of the 5-element set 1 3 5 7 9 and the 4-element set 1 4 9 16 is the 7-element set 1 3 5 7 9 4 16.

SYNTAX
LET <v3> = SET UNION <v1> <v2>   <SUBSET/EXCEPT/FOR qualification>
where <v1> is the variable containing the elements of the first set;
    <v2> is the variable containing the elements of the second set;
    <v3> is the variable containing the elements of the resultant set;
and where the <SUBSET/EXCEPT/FOR qualification> is optional and rarely used in this context.

EXAMPLES
LET Y3 = SET UNION Y1 Y2

NOTE
If the elements of a mathematical "set" are numbers (or can be translated into numbers-- always possible), then a DATAPLOT variable can be used to store the items of the mathematical set. To store the set with the 12 elements 1 3 5 7 11 1 4 9 16 1 8 27, form the variable Y with the following command:

LET Y = DATA 1 3 5 7 11 1 4 9 16 1 8 27

Larger sets can be created with the READ or SERIAL READ commands.

DEFAULT
None

SYNONYMS
None

RELATED COMMANDS
SET CARDINALITY	=	Computes the number of elements in a set.
SET INTERSECTION	=	Carries out a set intersection.
SET COMPLEMENT	=	Carries out a set complement.
SET CARTESIAN PRODUCT	=	Carries out a set Cartesian product.
SET DISTINCT	=	Extracts the distinct elements of set.

APPLICATIONS
Mathematics

IMPLEMENTATION DATE
87/10

PROGRAM
LET Y1 = DATA 1 3 5 7 9
LET Y2 = DATA 1 4 9 16
LET Y3 = SET UNION Y1 Y2
SET WRITE DECIMALS 0
WRITE Y1 Y2 Y3