

## Programs

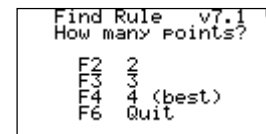
This edition of fxNews contains 6 programs in file **PROG07V1.g1m**

There is also a five-page tutorial '*How to write a program for the fx-9860G*' that explains how to write your own programs or modify existing ones.

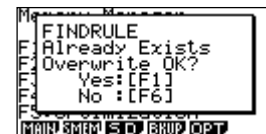
The collection includes some updates and also several new programs.

The updated programs have all been modified to utilize the F-keys in parts of the program where a selection of options is necessary.

You will recognize updated versions as opposed to earlier versions from their initial screens, which in the updated versions have v7.1 displayed on the initial screen.



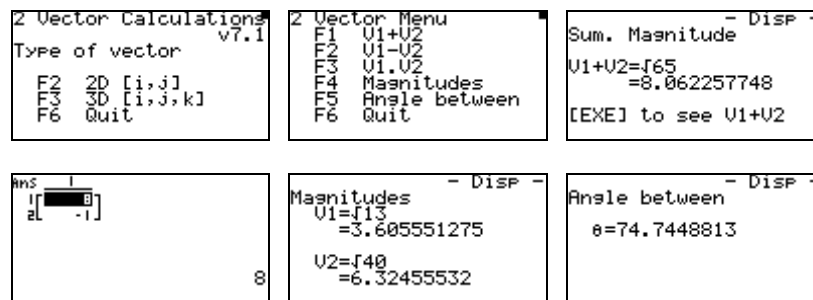
When copying the programs from Storage to Main Memory (as explained in Section E of the tutorial on this CD '*How to load fxNews from CD into your fx-9860G*'), simply say Yes to any prompts that ask you whether you want to overwrite existing programs.



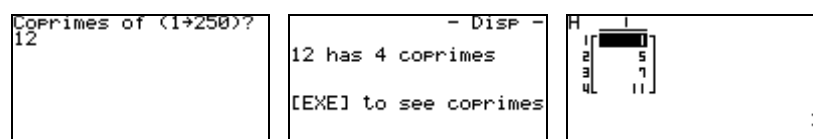
Below is a brief description of each new program and update.

<b>New</b>	<b>Description</b>
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<b>2VECTORS</b>	Enter two vectors, either 2D or 3D and program returns sum, difference, dot product, magnitudes and angle between them.
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<b>COPRIMES</b>	The integers <b>a</b> and <b>b</b> are said to be coprime if they have no common factor other than 1. For example, 6 and 35 are coprime, but 6 and 27 are not because they are both divisible by 3. This program finds all coprimes for any integer between 1 and 250. (For example, 241 has 240 coprimes)
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## Updates Description

**FINDRULE** Finds whether any of linear, power, quadratic or exponential rules fit the 2, 3 or 4 pairs of points that are entered into the program. If an exact match was not found, older versions of FINDRULE ranked the fits from good to bad, a feature that has been removed. A message now simply states that no rule has been found.

```

Find Rule v7.1
How many points?
F2 2
F3 3
F4 4 (best)
F6 Quit

Linear No - Disp -
Power No
Quad No
Exp No
** No rule found **

```

Update also uses F-keys for menu selection.  
Originally from PROG06V1

**LATLONG** Solves latitude and longitude problems - both distance from A to B or position after traveling a given distance from A.

```

Lat/Lons Solver v7.1
Earth radius is
F1 6378.14km
F2 3437.75Nm
F3 Other...
F6 Quit

Find
F1 Distance
F2 Lat/Lons

Travel along
F1 Line of Lons (N-S)
F2 Line of Lat (E-W)
F3 Great Circle

```

Update uses F-keys for menu selection, otherwise no changes.  
Originally from PROG06V1

**LINEAR** Equation of a straight line when the gradient and a point or two points are known.

```

Eqn of straight line v7.1
You know...
F1 m and Point
F2 2 Points
F6 Quit

```

Update uses F-keys for menu selection.  
Originally from PROG06V1

**NUMSEQS** Generates a list of up to 50 terms of the Fibonacci sequence ( $F_{49}$  is 7778742049, the largest F number that can be displayed by the fx-9860 in exact form) and prime, square or triangle numbers from 1 up to the 999<sup>th</sup>. The 999<sup>th</sup> prime is 7907 and the program takes just over five minutes to find them all compared to just 12 seconds for the first 100 primes.

```

Number Sequences v7.1
F1 Fibonacci
F2 Prime
F3 Square
F4 Triangle
F6 Quit

```

The update increases the maximum number of terms from 250 to 999 and uses the F-keys for initial selection of sequence.  
Originally from PROG06V2