This topic will allow you to solve a quadratic equation in the general form
$$f(x) = ax^2 + bx + c$$

You will need to enter the a, b and c values.

The roots x1 and x2 will be calculated and displayed in the lower portion of the window.

Information about the function will also be given in the middle of the window, in the INFO box.

You can obtain a PLOT of the function by pressing on the PLOT button.

Use the TAB key to move from one field to another.

To exit this topic, you can either press the CANCEL button, or ALT-F4.

This topic will allow you to convert from the four main number bases :
      DECIMAL(base 10)
      HEXIDECIMAL(base 16)
      OCTAL(base 8)
      BINARY(base 2).

You are to enter integer values in the DECIMAL, OCTAL and BINARY fields.

The HEX field will accept the alpha characters "A", "B", "C", "D", "E" and"F".

Use the TAB key to move from one field to another.

To Exit out of this topic, enter ALT-F4.

This topic will allow you to solve a function f(x) given as
$$f(x) = a(bx^c + dx^e + f)^g$$

(note: "^" indicates exponent(or "raised to the power of"))

You will need to enter the a, b, c, d, e, f and g values. If your function does not have a particular value, then leave the field blank.
        The BLANK field is equal to 0.
Use the TAB key to move from one field to another.

You can obtain a PLOT of the function by pressing on the PLOT button.

To exit this topic, you can either press the CANCEL button, or ALT-F4.

This topic will allow you to solve for a polynomial in the general form
      f(x) = ax^5 + bx^4 + cx^3 + dx^2 + ex + f
      (note: "^" indicates exponent(or "raised to the power of")
 giving you the f(x), f'(x) (first derivative) and f"(x) (second derivative) values of the function f(x). These solutions will be displayed in the Output box in the lower portion of the window.

You will need to enter the a, b, c, d, e and f values. If your function does not have a particular value, then leave the field blank.

Use the TAB key to move from one field to another.

You can obtain a PLOT of the function by pressing on the PLOT button.

The x value field is for entering a starting(testing) x value for the function.

The increment field is for entering a value which x is to be incremented by.

To exit out of this topic, you can either press the CANCEL button, or ALT-F4.

This topic allows you to enter a linear equation in the general form

ay + d = mx + b

This simplifies as y = (mx + b -d) / (a)

You will need to enter the a, b, m and d values. Remember that "a" cannot be zero(0), or you will get division by zero(0).
Use the TAB key to move from one field to another.
You can obtain a PLOT of the function by pressing on the PLOT button.
The x value field is for entering a starting(testing) x value for the function.
The increment field is for entering a value which x is to be incremented by.
To exit out of this topic, you can either press the CANCEL button, or ALT-F4.

This topic allows you to enter two two variable linear equations in the general form
    ax + by = c.
You will need to enter the a, b and c values for each equation.

The Determinant, Determinant x(Dx) and Determinant y(Dy) will be solved and displayed in the Output box. The x and y values will also be displayed in this box.

Use the TAB key to move from one field to another.

To see the equations and results in determinant form, press the MATRIX FORM button.

To see a PLOT of the equation(s), press the PLOT button.

To exit out of this topic, either press the CANCEL button, or ALT-F4.

This topic allows you to enter three three variable linear equations in the general form
         ax + by + cz = d.
You will need to enter the a, b, c and d values for each equation.
The Determinant, Determinant x(Dx), Determinant y(Dy), Determinant z(Dz)   will be solved
and displayed in the Output box. The x, y and z values will also be displayed in this box.

Use the TAB key to move from one field to another.

To see the equations and results in determinant form, press the MATRIX FORM button.

To see a PLOT of the equation(s), press the PLOT button.

To exit out of this topic, either press the CANCEL button, or ALT-F4.

This topic will allow you to find the intersection(if any) of two polynomials in the general form
   f(x) = ax^3 + bx^2 + cx +d.
   (note: "^" indicates exponent(or "raised to the power of"))
You will need to enter the a, b, c and d values for each polynomial. If there is   no second
polynomial, or if there is a particular value not in your polynomial, then leave the field blank.

Use the TAB key to move from one field to another.

To see a PLOT of the polynomial(s), press the PLOT button.

The Output box will display the solutions of the polynomials entered and any comments about
each polynomial will be made under the Comments field.

The x value field is for you to enter a starting(testing) x value for the polynomial.

The increment field is for you to enter a increment value that x will be incremented by.

To exit out of this topic, either press the CANCEL button, or ALT-F4.

This topic will allow you to enter two points of a line in the form (x1, y1), (x2, y2) and solve for the equation of the line in the generalform
    $y = mx + b$.

You will need to enter x1, y1, x2 and y2 values.
Use the TAB key to move from one field to another.

To PLOT the line, press the PLOT button.

The slope(m) of the line and the distance between the two points will be displayed in the Output box.

To exit from this topic, either press the CANCEL button, or ALT-F4.

This topic will allow you to find the solutions to a function f(x) which has either Sine, Cosine or Tangent function involved in it. The general form used is

      f(x) = a(sin/cos/tan) (bx^c)
      (note:"^" indicates exponent(or "raised to the power of"))

You will need to enter the a, b and c values.

Use the TAB key to move from one field to another.

The x value field is for a starting x value you want to start(test) at.

The increment value is the value x will be incremented by.

The results for the equation for SIN, COS and TAN will be given in the Output box.

To PLOT the function, press the PLOT button. The Sin, Cos and Tan results will be plotted.

To exit out of this topic, either press the CANCEL button, or ALT-F4.

This setup will allow you to customize your plots, when you select the PLOT option in many of the topics of MATH PAK IV.

If you want the background grid drawn, check the "Draw grid" box. A check mark will appear if you want the grid drawn.

Display unit value versus grid size:
ZOOM-OUT: The specified value is the functional unit and equivalent to a display unit.
Example: $F(x) = 10$ and ZOOM-OUT value = 10 then the total display unit is 1.
$F(x) = 10$ and ZOOM-OUT value = 5 then the total display unit is 2.
ZOOM-IN: The specified value is the display unit and equivalent to a functional unit.
Example: $F(x) = 10$ and ZOOM-IN value = 10 then total display unit is 100.

Usually, a value of between 1-10 is suggested.

You can also select the size of the grid, in terms of units. So. the grid size varies according to the unit value.
The gird size can range from 1-100. Usually, a value between 5-20 is suggested.

To exit this topic, either press the OK button or the CANCEL button or ALT-F4.

This topic will allow you to create your own user-defined functions. MATH PAK IV will allow you to enter almost any type of equation, based on the general form given. This topic allows you to have one-variable.

Use the TAB key to move from one field to another.

To see a PLOT of the function, press the PLOT button.

The x value field is for you to enter the starting(testing) x value for the function.

The increment field is the increment value that x will be incremented by.

To exit out of this topic, either press the CANCEL button, or ALT-F4.

MATH PAK IV is designed to work with MS-Windows 3.1 and to take full advantage of the Windows environment, including color, mouse and GUI support.

MATH PAK IV offers a positive learning environment to work in, while   providing a standard user interface(MS-Windows).

Each topic of MATH PAK IV has it's own context help and you can get this help by pressing on the HELP button in each topic.

To exit out of any topic, you can either press the CANCEL button or ALT-F4.

If you have any questions, comments or suggestions or need technical support, please contact DALAL Publishing Co. at (408) 225-6157, from 8:00am to 5:00pm, PST. Sorry, no collect calls will be accepted.

Thank you for using MATH PAK IV and for your support !