/W=*winName* Appends to the named graph window or subwindow. When omitted, action affects the active window or subwindow. This must be the first flag specified when used in a Proc or Macro or on the command line.

When identifying a subwindow with *winName*, see **Subwindow Syntax** on page III-92 for details on forming the window hierarchy.

Details

AppendXYZContour creates and displays contour level traces. You can modify these as a group using the Modify Contour Appearance dialog or individually using the Modify Trace Appearance dialog. In most cases, you will have no need to modify the traces individually.

See **AppendMatrixContour** for a discussion of how the contour level traces are named.

Examples

```
Make/O/N=(100) xW, yW, zW              // Make X, Y, and Z waves
xW = sawtooth(2*PI*p/10)               // Generate X values
yW = trunc(p/10)/10                    // Generate Y values
zW = sin(2*PI*xW)*cos(2*PI*yW)         // Generate Z values
Display; AppendXYZContour zW vs {xW, yW}; DelayUpdate
ModifyContour zW autoLevels={*,*,9}    // roughly 9 automatic levels
```

See Also

The **Display** operation. **AppendToGraph** for details about other axis flags. The **AppendMatrixContour**, **ModifyContour**, and **RemoveContour** operations. For general information on contour plots, see Chapter II-15, **Contour Plots**.

area

area(*waveName* [, *x1*, *x2*])

The area function returns the signed area between the named wave and the line y=0 from x=*x1* to x=*x2* using trapezoidal integration, accounting for the wave's X scaling. If your data are in the form of an XY pair of waves, see **areaXY**.

Details

If *x1* and *x2* are not specified, they default to -∞ and +∞, respectively.

If *x1* or *x2* are not within the X range of *waveName*, area limits them to the nearest X range limit of *waveName*.

If any values in the X range are NaN, area returns NaN.

The function returns NaN if the input wave has zero points.

Reversing the order of *x1* and *x2* changes the sign of the returned area.

The area function is intended to work on 1D real or complex waves only.

The area function returns a complex result for a complex input wave. The real part of the result is the area of the real components in the input wave, and the imaginary part of the result is the area of the imaginary components.

Examples

```
Make/O/N=100 data; SetScale/I x 0,Pi,data
data=sin(x)
Print area(data,0,Pi)          // the entire X range, and no more
Print area(data)               // same as -infinity to +infinity
Print area(data,Inf,-Inf)      // +infinity to -infinity
```

The following is printed to the history area:

```
Print area(data,0,Pi)          // the entire X range, and no more
  1.99983
Print Print area(data)         // same as -infinity to +infinity
  1.99983
Print area(data,Inf,-Inf)      // +infinity to -infinity
  -1.99983
```

The `-Inf` value was limited to 0 and `Inf` was limited to `Pi` to keep them within the X range of data.