[4.1] Plot "vertical" lines on graph screen

A vertical line is not a function, and the Y= Editor only plots functions, so you can't really plot a vertical line. There are at least three ways to plot a nearly vertical line as Y= function.

Method 1

Definie a function like this:

```
y1=1E1ØØ*(x-n)
```

where *n* is the x-coordinate at which to draw the vertical line. To see how this works, consider that we are just plotting the line

y = B(x-n) = Bx - Bn

At x = n, y = 0. Since B is very large, the slope of the line is very large, and the line will appear to be vertical. B must be much larger than the range of interest of *x*.

Method 2

A variation on this theme defines B as global variable *_vert*, like this:

```
1E1ØØ→_vert
```

then you can define various vertical lines in the Y= Editor:

```
y1={function to be plotted}
y2=_vert(x-Ø)
y3=_vert(x-3)
```

This will plot the function, and vertical lines at x = 0 and x = 3

Method 3

Use the expression

```
when(x<n,-9E999,9E999)
```

to plot a vertical line at x=n. This method may be the best because it eliminates the question of just how big to make the constant 1E100 in methods 1 and 2. For example, to plot a vertical line at x = 7, use

```
y1=when(x<7,-9E999,9E999)
```

(Credit to Kevin Kofler; other credit declined)