9. **TRIGONOMETRIC FUNCTIONS**

One of the default windows is **ZTRIG** on the **GRAPH/ZOOM** menu. This is a nice range for graphing the standard trig functions; the cursor moves in increments of $\pi/24$ and $xScl=\pi/2$.

For the tangent function, despite the fact that there should be pixels on the lines $x = \pm(2n+1)\pi/2$ (within 14 significant digits at least), my calculator still insists on drawing (nearly) vertical lines at these values of $x$. I don't know how to avoid this other than using **DrawDot** mode and that doesn't look very good.

Students may need reminding that the calculator should be in radian mode.

Try graphing $y=\cos x$ with the $x$-range $[-63\pi,63\pi,0]$ (put the calculator in **DrawDot** mode) and $y$-range $[-1.5, 1.5, 1]$. Then change the $x$-range to $[-126\pi, 126\pi, 0]$. In the first case, you get straight lines at $y=\pm1$ and in the second at $y=1$. Students can usually figure out what's going on here by using **TRACE** and noting that the cursor moves in increments of $\pi$ in the first case and in increments of $2\pi$ in the second.

Just for some interesting pictures, try $x$-ranges of $[-1000,1000], [-10000,10000]$ in both **DrawDot** and **DrawLine** modes.