TI-84+ Family Quick Reference Sheet
Trigonometry Section

When in doubt, QUIT and go HOME.

Check your MODE!

Radians/Degrees:

Degrees to radians: mult. by $\dfrac{\pi}{180}$

Radians to degrees: mult. by $\dfrac{180}{\pi}$

To quickly change to degrees while in radian mode, use the degree symbol. 2nd ANGLE - #1 °

Reciprocal Functions:

1. $\csc(x)$ uses $\dfrac{1}{\sin(x)}$

2. $\sec(x)$ uses $\dfrac{1}{\cos(x)}$

3. $\cot(x)$ uses $\dfrac{1}{\tan(x)}$

To Graph Trig. Functions:

1. Enter equation in Y=.

2. Use ZOOM #7 (scales $\dfrac{\pi}{2}$ or 90°)

On 83+ or older OS, the graphs such as $\tan(x)$ show vertical lines. While they appear to be asymptotes, they are not. They are "connected mode".

Verify Trig Identities:

Place the left side of the equation in Y1 and the right side in Y2. Set the mark in front of Y2 to "bubble". Graph. If the equation is true, the "bubble" will run on top of the first graph. Also check TABLE listings.

Inverse Functions: Remember: $\arcsin(x) = \sin^{-1}(x)$

The inverse reciprocals need special attention:

$$\csc^{-1}(x) = \sin^{-1}\left(\dfrac{1}{x}\right) \qquad \sec^{-1}(x) = \cos^{-1}\left(\dfrac{1}{x}\right)$$

The graphs of the inverse functions will show the restricted domains that ensure they are functions.

$$\cot^{-1}(x) = \begin{cases} \tan^{-1}\left(\dfrac{1}{x}\right); \ x > 0 \\ \tan^{-1}\left(\dfrac{1}{x}\right) + \pi; \ x < 0 \\ \dfrac{\pi}{2}; \ x = 0 \end{cases}$$

Unit Circle: Create the unit circle and the sine graph together. Trace between them to see the relationships between the graphs.

1. Set MODE to Radian, Parametric (Par) and Simultaneous (Simul)
2. Set the WINDOW to Tmin = 0; Tmax= 2π; Tstep = 0.1; Xmin = -2; Xmax = 7.4; Xscl = $\pi/2$
    Ymin = -3.1; Ymax = 3.1; Yscl = 1
3. Enter the EQUATIONS:
    $X_{1T} = \cos T$
    $Y_{1T} = \sin T$
    $X_{2T} = T$
    $Y_{2T} = \sin T$
4. Press GRAPH.
5. Change $Y_{2T} = \cos T$ to examine cosine.