

**Pre-Calculus
Trigonometric Functions Review Sheet**

Non-Calculator Section

- Show that $\tan^2\theta = \sec^2\theta - 1$.
Convert to sin and cos, remove fractions, and look for the duck
- Find the exact values of the 6 trigonometric function for the angle formed by a ray from the origin through $(1, 0)$ and a ray from the origin through the point $(-3\sqrt{5}, 2)$.
 $\sin \theta = 2/7, \cos \theta = -(3\sqrt{5})/7, \tan \theta = -(2\sqrt{5})/15, \csc \theta = 7/2, \sec \theta = -(7\sqrt{5})/15, \cot \theta = -(3\sqrt{5})/2$
- If $\sin \theta = 0.1$, find $\sin(\theta + \pi)$.
-0.1
- Find $\sec \theta = 2$ for all θ in radians.
 $\pi/3 + 2n\pi, -\pi/3 + 2n\pi$
- Find the exact values of:

a. $\sin(17\pi/4)$	b. $\cos(5\pi)$	c. $\tan(-3\pi/4)$
$\sqrt{2}/2$	-1	1
- In which quadrant or quadrants (if any) are:

a. sin and sec positive	b. tan and sin negative	c. cos, sec, and tan negative
I	IV	II
- Find the exact values of the following expressions:

a. $\sin^2 40^\circ + \cos^2 40^\circ$	b. $\sin(-\pi) + \cos(5\pi)$	c. $(\sin 80^\circ)(\csc 80^\circ)$
1	-1	1

8. Graph the following from $-2\pi < x < 2\pi$. Label the axes, and label each x- and y-intercept, and each maximum and minimum with an exact coordinate pair.

