{5 pts.} **1.** Fill in the following tables.

θ	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$
$\sin\theta$			
$\cos\theta$			
$\tan\theta$			

θ	0	$\frac{\pi}{2}$	π	$\frac{3\pi}{2}$	2π
$\sin\theta$					
$\cos\theta$					

{10 pts.} **2.** Find **and simplify** the values of all six trigonometric functions at $\theta = \frac{2\pi}{3}$.

{10 pts.} **3.** Find each of the following values.

(a) $\sec\frac{5\pi}{4}$

(b) $\cot\pi$

{15 pts.} **4.** Given $\tan\theta = \frac{4}{3}$ and $\pi \leq \theta \leq \frac{3\pi}{2}$, find **and simplify** the values of the other five trigonometric functions.

{15 pts.} **5.** Given $\sec\theta = \frac{\sqrt{13}}{2}$ and $0 \leq \theta \leq \frac{\pi}{2}$, find **and simplify** the values of the other five trigonometric functions.

{15 pts.} **6.** Find all θ in $[0, 2\pi]$ satisfying $\tan 2\theta = -\sqrt{3}$. Give your answer in radians.

{15 pts.} **7.** Find all θ in $[0, 2\pi]$ satisfying $\sin\theta \sec\theta + 2\sin\theta = 0$. Give your answer in radians.

{15 pts.} **8.** Find all θ in $[0, 2\pi]$ satisfying $2\cos^2\theta - \sin\theta - 1 = 0$. Give your answer in radians.

{5 pts.} **Extra Credit.** Given $\tan\theta + \sec\theta = 2$, find $\cos\theta$.