

Name: \_\_\_\_\_ Date: \_\_\_\_\_

**NB.** No calculators, no class notes, no nothing!

**Problem 1** (10 points). Complete the table, which is unfortunately on the back page.

*Hint.* Consider the unit circle  $x^2 + y^2 = 1$ . The trigonometric functions are defined as follows:

$$\sin \theta = y.$$

$$\cos \theta = x.$$

$$\tan \theta = \frac{y}{x}.$$

$$\csc \theta = \frac{1}{y}.$$

$$\sec \theta = \frac{1}{x}.$$

$$\cot \theta = \frac{x}{y}.$$

Consider the sign of each trigonometric function in each quadrant. Note also that

$$\tan \theta = \frac{\sin \theta}{\cos \theta}.$$

$$\csc \theta = \frac{1}{\sin \theta}.$$

$$\sec \theta = \frac{1}{\cos \theta}.$$

$$\cot \theta = \frac{1}{\tan \theta}.$$

	$\sin \theta$	$\cos \theta$	$\tan \theta$	$\sec \theta$	$\csc \theta$	$\cot \theta$
$\theta = 0$						
$\theta = \frac{\pi}{6}$						
$\theta = \frac{\pi}{4}$						
$\theta = \frac{\pi}{3}$						
$\theta = \frac{\pi}{2}$						
$\theta = \frac{2\pi}{3}$						
$\theta = \frac{3\pi}{4}$						
$\theta = \frac{5\pi}{6}$						
$\theta = \pi$						
$\theta = \frac{7\pi}{6}$						
$\theta = \frac{5\pi}{4}$						
$\theta = \frac{4\pi}{3}$						
$\theta = \frac{3\pi}{2}$						
$\theta = \frac{5\pi}{3}$						
$\theta = \frac{7\pi}{4}$						
$\theta = \frac{11\pi}{6}$						