1. Given that t is the real number that corresponds to the point (x, y) on the unit circle, fill in the following: (6pts)

$$\sin(t) = y \qquad\qquad \csc(t) = \frac{1}{y}$$

$$\cos(t) = x \qquad\qquad \sec(t) = \frac{1}{x}$$

$$\tan(t) = \frac{y}{x} \qquad\qquad \cot(t) = \frac{x}{y}$$

2. Find the point (x, y) on the unit circle that corresponds to $t = \frac{5\pi}{4}$. (1pt)

$$\left(-\frac{\sqrt{2}}{2}, -\frac{\sqrt{2}}{2} \right)$$

3. Evaluate the sine, cosine, and tangent for $t = -\frac{4\pi}{3}$. (3pts)

$$\sin\left(-\frac{4\pi}{3}\right) = -\sin\left(\frac{4\pi}{3}\right) = -\left(-\frac{\sqrt{3}}{2}\right) = \frac{\sqrt{3}}{2}$$

$$\cos\left(-\frac{4\pi}{3}\right) = \cos\left(\frac{4\pi}{3}\right) = -\frac{1}{2}$$

$$\tan\left(-\frac{4\pi}{3}\right) = \frac{\sin\left(-\frac{4\pi}{3}\right)}{\cos\left(-\frac{4\pi}{3}\right)} = \frac{\frac{\sqrt{3}}{2}}{-\frac{1}{2}} = -\sqrt{3}$$