Math 32, Spring 2010, Section 101
Worksheet 10

Work through the following problems in groups of about four. Take turns writing; everyone should get a chance to write for some of the problems. It's more important to understand the problems than to do all of them.

1. Evaluate $\sin(7\pi/2)$ and $\sin(-7\pi/2)$.
2. The point $(16\pi/3, y)$ is on the graph of $y = \sin x$. Can you determine the value of y? What can you say about it?
3. The point $(x, \frac{1}{2})$ is on the graph of $y = \cos x$. Can you determine the value of x? What can you say about it?
4. Prove that the following equation is an identity: $\sin^2 t - \cos^2 t = \dfrac{1 - \cot^2 t}{1 + \cot^2 t}$.
5. Use the unit circle to justify the fact that $\sin(t + \pi) = -\sin t$. Graph $y = \sin t$ and explain how this shows up on the graph.
6. It is a fact that $\sin 2 \approx 0.909$. Find another positive number and a negative number whose sines are also ≈ 0.909.