Math 1613 - Trigonometry
Quiz #8 - 2012.02.09
Solutions

1. What is the difference between angular speed and linear speed?

   Angular speed measures the change in angle over time, while linear speed measures the change in distance over time.

2. Find all values of $\theta \in [0, 2\pi)$ such that $\sin(\theta) = -\frac{1}{2}$

   First, we determine reference angle θ such that $\sin(\theta) = \frac{1}{2}$, which happens to be $\theta = \frac{\pi}{6}$. The sin function is negative in quadrants III and IV, so our θ values should be $\theta = \pi + \frac{\pi}{6} = \frac{7}{6}\pi$ and $\theta = 2\pi - \frac{\pi}{6} = \frac{11}{6}\pi$.