Please do the problems that you feel will help your group the most first (you don't have to do them in order). All handouts are available at `http://alex.knaust.info/pltlfall2011/`

1. Draw and label the unit circle. (Without copying a sheet)

2. Find the complement and supplement of the following angles

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

   (b) 1.5

   (c) $\frac{\pi}{12}$

3. Convert from degrees to radians

   (a) $45°$

   (b) $123°$

   (c) $-99°$

4. Find the length of the arc of a circle for the following radii and angles

   (a) $\theta = \frac{\pi}{4}, \quad r = 2$

   (b) $\theta = 29°, \quad r = 5$

   (c) $\theta = \frac{7\pi}{5}, \quad r = 1$

5. I travelled at constant speed for 5 meters in 23 seconds on my unicycle. I know my cycle's tire has an .875 meter diameter. How many revolutions per second did the wheel travel at?

6. Find the following values

   (a) $\sin\left(\frac{\pi}{4}\right)$

   (b) $\cot\left(\frac{\pi}{3}\right)$

   (c) $\cos\left(\frac{7\pi}{6}\right)$

   (d) $\tan\left(30°\right)$

7. My peer leader told me that $\tan(x) = \frac{\text{opposite}}{\text{adjacent}}$ and my teacher told me that $\tan(x) = \frac{\sin(x)}{\cos(x)}$. Which one is right? Explain.

8. Do the following lengths (side, side, hypotenuse) represent valid right triangles?

   (a) $3, \sqrt{3}, 2$

   (b) $3, 4, 5$

   (c) $\sqrt{2}, \sqrt{2}, 2$

9. Given you know only that sin and cos are odd and even functions respectively, show that tan is an odd function.