Math 32, Spring 2010, Section 101
Worksheet 9

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. What is the definition of an angle in radians?

2. Is $\sin{(3°)}$ equal to $\sin{(3 \text{ radians})}$? If there is no symbol indicating either degrees or radians, how should one interpret it (i.e. what does sin(3) mean?)

3. Why do we use radians?

4. How do you convert between radians and degrees?

5. What is the length of the shaded arc on the circle? What is the area of the sector it descibes?

6. A wheel of radius 10cm rotates 100 times per minute. What is the angular speed of the wheel? What is the linear speed of the outside edge? If the wheel had radius 10mm instead, would these speeds increase, decrease or stay the same (justify your answers intuitively)?