Additional Problems Assignment 1

1. Express each of the following in degree measure:
   (a) $\frac{\pi}{3}$
   (b) $\frac{7\pi}{10}$
   (c) $\frac{7}{5}$
2. Express each of the following in radian measure:
   (a) 20°
   (b) 35.24°
   (c) $50^\circ 15'$
   (d) $75^\circ 29' 18''$
3. Find the radius of a circle for which an arc 10m long subtends an angle of:
   (a) 1 rad
   (b) $\frac{2}{3}$ rad
   (c) $\frac{2\pi}{3}$ rad
   (d) 20°
   (e) 50°
   (f) 150°
4. If the radius of an automobile wheel is 0.6 meters and rotates at 500 revolutions per minute, what is the speed of the car in km/h? (Hint: Make sure you convert your units. You can check if your method works by applying it to problem 1.31 and see if you get the right answer.)
5. A train is traveling at the rate 12 mi/h on a curve of radius 3000 ft. Through what angle has it turned in 1 minute?