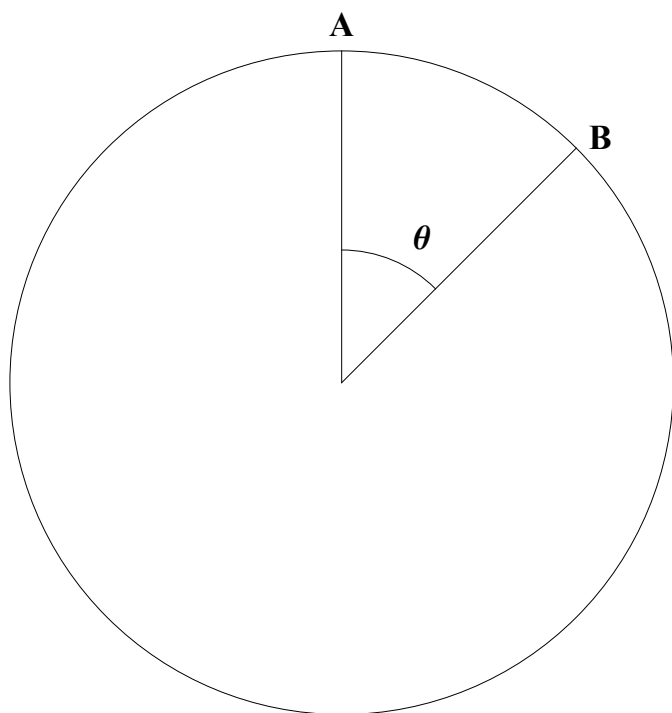# PHYS 111 K
HOMEWORK #10

Due : 24 Nov. 2015

1. This problem combines concepts of energy conservation and circular motion. Consider a particle that starts from rest at the top of a frictionless vertical circle of radius R (at position A) and slides toward position B.

a) What will be the speed of the particle when it makes an angle θ with the vertical? (5)

b) Sum the forces acting on the particle along the radial direction when the particle is at point B. (10)

c) Find the angle (with respect to the vertical) where the particle leaves the circle. (10)

2. Problem 53, p. 275.

3. Problem 49, p. 274.

4. Problem 71, p. 276

5. Problem 72, p. 276

6. Problem 2, (bottom of p. 276)

7. Problem 40, p. 273

8. Problem 24, p. 272