Your Name_____Section_____

HOMEWORK #6 - 8.01 MIT - Prof. Kowalski

Due 4:00PM Thursday Oct. 16, 2003

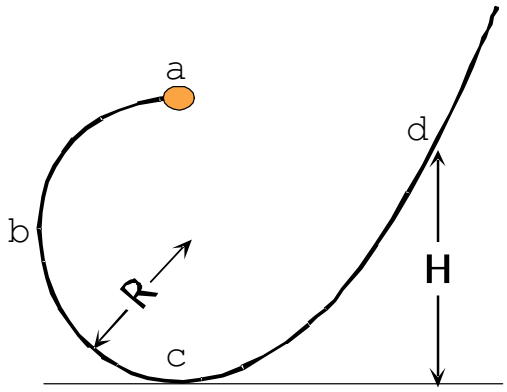
Topics: Potential Energy and Mechanical Energy Conservation

Any following problems designated with a bold number indicate problems from Young and Freedman 11th edition.

1. **7.42** (Assume that the curve at the base of the incline is smooth enough so that no energy is lost in rounding it.)
2. **7.58**
3. **7.72**

4. Bead Slides Around and Up Wire – 5 points

A bead of mass M slides on a smooth wire that is bent in a circle of radius R. It is released at the top of the circular part of the wire (point a in the figure) with a negligibly small velocity.



a)Find the normal force of the wire on the bead at point b (even with the center of the circle)
b)Find the normal force at point c (at the bottom of the circle).
c)Find the height H of point d where the mass will reverse direction.