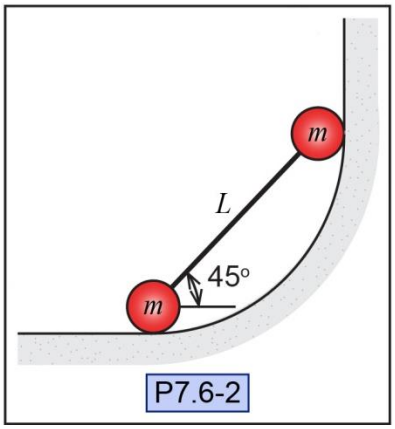
P7.6-2)[fe] Two identical balls of mass m are connected via a rigid rod of negligible mass and length L. If the system is released from rest at the position shown, determine the speed of the system when it reaches the bottom of the slope. Assume the sliding surface has negligible friction and the assembly slides in the vertical plane.



P7.6-2

Given:

Find:

Solution:

Work-Energy Balance

Is this a conservative or non-conservative system?

Draw, the two states you will be considering, either below or on the figure above.

Write down the work-energy balance equation in variable form.

WE.Eq: _____

Calculate the speed of the system at the bottom.

a) $v = 0.54\sqrt{gL}$ b) $v = 1.19\sqrt{gL}$

c) $v = 0.71\sqrt{gL}$ d) $v = 0.84\sqrt{gL}$