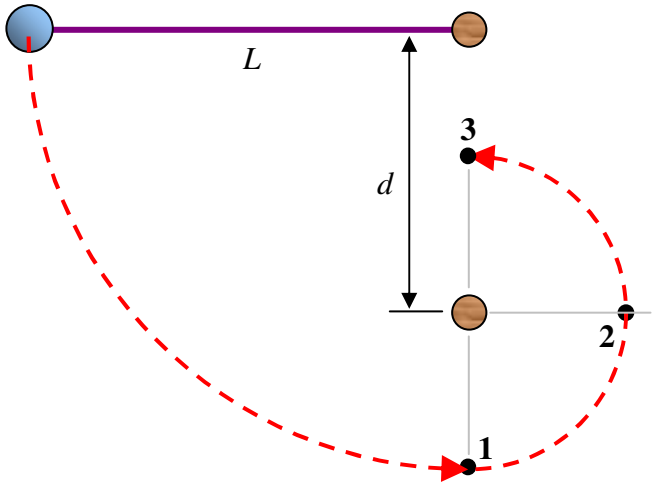
A thin string of length L = 4m is tied to a ball at one end, and to a small peg sticking out of a wall on the other end. In this drawing, the paper IS the wall. At a distance d = 2.5 below the peg is another peg of the same length. The ball is dropped from rest. Determine v_1, v_2, and v_3.



A child grabs a rope to swing out into a swimming pond. The child lets go of the rope when it is vertical. Determine the child's speed at position 2 (letting go) and 3 (hitting the water).