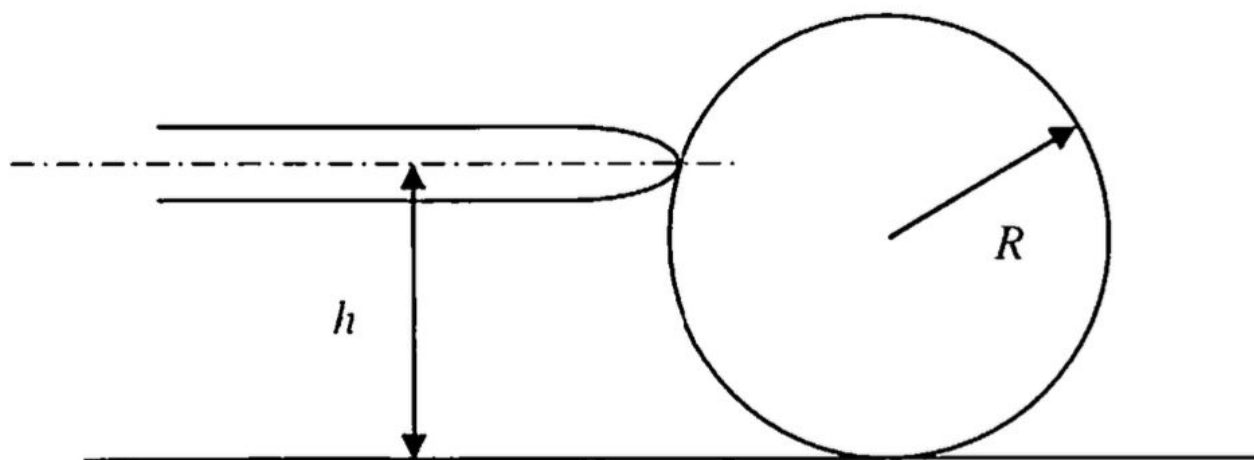


Problem 2: Billiards

A billiard ball of radius R and mass m is struck with a horizontal cue stick at a height h above the billiard table as shown in the figure below.



- Using the impulse approximation, determine the relationship between the initial values of the velocity v_0 and the angular velocity ω .
- Find the value of h for which the ball will roll without slipping.