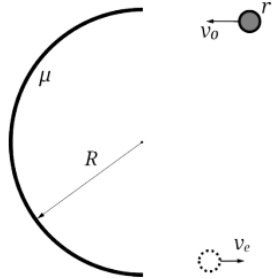
T1: Sliding puck (10 pts)

A puck (a small disc) with radius r and uniform density is moving on a horizontal plane with the velocity v_0 without rotation. The puck meets a fixed half-circular wall with a radius $R \gg r$ and starts to move along the wall. The coefficient of friction with the wall is μ, and friction with the horizontal plane is negligible.



a) (8 pts) Find the velocity of the puck v_e when it leaves the wall.

b) (2 pts) Sketch the graph $v_e(\mu)$. Indicate important features of the graph. You are encouraged to sketch the graph even if you haven't found the exact formula for v_e.