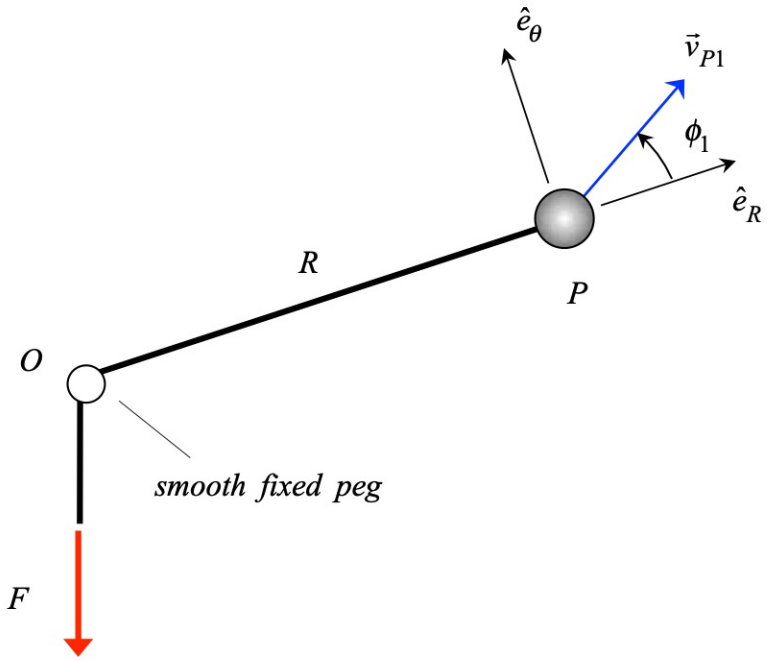
Homework H.4.T

Given: A rope is attached to particle P (having a mass of m) with the rope being pulled through a hole in a fixed, smooth peg by a constant force F applied at the other end of the rope. At the initial state, P has a speed of v_{P1} and is at a distance $R = R_1$ from the peg. The particle moves on a smooth horizontal plane.

Find: Determine the value of $\dot{R}_2$ when $R = R_2$.



HORIZONTAL PLANE

Use the following parameters in your analysis: $m = 6$ kg, $\phi_1 = 30°$, $R_1 = 3$ m, $R_2 = 4$ m, $F = 60$ N and $v_{P1} = 20$ m/s.

©Freeform