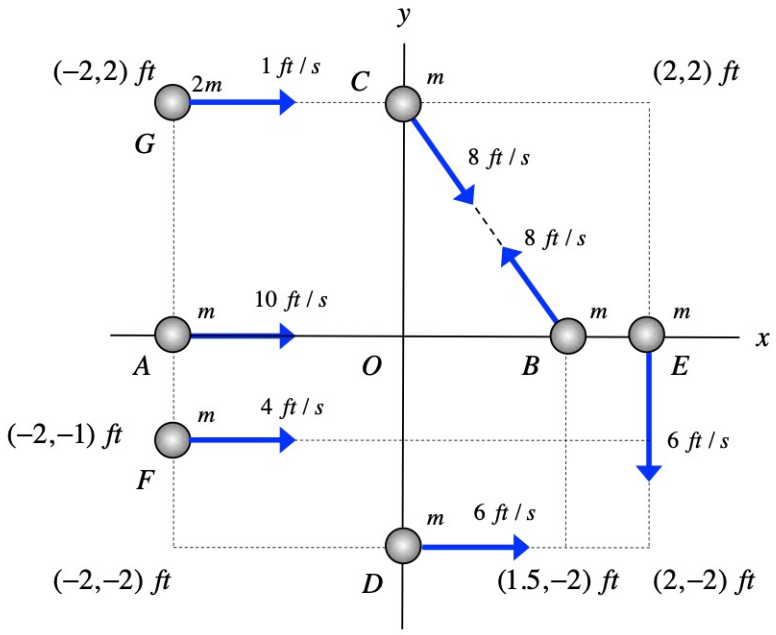
Homework H.4.Q

Given: Seven particles, A through G, move within a single plane. The mass of each particle is shown in the figure below, along with the velocity and position of each particle.

Find: Determine the total angular momentum about the fixed point O for the entire system of seven particles.

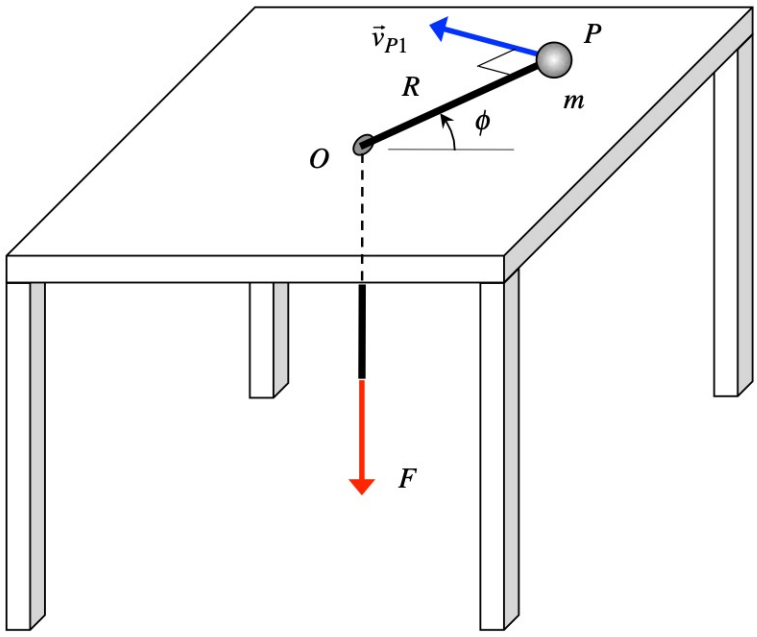


Use the following parameters in your analysis: $m = 40$ slugs.

Homework H.4.R

Given: Particle P, having a mass of m, is able to slide on the smooth, horizontal top of a table. A flexible cable is attached to P, with the cable being fed through a hole in the table at O. A constant force F acts on the other end of the cable. The system is released with P being at a radial distance $R = R_1$ from O, and with P having a velocity perpendicular to OP with a speed of v_{P1}.

Find: Determine the numerical values for $\dot{R}$ and $\dot{\phi}$ when P has moved to a position for which $R = R_2$.



Use the following parameters in your analysis: $m = 2$ kg, $R_1 = 1.5$ m, $R_2 = 0.5$ m, $v_{P1} = 5$ m/s and $F = 236$ N.