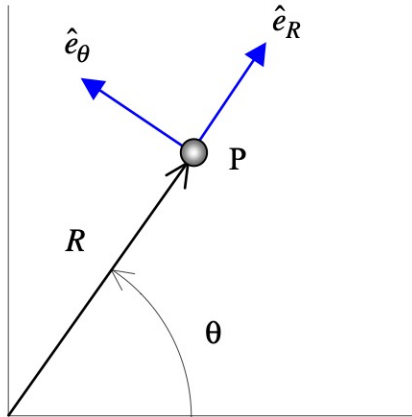


HomeworkH1.H

Given: At the instant shown, the polar components for the velocity and acceleration of particle P are known as \vec{v}_P and \vec{a}_P , respectively.

Find: For this instant, determine the speed, rate of change of speed and radius of curvature for the path of P.



Use the following parameters in your analysis: $\vec{v}_P = (30\hat{e}_R - 40\hat{e}_\theta)$ ft/s and $\vec{a}_P = (-4\hat{e}_\theta)$ ft/s².