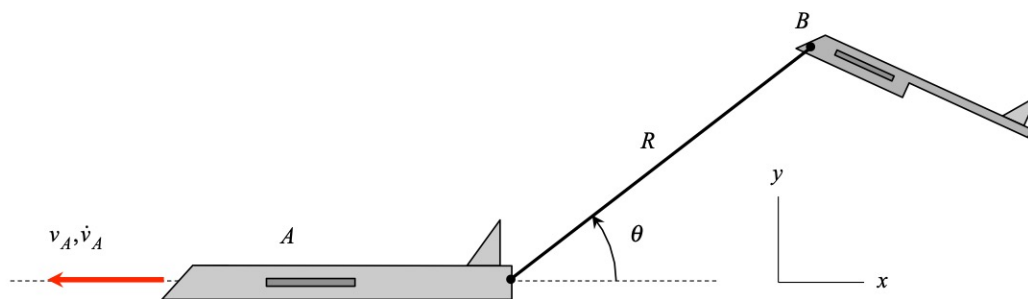


Problem H.1.J

Given: Aircraft A is traveling along a straight-line path with a speed of v_A that is increasing by an amount of \dot{v}_A . The aircraft is towing a glider B with a cable that has a length of R . The angle θ of the towline is increasing by a constant amount of $\dot{\theta}$.

Find: For this problem:

- Determine the velocity vector of the point on glider B to which the cable is attached.
- Determine the acceleration vector of the point on glider B to which the cable is attached.



Use the following parameters in your analysis: $R = 80$ m, $v_A = 100$ m/s, $\dot{v}_A = 4$ m/s² and $\theta = 20^\circ$ and $\dot{\theta} = 0.1$ rad/s.