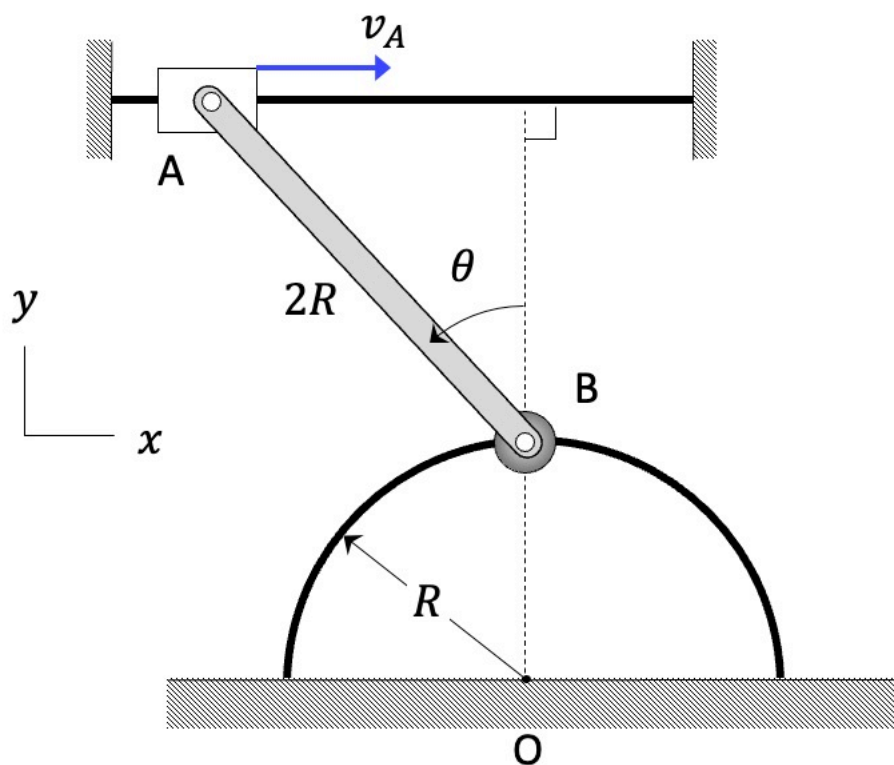


Homework H2.C

Given: End A of bar AB pinned to a block that is constrained to move along a straight, horizontal guide, whereas end B is constrained to move along a semi-circular guide having a radius of R and its center at O. The block is moving with a constant speed of v_A to the right. At the position shown, B is directly above the guide's center O, and bar AB is at an angle of θ from the vertical, as shown in the figure.

Find: For this position:

- (a) Determine the angular velocity vector for bar AB and the velocity vector for B.
- (b) Determine the angular acceleration vector for bar AB and the acceleration vector for B.
- (c) Make a sketch of the system showing \vec{v}_B and \vec{a}_B .



Express your final answers in terms of, at most: v_A , R and θ .