Homework H.2.F

Given: Rigid bar AB is constrained to move along an angled slot at end A. A circular disk with an outer radius of R is able roll without slipping on a rough, horizontal floor. Bar AB is pinned to disk at point B on the perimeter of the disk. Pin A is known to move with a constant speed of v_A in the slot. At the position shown, bar AB is horizontal

Find: For position shown:

- (a) Determine the angular velocities of link AB and of the disk. Write your answers as vectors
- (b) Determine the angular accelerations of link AB and of the disk. Write your answers as vectors



Use the following parameters in your analysis: R = 2 ft, L = 6 ft, $v_A = 10$ ft/s and $\theta = 36.87^{\circ}$.