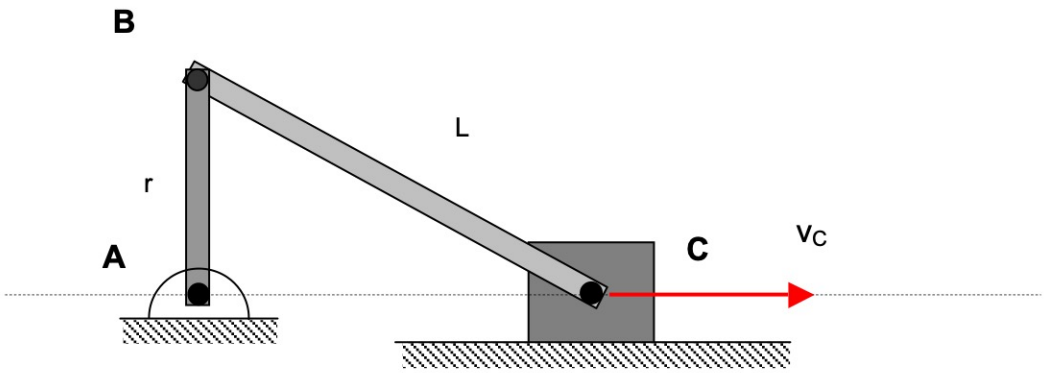
Homework H.2.E

Given: A mechanism is made up of two links AB and BC pinned together at point B, and with link AB pinned to ground at point A. Link BC is pinned to a block that is constrained to move on a horizontal plane. At the instant shown, AB is vertical, and point C is moving to the right with a speed of v_C with this speed changing at a rate of $\dot{v}_C$.

Find: For this position:

(a) Determine the angular velocity of links AB and BC. Write your answers as vectors.

(b) Determine the angular acceleration of links AB and BC. Write your answers as vectors.



Use the following parameters in your analysis: r = 1 ft, L = 1.5 ft, v_C = 10 ft/s and $\dot{v}_C$ = -20 ft/s^2.