Homework 2.G

Given: A disk rolls without slipping as it moves to the right with its center O having a speed of v_O along a horizontal surface. Link BE is attached to the disk at E, and link AB is attached to link BE at B. At the instant shown, E is directly to the left of O, and links AB and BE are vertical and horizontal, respectively.

Find: For this problem:

(a) Locate the instant centers (ICs) for the disk and for link BE.

(b) Based the location of these ICs, determine the angular speed of the disk, link AB and link BE. Leave your answers in terms of, at most: R and v_O.

(c) Based the location of these ICs, state whether the angular velocities found in (b) above are clockwise, counterclockwise or zero. Provide written arguments for these answers.

NOTE: Please use only the instant center approach for this problem. No credit will be given for the use of vector analysis to find your answers.