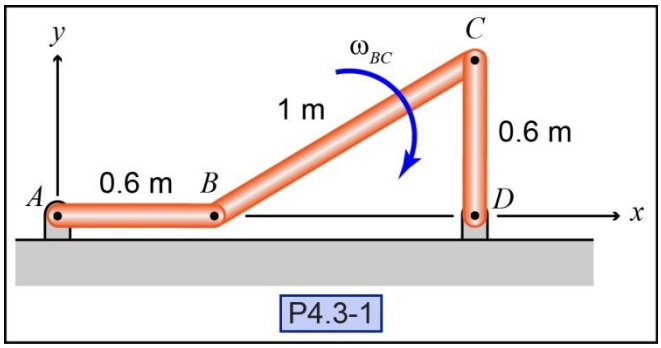
P4.3-1) At the instant shown in the figure, link BC has a clockwise angular velocity of $\boldsymbol{\omega}_{BC}$ = -2 **k** rad/s. Determine the angular velocity of links AB and CD.



P4.3-1

Given:

Find:

Solution:

Determine the velocity of point *B* and point *C* as a function of angular speed.

Draw the direction of the velocities and angular velocities on the figure.

$\mathbf{v}_B(\omega_{AB})$ = _____

$\mathbf{v}_C(\omega_{CD})$ = _____

Determine the angular velocity of link *AB* and link *CD*.

What is the angle between link BC and the horizontal?

θ = _____

Using the relative velocity equation, write down the equation that relates the velocity of point C, point B., and ω_{AB}

$\mathbf{v}_C$ = _____

Using the velocity for $\mathbf{v}_C$ specified earlier, solve for the angular velocities.

$\boldsymbol{\omega}_{AB}$ = _____

$\boldsymbol{\omega}_{CD}$ = _____