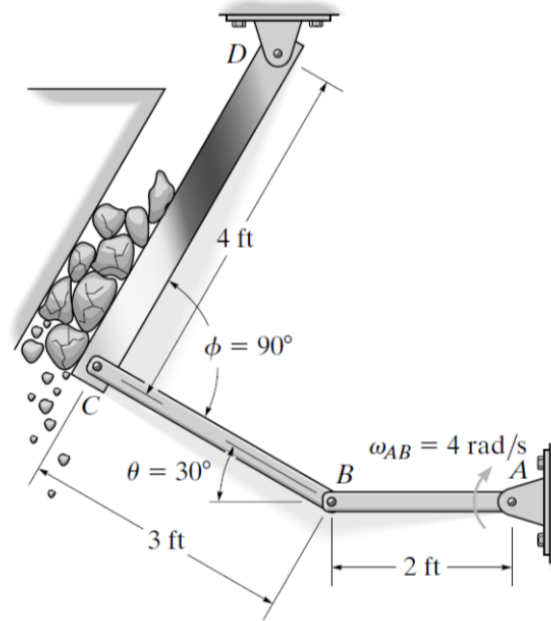


4) Determine the angular velocity and the angular acceleration of the plate CD of the stone-crushing mechanism at the instant AB is horizontal. At this instant $\theta = 30^\circ$ and $\phi = 90^\circ$. Driving link AB is turning with a constant angular velocity of $\omega_{AB} = 4 \text{ rad/s}$. Show necessary free body diagram(s), and clearly label coordinate system(s).



20 marks