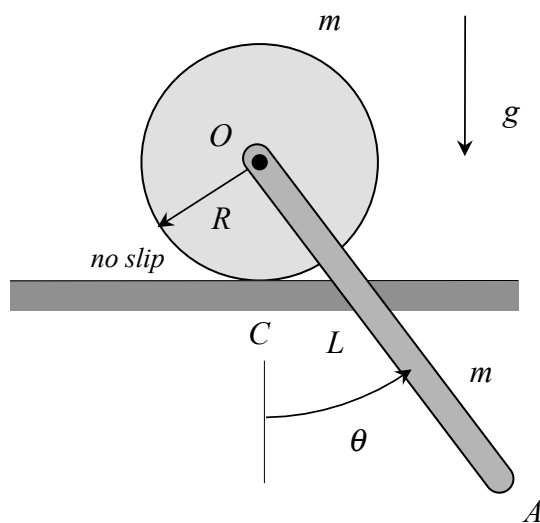


Homework H.5.F

Given: A thin homogeneous bar OA (of mass m and length L) is pinned to a homogeneous disk (of mass m and radius R) at the disk's center O . The disk is able to roll without slipping on a rough horizontal surface. The system is released from rest with the bar at an angle of θ measured counterclockwise from vertical.

Find: For this problem:

- Determine the angular acceleration of the disk on release.
- Determine the angular acceleration of bar OA on release.



Use the following parameters in your analysis: $m = 30$ kg, $R = 0.5$ m, $L = 1.5$ m and $\theta = 60^\circ$.