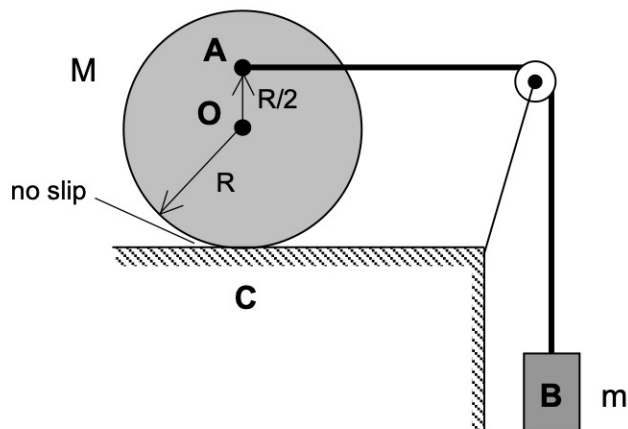


Homework H5.E

Given: An inextensible cable connects block B with point A on a rigid, homogeneous disk. At the instant shown, point A is directly above the disk's center O. Block B has a mass of m , and the disk has a mass of M . The disk is able to roll without slipping on a rough horizontal surface with point C being the contact point. The system is released from rest.

Find: Determine the angular acceleration of the disk immediately after release.



Use the following parameters in your analysis: $M = 20$ kg, $m = 40$ kg, and $R = 0.1$ m.