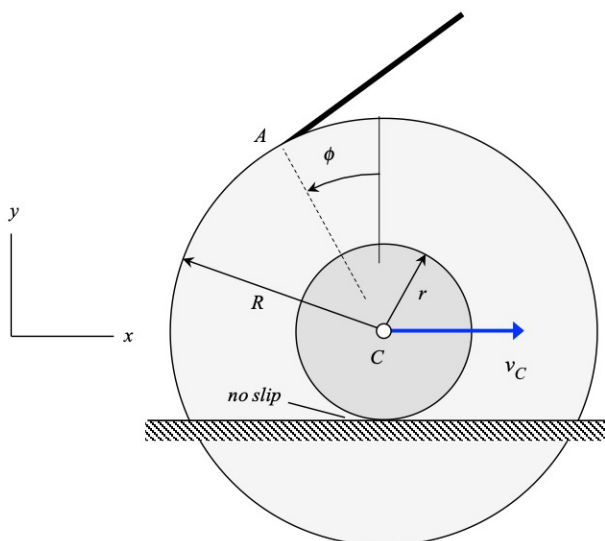


Homework H.2.E

Given: The compound wheel assembly shown below is driven by a cable attached to the outer rim of the assembly at point A. The wheel rolls without slip at point B with point C moving to the right with a speed of v_C , and the acceleration at point A is given by $\vec{a} = a_x \hat{i} + a_y \hat{j}$

Find: Determine the acceleration of the center point C of the pulley.



Use the following parameters in your analysis: $R = 0.1$ m, $r = 0.0125$ m, $\phi = 0^\circ$, $a_x = 8$ m/s² and $a_y = -3$ m/s².