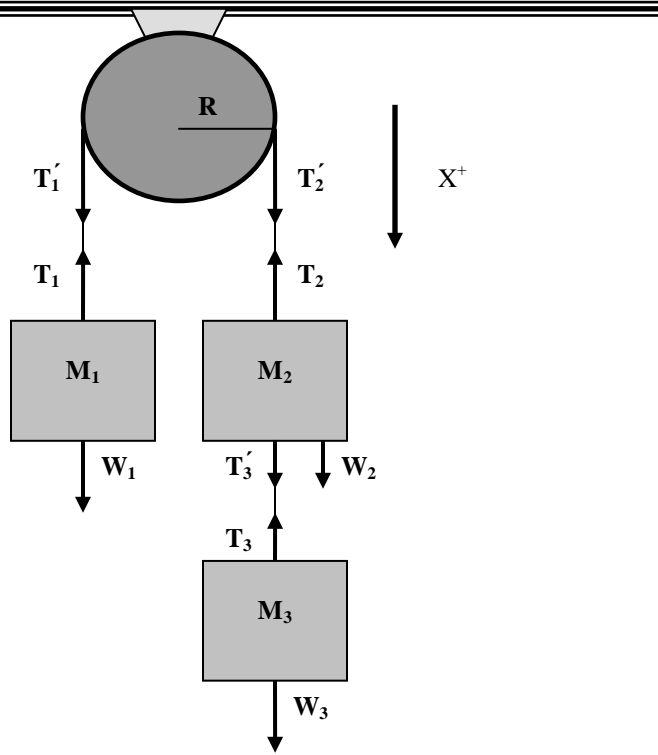


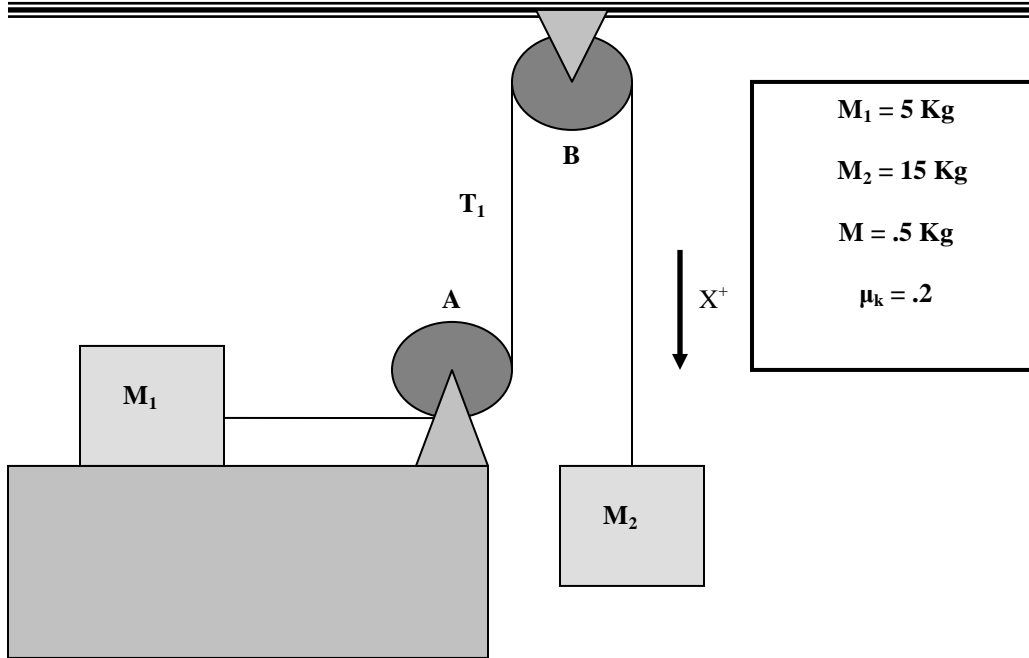
Rotational Dynamics (Advanced)

N2L Enrichment Problem 1 - (Dynamics w/ Rotational Inertia)

Determine the symbolic acceleration of a system if the pulley has a mass (M), a radius (R), and the pulley is a cylindrical disk which rotates about a fixed frictionless axle.

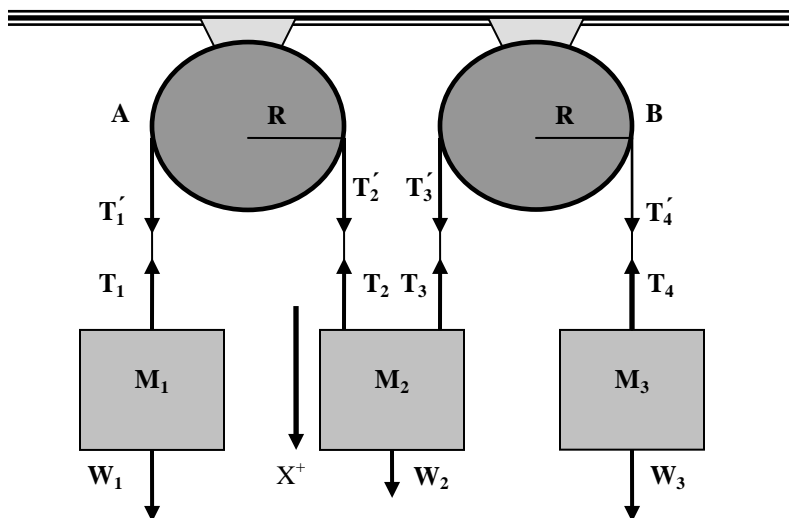


**N2L Enrichment Problem 2-
(Dynamics w/ Friction and Rotational Inertia)**



Determine the symbolic and numerical acceleration of the system if the pulleys have a mass (M), a radius (R), and the pulleys are cylindrical disks which rotate about a fixed frictionless axle. Assume the surface is rough!

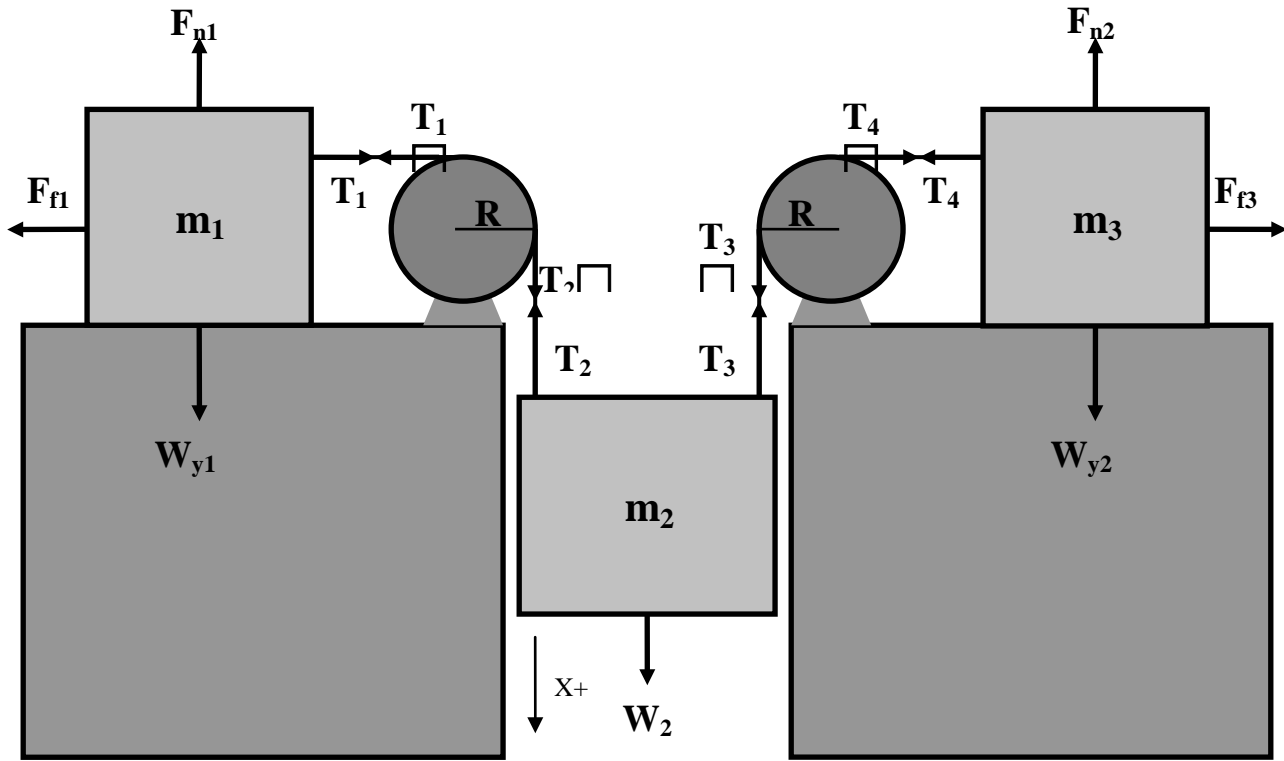
**N2L Enrichment Problem 3-
(Dynamics w/ Rotational Inertia)**



Determine the symbolic acceleration of the system if the pulleys have a mass (M), a radius (R), and the pulleys are cylindrical disks which rotate about a fixed frictionless axle.

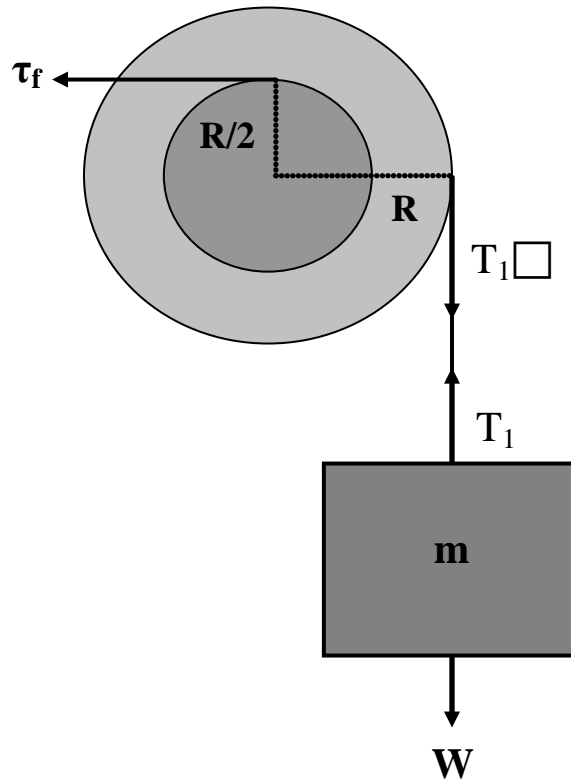
Blank area for the student's solution.

Unit 5-N2L
(Dynamics W/ Friction and Rotational Inertia)
Problem 4



Determine the acceleration of the system if the surface is rough and the pulleys are cylindrical and rotate about a fixed frictionless axle. Let the mass of the pulley be M and the radius R .

Unit 5 – N2L
(Dynamics W/ Rotational Inertial and Fixed Rough Axle)
Enrichment Problem 5



Determine the torque due to friction (τ_f) from the fixed rough axle as a function of the time (t) and distance fallen (y).