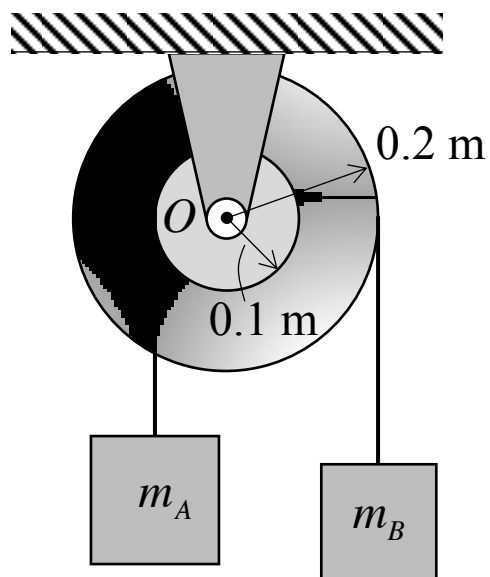


**Homework H.5.E**

**Given:** A constant frictional torque  $M_f$  from the bearings at point O resist the motion of the pulley system shown. The mass and radius of gyration of the pulley are known to be  $m$  and  $k_O$ , respectively.

**Find:** Determine the angular acceleration of the pulley on release.



Use the following parameters in your analysis:  $M_f = 2\text{ Nm}$ ,  $m = 14\text{ kg}$ ,  $m_A = 8\text{ kg}$ ,  $m_B = 6\text{ kg}$  and  $k_O = 0.125\text{ m}$ .