

Physics – Problem Idea for IVET

Two blocks ($m_1 = 1.0 \text{ kg}$, $m_2 = 0.6 \text{ kg}$) are hanging from a pulley as shown in the figure below. The moment of inertia through the axis of rotation passing through the center of the pulley is $I = 1.70 \text{ kgm}^2$. The ropes are attached at two different distances from the center of the pulley ($R_1 = 30\text{cm}$ and $R_2 = 20\text{cm}$).

Find the angular acceleration α of the pulley system and the tensions T_1 and T_2 .

