Simulating a stick by three point masses

Consider a nonuniform rod with mass $m$ and moment of inertia $I_0$ for rotations about an axis through the center of mass and perpendicular to the axis of the rod. The moment of inertia for rotations about a parallel axis displaced by $x$ is then $I_x = I_0 + mx^2$.

Show that three point masses $m_0, m_1, m_2$ with $m_0 + m_1 + m_2 = m$ in the configuration shown can be chosen such that its moment of inertia for rotations about an axis through $m_0$ is $I_0$ and that for rotations about a parallel axis displaced by $x$ is $I_x$ just as is the case for the rod. Express the values of $m_0, m_1, m_2$ as functions of the specifications $m, I_0, a, b$ of the rod.

Solution: