A three-particle system consists of masses m_i and coordinates (x_1, x_2, x_3) as follows:

$$m_1 = 3m, \quad (b, 0, b)$$

$$m_2 = 4m, \quad (b, b, -b)$$

$$m_3 = 2m, \quad (-b, b, 0)$$

Find the inertia tensor, principal axes, and principal moments of inertia.