## EXERCISE 1

A model of the water molecule $\mathrm{H}_{2} \mathrm{O}$ is shown in MT Figure 9-B.

a. Where is the center of mass? $X=? Y=? Z=$ ?
b. What is the moment of inertia about the $x$ axis? $I_{\mathrm{X}}=$ ?
c. What is the moment of inertia about the $y$ axis? $I_{\mathrm{y}}=$ ?
d. What is the moment of inertia about the $z$ axis? $I_{\mathrm{Z}}=$ ?
e. What is the moment of inertia about an axis that goes through the hydrogen atoms? $I^{\prime}=$ ?

