1 Sun vs. Jupiter

Gain experience with the relative sizes of objects and distances in the Solar System. Gain experience with realistic reduced masses.

Calculate the following quantities:

(a) Find $|\vec{r}_{\text{sun}} - \vec{r}_{\text{cm}}|$ and μ for the Sun-Earth system. Compare $|\vec{r}_{\text{sun}} - \vec{r}_{\text{cm}}|$ to the radius of the Sun and to the distance from the Sun to the Earth. Compare μ to the mass of the Sun and the mass of the Earth.

(b) Repeat the calculation for the Sun-Jupiter system.