$$F = G\,\frac{m_1 m_2}{r^2}$$

To compare the gravitational force exerted on a baby by Jupiter and by the baby's mother when the baby is held close to the mother's chest, consider the ratio of forces. The baby's mass cancels:

$$\frac{F_J}{F_M} = \frac{M_J/r_J^2}{M_M/r_M^2} = \frac{M_J}{M_M}\left(\frac{r_M}{r_J}\right)^2$$

Assumed values:

$$M_M = 65\,\mathrm{kg} \qquad m_b = 3.5\,\mathrm{kg} \qquad r_M = 0.20\,\mathrm{m}$$

$$M_J = 1.898\times10^{27}\,\mathrm{kg}$$

Earth–Jupiter distance:

$$r_J = 6.28\times10^{11}\ \mathrm{m} \quad \text{(closest)}$$

$$r_J = 9.28\times10^{11}\ \mathrm{m} \quad \text{(farthest)}$$

Mother–baby gravitational force:

$$F_M = G\,\frac{(65)(3.5)}{(0.20)^2} \approx 3.8\times10^{-7}\,\mathrm{N}$$

Jupiter–baby gravitational force:
Closest approach:

$$F_J = G\,\frac{(1.898\times10^{27})(3.5)}{(6.28\times10^{11})^2} \approx 1.1\times10^{-6}\,\mathrm{N}$$

Farthest separation:

$$F_J \approx 5.2\times10^{-7}\,\mathrm{N}$$

Force comparison:

$$\left.\frac{F_J}{F_M}\right|_{\text{closest}} \approx \frac{1.1\times10^{-6}}{3.8\times10^{-7}} \approx 2.9$$

$$\left.\frac{F_J}{F_M}\right|_{\text{farthest}} \approx \frac{5.2\times10^{-7}}{3.8\times10^{-7}} \approx 1.4$$