

$$r^2 = dx^2 + dy^2 + dz^2$$

$$\begin{aligned} G \frac{m_1 m_2}{r^2} \div m_1 &= G \frac{m_2}{r^2} \\ G \frac{m_2}{r^2} \times \frac{\mathbf{r}}{r} &= a \end{aligned}$$