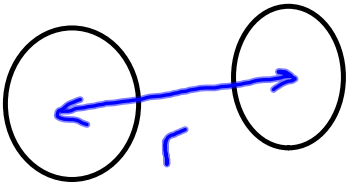
$$F_N = G\frac{2m_1 2m_2}{r^2}$$

$$F_N = 4\left[G\frac{m_1 m_2}{r^2}\right]$$



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

$$r_N = \frac{1}{3}r = \frac{r}{3}$$

$$F_N = \frac{G m_1 m_2}{\left(\frac{r}{3}\right)^2}$$

$$F_N = \frac{G m_1 m_2}{\frac{r^2}{9}}$$

$$F_N = \left(G\frac{m_1 m_2}{r^2}\right)9$$

$G \neq g$

$$F_o = \left(\frac{G m_1 m_2}{r^2}\right)$$ } NEWTON'S LAW of UNIVERSAL GRAVITATION

$$F_N = \frac{G(2m_1)(2m_2)}{r^2} = 4\left(G\frac{m_1 m_2}{r^2}\right)$$

$r_o = r$

$r_N = \frac{r}{3}$

$$F_o = \left(\frac{G m_1 m_2}{r^2}\right)$$

$$F_N = \left(\frac{G m_1 m_2}{\left(\frac{r}{3}\right)^2}\right) = \frac{G m_1 m_2}{r^2/9} = 9\left(\frac{G m_1 m_2}{r^2}\right)$$