

$$F = G \cdot \frac{m_s \cdot m_T}{d_{ST}^2}$$

$$P = m_T \cdot g_s$$

$$m_T \cdot g_s = G \cdot \frac{m_s \cdot m_T}{d_{ST}^2}$$

$$g_s = \frac{6,7 \cdot 10^{-11} \frac{\text{N} \cdot \text{m}^2}{\text{kg}^2} \cdot 2 \cdot 10^{30} \text{ kg}}{(1,5 \cdot 10^{11} \text{ m})^2}$$

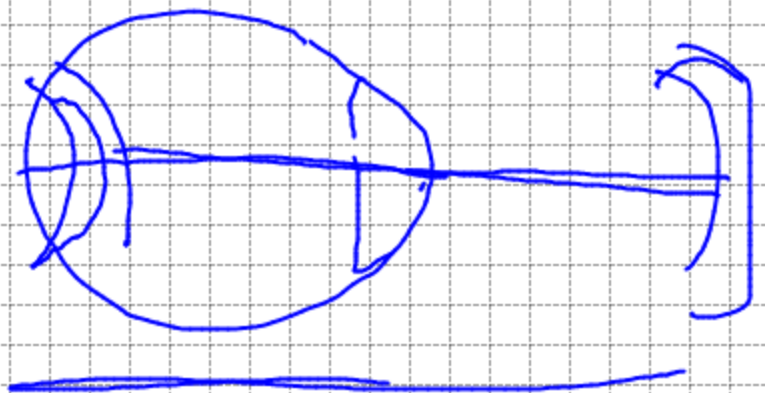
$$m_T \cdot g_L = G \cdot \frac{m_T \cdot m_L}{d_{TL}^2}$$

$$\frac{g_s}{g_L} = \left(\frac{m_s}{m_L} \right) \cdot \left(\frac{d_{TL}^2}{d_{ST}^2} \right)$$

$$F_G = G \frac{m_1 m_2}{(d)^2}$$

$$\frac{2 \cdot 10^{30} \text{ kg} \cdot (3,8 \cdot 10^8 \text{ m})^2}{7,3 \cdot 10^{22} \text{ kg} \cdot (1,5 \cdot 10^{11} \text{ m})^2} = 1,8 \cdot \frac{10^{46}}{10^{44}}$$

$$1,8 \cdot 10^2 = 180$$



INFLUENZA DI GIOVE IN ASSOLUTO

$$F = G \frac{m_G m_T}{d_{GT}^2}$$

$$\oplus = m_T g_G$$

$$G \frac{m_G m_T}{d_{GT}^2} = m_T g_G$$

$$\frac{(6,7 \times 10^{-11})(2 \times 10^{27} \text{ Kg})}{(5 \cdot 1,5 \times 10^{11} \text{ m})^2} = g_G$$

$$g_G = 0,24 \times 10^{-6} \text{ m/s}^2$$

$$F_G = F_c$$

$$F_G = G \frac{m_T m}{R^2}$$

$$G \frac{m_T m}{R^2} = \frac{v^2}{R}$$

$$F_c = \frac{v^2}{R} m$$

$$v = \sqrt{\frac{G m_T}{R}}$$

$$v = \omega R$$

$$a_c = \frac{(\omega R)^2}{R}$$

$$a_c = \frac{\omega^2 R^2}{R} = \omega^2 R$$

$$\omega = \frac{2\pi}{T}$$

$$a_c = \frac{4\pi^2}{T^2} R$$

$$F_c = \frac{4\pi^2}{T^2} R m$$

$$\frac{4\pi^2}{T^2} R m = G \frac{m_T m}{R^2}$$

$$\frac{T^2}{R^3} = \frac{4\pi^2}{G m_T}$$

CALCOLARE IL PERIODO DI RIVOLUZIONE DELLA
TERRA ATTORNO AL SOLE

$$R = 1,5 \cdot 10^{11} \text{ m}$$

$$m_S = 2 \cdot 10^{30} \text{ Kg}$$