
$$1/6 \quad F = W = \frac{G m_1 m_2}{r^2}$$

$$\text{where } G = 6.673 (10^{-11}) \text{ m}^3 / (\text{kg} \cdot \text{s}^2)$$

$$m_1 = 80 \text{ kg}$$

$$m_2 = 5.976 (10^{24}) \text{ kg}$$

$$\text{and } r = (6371 + 250) (10^3) \text{ m}$$

Substitute these numbers $\frac{1}{1}$ obtain $W = 728 \text{ N}$

$$\text{U.S. units : } W = 728 \text{ N} \left(\frac{1 \text{ lb}}{4.4482 \text{ N}} \right) = \underline{163.6 \text{ lb}}$$