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$$F = \frac{G m_e m_m}{d^2} = \frac{6.673(10^{-11})(5.976 \cdot 10^{24})^2(1)(0.0123)}{(384\,398 \cdot 10^3)^2}$$
$$= \underline{1.984(10^{20}) \text{ N}}$$
$$F = 1.984(10^{20}) \text{ N} \left(\frac{1 \text{ lb}}{4.4482 \text{ N}} \right) = \underline{4.46(10^{19}) \text{ lb}}$$

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