## Question

*Given:*

$m_1 = m_2 = 100 \text{ kg}$

$r = 1 \text{ m}$

$G = 6.67 \times 10^{-11} \ \frac{N \cdot m^2}{kg^2}$

*Solution:*

The force of attraction between two objects can be found by the formula:

$F = G \cdot \frac{m_1 \cdot m_2}{r^2}$, where $m_1$ - mass of the first object, $m_2$ - mass of the second object, $r$ - the distance between two objects and $G$ - gravitational constant.

So, we have:

$$F = G \cdot \frac{m_1 \cdot m_2}{r^2} = 6.67 \times 10^{-11} \ \frac{N \cdot m^2}{kg^2} \cdot \frac{100 \text{ kg} \cdot 100 \text{ kg}}{(1 \text{ m})^2} = 6.67 \times 10^{-7} \ N.$$

The force of attraction on the Moon will remain the same because the masses don't change and G (gravitation constant) will also be the same.

Answer: $6.67 \times 10^{-7} \ N$ .