Question#19418

What is the gravitational force between a teacher of mass 90 kg and a student of mass 60 kg if the student sits on the front row 2 m from the teacher?

Solution:

According to ***Newton's law of universal gravitation*** the gravitational force is:

$F = G\frac{M_1 M_2}{r^2}$, **were: M_1, M_2 the masses of the bodies, r-distance**

G=6.67384x10^{-11} (m/kg)^2 gravitational constant.

$$F = 6.67384 * 10^{-11}\frac{90*60}{2^2} = 9.01 * 10^{-8}\ N$$

Answer: 9.01x10^{-8} N