**Newton’s Universal Law**

**Of Gravitation.**

**U. Law of G. : Every particle in the Universe attracts every other particle with a force that is directly proportional to the product of their masses and inversely proportional to the square of the distance between them.**

**Equation:**

 **F = G m1m2/ r2**

**F = force (N)**

**G (constant of universal gravitation)=**

**6.673 x 10-11 N m2/Kg2**

**m1 = mass 1 (Kg)**

**m2 = mass 2 (Kg)**

**r = distance between the two masses (m)**

**Newton’s Gravity I**

1. **If mass 1 was 10 Kg and mass 2 was 25 Kg and they were 15 m apart, what is the gravitational force between them?**
2. **If there was a force of 152 N between mass 1 (15 Kg) and it was 52.6 m from mass 2, what is the quantity of mass 2?**
3. **If Mass 1 (15.5 Lb) and mass 2 (14.5 Lb) created a force of 25N, what is the distance between them?**
4. **If mass 1 (165 Lb) and mass 2 (185 Lb) were .75 miles apart, what is the force between them?**