

H.W. 9/10/21

GRAVITATION

Q1. Which force is responsible for stability of our universe?

Ans) Gravitational force is responsible for stability of our universe.

Q2. Which force is required to maintain a body in uniform circular motion?

Ans) Centripetal force is required to maintain a body in uniform circular motion.

Q3. What is gravity?

Ans) The universal force of attraction acting between all matter.

Q4. How is the weight of an object related to its mass?

Ans) The weight of an object or a body is a measure of the force exerted on the object by gravity, or the force needed to support it.

$$W = mg$$

Q5. Mass

Q5. Mass of boy on earth is 40 kg, what is the mass on the moon?

Ans) $(W) = mg = 40 \times 9.8 = 392 \text{ N}$

Q6. What is the effect of shape of earth on value of 'g'?

Ans) As we know $g = \frac{GM}{R^2}$

hence $g \propto \frac{1}{R^2}$