

Name :

Subject : Physics

Class: IX

Date :

1. 2 bodies A & B of the same mass are moving with velocity  $v$  &  $3v$  respectively. Compare their
  - a) Inertia
  - b) Momentum
  - c) The force needed to stop them in the same line.
2. Why do we get hurt by falling on a concrete track than on a sand track?
3. 2 identical bullets are fired, one by a light rifle and another by heavy rifle with the same force. Which rifle will hurt the shoulder more and why?
4. An object of mass 100 kg is accelerated uniformly from a velocity of 5m/s to 8 m/s. Calculate the initial & final momentum of the object. Also, find the magnitude of the force exerted on the object.
5. A body of mass 0.5 kg undergoes a change of velocity of 4cm/s in 4 sec. What is the force acting on it?
6. Prove that the equation of motion  $v = u + at$ , and also find the area under it.
7. Explain how the gravitational force between two objects depends on the distance between them.
8. How much is the weight of an object on the moon as compared to its weight on the earth? Give reason.
9. State and explain Kepler's law of planetary motion.
10. State difference between mass & weight.
11. A body has a weight of 10 kg on the surface of the earth. What will be its weight when taken to the centre of the earth?
12. A bullet hits a sand box with a velocity of 20 m/s and penetrate it up to a distance of 6 cm. Find the deceleration of the bullet in the sand box.