

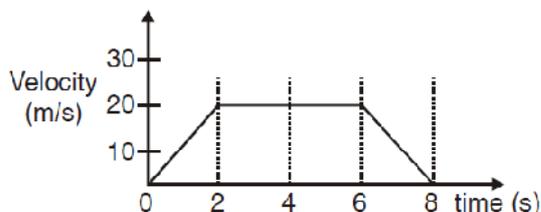
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Class IX (Physics)

Sheet 2 (Motion)

1. An object is projected upwards with a velocity of 100 m/s. Calculate when it will strike the ground.
2. A car moving with a speed of 50 km/h, can be stopped by breaks after at least 6m. If the same car is moving at a speed of 100 km/h, find the minimum stopping distance.
3. Why can speed of a particle not be negative?
4. Is it possible in straight line motion a particle have zero speed and a non-zero velocity?
5. Suggest a situation in which an object is accelerated and have constantspeed.
6. Two balls of different masses are thrown vertically upward with same initial velocity. Maximum heights attained by them are h_1 and h_2 respectively. What is h_1/h_2 ?
7. A car moving with velocity of 50 km/hr. on a straight road is ahead of a jeep moving with velocity 75 km/hr. How would the relative velocity be altered if jeep is ahead of car?
8. Which of the two-linear velocity or the linear acceleration gives the direction of motion of a body?
9. What are positive and negative acceleration in straight line motion?
10. Can a body have zero velocity and still be accelerating? If yes gives any situation.
11. Is the acceleration of a particle in circular motion not always towards the Centre? Explain
12. The velocity time graph for a particle is shown in figure. Draw acceleration time graph from it.



13. For an object projected upward with a velocity V_0 , which comes back to the same point after some time, draw
 - (i) Acceleration-time graph
 - (ii) Position-time graph
 - (iii) Velocity-time graph
14. What is the weight on earth of a 50 kg person?
15. A block of mass 0.5kg rests on a horizontal surface. When a horizontal force of 2.0N is applied on it, it acquires an acceleration of 3ms^{-2} . Find the force of friction between the block and the horizontal surface.
16. The mass, and radius, of the earth are N and n times, the mass and radius of the moon respectively. Find the ratio of the average density of the moon to that of the earth.
17. A uniform elastic spring is suspended vertically from a rigid support. Its length is observed to increase by 2 cm, when a force of 0.1 N is applied to its free end. On applying an additional force 'F', the total increase in the length of the spring, becomes 6 cm. find the value of F.