

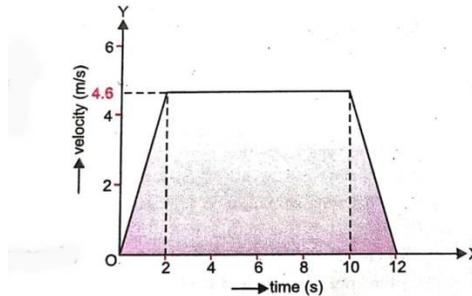
BRAIN INTERNATIONAL SCHOOL

PHYSICS ASSIGNMENT

CLASS IX

JUNE, 2021

1. The velocity-time graph of an ascending passenger lift is given in fig. What is the acceleration of the lift:
(i) during the first two seconds, (ii) between 2nd and 10th second, (iii) during the last two seconds.



2. A car increases its speed from 20 km/h to 50 km/h in 10 seconds. What is its acceleration?
3. A moving train is brought to rest within 20 seconds by applying brakes. Find the initial velocity, if the retardation due to brakes is 2 m/s^2 .
4. An object undergoes an acceleration of 8 m/s^2 starting from rest. Find the distance travelled in 1 second.
5. A body is accelerating at a constant rate of 10 m/s^2 . If the body starts from rest, how much distance will it cover in 2 seconds?
6. A car acquires a velocity of 72 km/h in 10 seconds starting from rest. Find (a) the acceleration (b) the average velocity (c) the distance travelled in this time.
7. A ship is moving at a speed of 56 km/h. One second later, it is moving at 58 km/h. What is its acceleration?
8. A scooter acquires a velocity of 36 km/h in 10 seconds just after the start. Calculate the acceleration of the scooter.
9. A racing car has uniform acceleration of 4 m/s^2 . What distance will it cover in 10 seconds after start?
10. A body starts to slide over a horizontal surface with an initial velocity of 0.5 m/s. Due to friction, its velocity decreases at the rate of 0.05 m/s^2 . How much time will it take for the body to stop?
11. A train starting from rest moves with a uniform acceleration of 0.2 m/s^2 for 5 minutes. Calculate the speed acquired and the distance travelled in this time.
12. A bus was moving with a speed of 54 km/h. On applying brakes, it stopped in 8 seconds. Calculate the acceleration and the distance travelled before stopping.
13. A motor cycle moving with a speed of 5 m/s is subjected to an acceleration of 0.2 m/s^2 . Calculate the speed of the motor cycle after 10 second, and the distance travelled in this time.
14. The brakes applied to car produce acceleration of 6 m/s^2 in the opposite direction to the motion. If the car takes to 2 s to stop after the application of brakes, calculate the distance it travels during this time.
15. A train starting from rest attains a velocity of 72 km/h in 5 minutes. Assuming that the acceleration is uniform, find (i) the acceleration and (ii) the distance travelled by the train for attaining this velocity.