

12. A person walks a distance of 30m towards West with a speed of 2 ms^{-1} and 40 m towards North with a speed of 1.5 ms^{-1} . Then average speed and average velocity for his journey. ()
- A) $\frac{6}{5} \text{ ms}^{-1}$, $\frac{42}{25} \text{ ms}^{-1}$ B) $\frac{42}{25} \text{ ms}^{-1}$, $\frac{6}{5} \text{ ms}^{-1}$ C) 20 ms^{-1} , 25 ms^{-1} D) 25 ms^{-1} , 20 ms^{-1}

II. Answer the following questions :

13. An athlete completes one round of a circular track of diameter 200 m in 40s. What will be the distance covered and the displacement at the end of 2 minutes 20 s? (distance – 2200 m, displacement – 200 m)
14. Joseph jogs from one end A to the other end B of a straight 300 m road in 2 minutes 30 seconds and then turns around and jogs 100 m back to point C in another 1 minute. What are Joseph's average speed and velocities in joggin.
- (a) from A to B and
(b) from A to C?
15. Abdul, while driving to school, computes the average speed for his trip to be 20 kmh^{-1} . On his return trip along the same route, there is less traffic and the average speed is 30 kmh^{-1} . What is the average speed for Abdul's trip?
16. An artificial satellite is moving in a circular orbit of radius 42250 km. Calculate its speed if it takes 24 hours to revolve around the earth.
17. A car travels at a velocity of 80 km/hr during the first half of its running time and at 40 km/hr during the other half. Find the average speed of the car.
18. A train of length 50 m is moving with a constant speed of 10 m/s. Calculate the time taken by the train to cross on electric pole and a bridge of length 250 m.
19. A car starts from rest. Its velocity becomes 20 ms^{-1} in 8s. Find its acceleration.
20. Find the retardation produced when a car moving at a velocity of 30 ms^{-1} slows down uniformly to 15 ms^{-1} in 5s.
21. A train moves from rest to a speed of 25 m/s in 30 seconds. What is its acceleration?
22. If a train going 60 m/s hits the brakes, and its takes the time 1 minute 25 seconds to stop, what is the trains acceleration?
23. How long will it take a car to go from a complete stop to 44 km/hr if car is accelerating at 5 km/hr^2 ?
24. How long will it take a car to accelerate from 15.2 m/s to 23.5 m/s if the car has an average acceleration of 3.2 m/s^2 ?
25. A car is accelerating at 12 m/s^2 . Find its acceleration in km/h^2 .
26. A car accelerates uniformly from 0 to 72 km/hr in 11.5 seconds. What is the acceleration of the car in m/s^2 ?
27. A boy on a bicycle increases his velocity from 5 m/s to 20 m/s in 10 seconds. What is the acceleration of the bicycle?
