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Solution 1
No, displacement is a vector quantity.
Solution 2
Distance is a scalar quantity.
Solution 3
6 m/s
= 6 x (3600/1000) km/hr = 21.6km/hr
Solution 4
Speed of a body in a specified direction is called velocity.
Solution 5
(a) Motion of a bus on a road
(b) Motion of a racing horse
Solution 6
Speed is defined as the distance travelled per unit time.
Solution 7
(a)The speedometer of a car measures instantaneous speed of the car.
(b)Odometer is a device used to record the distance travelled by the car.
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Solution 8
Speed gives an idea of how slow or fast a body is moving.
Solution 9
When the body comes back to its starting point, it has zero resultant displacement but covers a certain non-zero distance.
Solution 10
In addition to speed, we should know the direction in which the body is moving.
Solution 11
When a body covers equal distances in equal intervals of time in a particular direction however small or big the time interval may be, the object is said to have uniform velocity.
Solution 12
When the object moves in a single straight line, t he magnitude of average velocity equal to average speed.
Solution 13
Average velocity of a moving body can be zero.
Solution 14
Motion of a boy from his home to shop (in one direction) and back to home (in its reverse direction) is an example of a situation in which a body has a certain average speed but its average velocity is zero.
Solution 15
When a body is moving with uniform velocity, its acceleration is zero.
Solution 16
Negative acceleration is also called retardation.
Solution 17
(a) Speed (or Velocity)
(b) Acceleration
Solution 18
Uniformly accelerated motion

Solution 19
S.I. unit of retardation is m/s^2.
Solution 20
(a) vector, scalar
(b) velocity
(c) acceleration, second, velocity, 3m/s
(d) displacement, m/s
(e) velocity, m/s^2
Solution 21
A freely falling body has non-uniform motion because it covers smaller distances in the initial '1 second' intervals and larger distances in the later '1 second' intervals, i.e., it covers unequal distances in equal intervals of time.
Solution 22
Speed is a scalar quantity as it has magnitude only, it has no specified direction.
Solution 23
For bus X,
Speed= Distance/Time
Speed=360/5=72km/h
For bus Y,
Speed= Distance/Time
Speed=476/7=68 km/h
Speed of bus X is more than that of bus Y. Hence, bus X travels faster.
Solution 24
Speed of athelete = 10 m/s
Speed of bicycle = 200 m/min = 200/60 m/s = 3.33 m/s
Speed of scooter = 30 km/h = 30000/3600 m/s = 8.33 m/s
3.33 m/s < 8.33 m/s < 10 m/s
i.e. 200 m/min < 30 km/h < 10 m/s
Solution 25

$$\text{(a)Acceleration} = \frac{\text{Final velocity} - \text{Initial velocity}}{\text{Time taken}}$$

$$a = \frac{v - u}{t}$$

(b) u = 0 m/s
v = 21 m/s
Time, t = 1 min = 60 sec

$$a = \frac{v - u}{t}$$

$$a = \frac{21 - 0}{60}$$

$$a = \frac{21}{60} = 0.35 m/s^2$$

Solution 26
(a) Acceleration
(b) Retardation
(c) No, because if a body takes a round trip such that its final position is same as the starting position, then the displacement of the body is zero but the distance travelled is non-zero.
Solution 27
Average speed = Total distance travelled/ Total time taken
Total distance travelled = 100m = 0.1 km; Total time taken = 50 hr
Average speed= 0.1/50=0.002km/h

********** END **********