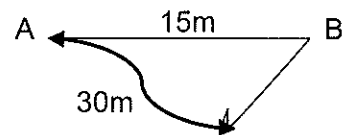


WORKSHEET

MOTION

1. Give one condition for motion of a body to be greater than the distance travelled by an object
2. When do you say acceleration of a body is positive? Explain with the help of an example.
3. Is it possible for a body to have a Zero velocity, but still have acceleration? Give one example
4. A cow and a bird both travelled from a point A to point B. The cow travelled in a straight line but the bird travelled along the curved path as shown below
 - i) What is distance travelled by a cow?
 - ii) What is distance travelled by the bird?
 - iii) Which one of them has more displacement?
5. Bus "X" travels a distance of 360km in 5 hours, whereas bus "Y" travels a distance of 476km in 7 hours. Find which bus moves faster.
6. A 100m long train is moving across a 300m long bridge at a speed of 90 km/hr. How much time will it take to cross the bridge completely?
7. A moving train is brought to rest within 20s by applying brakes. Find initial velocity if the retardation due to brakes is 1.5 m/s^2 .
8. A bus starting from rest moves with a uniform acceleration of 0.1 m/s^2 for two minutes. Find
 - i) The speed required
 - ii) The distance required.
9. A particle is moving in a circle of diameter 5m. What is its displacement when it covers one and a half revolutions?
10. A body is thrown vertically upwards and rises to height h. Calculate a) total distance travelled b) displacement of the body when it is caught back.
11. What is the numerical ratio of average velocity to average speed of an object moving along a straight line path?
12. An electrical train is moving with a velocity of 30m/s. How much distance will it travel in 30s?
13. Mohan travels at 20m/s from home to market and returns back at 25m/s. Find his average velocity for the entire journey.
14. A van accelerates uniformly and its velocity changes from 5m/s to 25 m/s in time t. Find its average velocity.
15. A car travels a distance of 360 km in 5 hours. What is the speed in m/s?
16. An girl rides a bicycle with a speed of 10 km/hr. for 2 hr. and 15km/h for next 3 h. Find the distance moved by her and average speed.



17. A particle moves 3m north then 4m east and finally 6m south. Calculate the displacement.
18. A train leaves New Delhi railway station at 9am and reaches Jaipur, which is at a distance of 260km at 12.45 pm .the train reaches Alwar (at a distance 150km from new Delhi) at 11.30 am and stops for 15 minutes
 - i) What is the reference point for motion of the train?
 - ii)What is the average speed of the train between Alwar and Jaipur?
19. A boy takes 10 minutes to walk from his house to the bus stop. If his average working speed is 4km/hr., estimate the distance of bus stop from the house.
20. A marble rolling on a smooth floor has an initial velocity of 4 m/s. If the floor offers a retardation of 0.02 m/s^2 , calculate the time it will take to come to rest
21. A car starts from rest and attains a velocity of 18 km/hr.in 2s. Find the acceleration in SI units.
22. A train covers half of its journey with a speed of 30 m/s and other half with a speed of 40 m/s .Calculate its average speed for the entire journey.
23. While arriving jayanth travels 30km with a uniform speed of 40 km/hr. and next 30km with a uniform speed of 20 km/hr. Find his average speed.
24. Name a device that measures distance travelled by automobiles. A body travels a distance of 15m from A to B and then moves a distance of 20m at right angle to AB. Calculate the total distance travelled and the displacement.
25. A boy runs for 10 min at a uniform speed of 9 km/hr. At what speed should he run for the next 20min so that the average speed comes to 12 km/hr.
26. A car travels from stop A to stop B with a speed of 30 km/h and then returns back to A with a speed of 50 km/hr. Find
 - i) Displacement of the car
 - ii)Distance travelled by the car
 - iii) Average speed of the car
27. A car moves with a speed of 30 km/h for half an hour, 25 km/hr. for one hour and 40 km/hr. for two hours. Calculate the average speed of the car.
28. A bus accelerates uniformly from 54 km/h in 10 seconds. Calculate acceleration in m/s^2 .
29. A car travels at 54 km/h for first 20s, 36km/h for next 30s and finally 18 km/h for next 10 s. Find its average speed.
30. What do you mean by 5m/s^2 ?
31. A physical quantity measured -10 m/s is it a speed or velocity? Explain.
32. Give one example each of the type of the motion when
 - i) Acceleration is in direction of motion.
 - ii)Acceleration is against the direction of motion.
 - iii) Acceleration is uniform.