



INDIAN SCHOOL DARSAIT DEPARTMENT OF PHYSICS



Subject : Physics	Chapter : Motion	Worksheet No. 1
Resource Person: Mrs. Jayalakshmi Ratish		Date : 06.05.19
Name of the Student : _____	Class & Division : IX	Roll Number : ___

- How can you find speed from distance-time graph? 1
- Give an example of uniformly accelerated motion. Draw the speed-time graph of a body in uniform acceleration. 1
- Can average speed of a moving object be zero? 1
- An athlete completes two rounds of a circular track of radius 6m and returns to the starting point. What is the distance covered by the athlete and his displacement? 1
- What does the odometer of an automobile measure? 1
- Which of the following is moving faster –
(a) A scooter moving with a speed of 300 m per minute.
(b) A car moving with a speed of 36 km per hour. 2
- When will you say that a body is in (a) uniform motion, (b) uniform accelerated motion. Give relevant examples. 2
- An artificial satellite goes around the Earth in perfectly circular orbit with constant speed. Is the motion accelerated? Give reason. 2
- A rectangular track is 40 m long and 30 m broad. A man starts walking from one corner of the track and reaches the opposite corner. Find the distance travelled and the magnitude of displacement. 2
- A boy is moving along a circular path of radius R. What is the distance and displacement of the boy when he completes half a revolution? 2
- Define acceleration. State its SI unit. For the motion along a straight line, when do we consider the acceleration to be (i) positive (ii) negative. 3

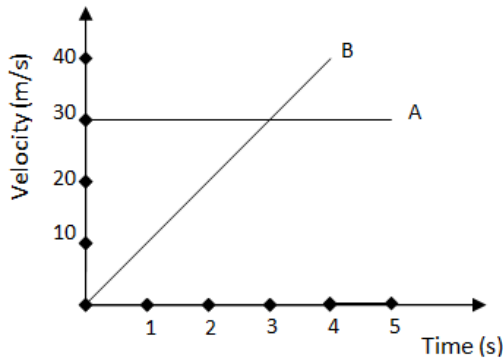
12.	Time (s)	2	4	6	8	10	12	14	3
	Velocity (m/s)	5	10	15	20	20	10	5	

Draw the velocity-time graph from the data given below –

- What type of motion is represented during 0-6 seconds?
- What is acceleration in the first 6 seconds?
- Using graph, calculate the distance travelled between 6 to 8 seconds.
- Calculate retardation during 12 to 14 seconds.

13. (a) What do you mean by uniform circular motion? Point out two examples for uniform circular motion. 3
 (b) Name the physical quantity which remains a constant in uniform circular motion.

14. Consider the velocity – time graph for the two bodies A and B 3



- (a) Which of the two bodies have higher velocity at time (i) $t = 2s$ (ii) $t = 4s$?
 (b) Which of the two bodies is having (i) accelerated motion (ii) constant velocity?
 (c) At what time is the velocity of the two bodies the same?
 (d) What is the velocity of A and B at time $t = 1 s$?
15. A car travels a certain distance at a speed of 50 km/h and returns at a speed of 40 km/h. Calculate the average speed of the journey. 3
16. (a) Draw a velocity versus time graph of a stone thrown vertically upwards and then coming downwards after attaining the maximum height. 3
 (b) Identify the type of motion in the two regions of the graph.
17. A car accelerates from 6 m/s to 16 m/s in 10 sec. Calculate the – 3
 (a) acceleration of car
 (b) distance covered by the car in that time
18. A train is travelling with a speed of 90 km/h. Brakes are applied so as to produce a uniform acceleration of 0.5 m/s^2 . Find how far the train will go before it is brought to rest. 3
19. A bullet is fired in a wall with a velocity of 100 m/s. If the bullet stops at a depth of 10 cm inside the wall, find the retardation provided by wall. 3
20. A car moving at a uniform speed covers a distance of 200 m in 4 s. Calculate – 3
 (a) Speed of car
 (b) Time it will take to cover 300 m.
 (c) The distance travelled in 5 s.