# Std. IX Holiday Homework
## Sub. Physics

## Chapter. MOTION

### Define & Learn.

1- Rest
2- Motion
3- Distance
4- Displacement
5. Uniform Motion
6 - Non-Uniform Motion
7 - Speed
8 - Average speed
8 - Velocity
9 - Average velocity
10 - Acceleration

### Numericals.

1- A boy is running on a straight road. He runs 500 m towards east in 2 minutes 10 s and then turns back and runs 200 m in 1 mi calculate his average speed and magnitude of average velocity during the whole journey

2. On a 120 km track, a train travels the first 30 km at a uniform speed of 30 km/h How fast must the train travel the next 90 km so as to average 60 km/h for the entire trip ?

3. A train 100 m long is moving with a velocity of 60 km/h. Find the time it takes to cro the bridge 1 km long.

4. A car travels a certain distance from A to B with a speed of 60 km/h and then returns to the starting point with a speed of 40 km/h. Find the average speed and average velocity of the car.

5. A cyclist goes around a circular track once in every 2 minutes. If the radius of the circular track is 110 m, Calculate the speed of the cyclist.

6. An electric train is moving with a velocity of 120 km/h. How much distance will it move in 30 s?

7. A bus starts from rest and attains a speed of 36 km/h in 10 minutes while moving with uniform acceleration. Calculate the acceleration of the bus?

8. A body moving with a velocity of 40 m/s is brought to rest in 5 second. What is its acceleration?

9. A motorcycle acquires a velocity of 36 km/h in 10 seconds just after the start. The motorcyclist applies brakes to slow down the motorcycle. It takes 20 seconds to stop. Calculate the acceleration in the two cases.