sns academy

an International CBSE Finger Print School
Coimbatore

Name : **Date :**

Grade : **Worksheet** **Submission Date :**

Subject : Physics **Parent's sign :**

Motion

1. A cyclist travels a distance of 15 km at 10 km/h and then another 15 km at 30 km/h. What is the average speed for the entire journey?

   a. 15 km/h b. 20 km/h c. 18 km/h d. 25 km/h

2. A train starts from rest and moves with a uniform acceleration. If it covers 400 m in 20 seconds, what is its acceleration?

   a. 2 m/s^2 b. 1 m/s^2 c. 4 m/s^2 d. 0.5 m/s^2

3. Which of the following situations depicts non-uniform motion?

   a. A car going around a circular track at constant speed

   b. A cyclist moving with 10 km/h on a straight road

   c. A ball falling freely under gravity

   d. A satellite orbiting Earth at constant speed

4. A stone is dropped from the top of a tower and reaches the ground in 5seconds.What is the height of the tower? (g = 10 $\frac{m}{s^2}$)

   a. 100 m b. 125 m c. 150 m d. 200 m

5. If a body travels in a semicircular path of radius 7 m, what is the displacement of the body?

   a. 11 m b. 14 m c. 22 m d. Zero

6. A sprinter completes one full lap of 400 m in 50 seconds. What is the average velocity?

   a. 0 m/s b. 4 m/s c. 8 m/s d. 10 m/s

7. A body is thrown upwards with a velocity of 50 m/s. After how many seconds will it return to the same point? (g = 10 m/s^2)

a. 5 s b. 10 s c. 15 s d. 20 s

8. A car moving with a velocity of 20 m/s is stopped by applying brakes in 4 seconds. What is the distance it covers before stopping?

a. 30 m b. 40 m c. 60 m d. 80 m

9. Two cars start from the same point. Car A moves with constant velocity 20 m/s, and Car B accelerates from rest at 2 m/s². After how many seconds will both cars have travelled the same distance?

a. 10 s b. 20 s c. 30 s d. 40 s

10. An object moves 10 m north, then 10 m east, and finally 10 m south. What is the total displacement?

a. 10 m b. 20 m c. 10√2 m d. √200 m