MYP4 : Physics HW
Assignment
Motion

1. A particle is moving in a circle of diameter 5m. Calculate the distance covered and the displacement when it competes 3 revolutions.

2. A body thrown vertically upwards reaches a maximum height 'h'. It then returns to ground. Calculate the distance travelled and the displacement.

3. A body travels a distance of 15m from A to B and then moves a distance of 20m at right angles to AB. Calculate the total distance travelled and the displacement.

4. An object is moving in a circle of radius 'r'. Calculate the distance and displacement
    (i) when it completes half the circle
    (ii) when it completes one full circle.

5. An object travels 16m in 4s and then another 16m in 2s. What is the average speed of the object?

6. Vishnu swims in a 90m long pool. He covers 180m in one minute by swimming from one end to the other and back along the same straight path. Find the average speed and average velocity of Vishnu.

7. In along distance race, the athletics were expected to take four rounds of the track such that the line of finish was same as the line of start. Suppose the length of the track was 200m.

    (a) What is the total distance to be covered by the athletics?

    (b) What is the displacement of the athletics when they touch the finish line?

    (c) Is the motion of the athletics uniform or non-uniform?

    (d) Is the displacement of an athletic and the distance covered by him at the end of the race equal?

8. Starting from a stationary position, Bhuvan paddles his bicycle to attain a velocity of 6m/s in 30s. Then he applies brakes such that the velocity of bicycle comes down to 4m/s in the next 5s. Calculate the acceleration of the bicycle in both the cases.

9. Amit is moving in his car with a velocity of 45km/hr. How much distance will he cover
    (a) in one minute and
    (b) in one second.

10. The odometer of a car reads 2000 km at the start of a trip and 2400km at the end of the trip. If the trip took 8 hr, calculate the average speed of the car in km/hr and m/s.