**2.1 DESCRIPTION OF THE MOVEMENT**

**Position x**

The position (x) of a point is where the point is relative to a reference point.

When the point is to the right of the reference point the position will be positive (+) and when it is to the left of the reference point it will be negative (-).

SI unit of measurement: 1m

**Displacement Δx**

The change in position of a moving body is called displacement. In other words, it expresses how much it moved. If x2 is its final position and x1 is its initial position, then the displacement will be

𝛥𝑥 = 𝑥 2 − 𝑥 1

The displacement can be either positive, when x1 >x2, or negative, when x1 <x2. The sign (+/-) indicates the direction of motion.

The displacement is independent of the reference point.

SI unit of measurement: 1m

**Time instant t**

The moment in time (t) expresses when something happens (eg a mobile being at position x). SI unit: 1s

**Time interval Δt**

Time interval 𝛥𝑡 is the duration between two time points t1 and t2.

𝛥𝑡 = 𝑡 2 − 𝑡 1

It expresses how long something lasts. SI unit: 1s

**Orbit**

The set of successive points through which a body passes is called the trajectory of the movement.

**Path length s**

The length of the track is also called the length of the track and the interval and is denoted by s. SI unit of measurement: 1m

2.2. VELOCITY

Velocity

Velocity υ is the physical quantity that expresses how fast a body moves.

**Average velocity in everyday language**

The average speed is defined as the quotient of the length of the path s traveled by a body in a certain time Δt to this time.

𝜐 = s / 𝛥𝑡

**Instantaneous velocity**

Instantaneous velocity is the velocity a mobile has at a specific moment in time.

**Units**

Since in SI we measure the path length s in m and the time interval Δt in s, then from the formula 𝜐 = s/ 𝛥𝑡 , the unit of measurement of speed will be one meter per second 𝒎 / 𝒔

**unit conversion**

1 m/s = (1/1000 km) / (1/3600 h) = 3.6 km/h