The First Equation

The Equation $v = \dfrac{dx}{dt}$ in linear motion implies

> i) The **Slope** of **Position-Time Graph** is **Instantaneous Velocity.**
>
> ii) The **Area** under the **Velocity-Time Graph** is **Change in Position**.
>
> { The second one requires the manipulation , $dx = vdt$ i.e. $\int dx = \int vdt$ }

The equations can be further manipulated to obtain the Speed Time Graph , where

$$\text{speed} = \text{rate of change of distance wrt time}$$

Few of the following examples illustrate this concept: