

Classification of Equations of Motion

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Abstract : Up to now only five different equations of motion can be derived from velocity time graph without needing to know the normal and frictional forces acting at the point of contact. In this paper we obtained all possible requisite conditions to be considering an equation as an equation of motion. After that we classified equations of motion by considering two equations as fundamental kinematical equations of motion and other three as additional kinematical equations of motion. After deriving these five equations of motion, we examine the easiest way of solving a wide variety of useful numerical problems. At the end of the paper, we discussed the importance and educational benefits of classification of equations of motion.

Keywords : velocity-time graph, fundamental equations, additional equations, requisite conditions, importance and educational benefits

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