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Subject # Applied Calculus

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Differentiation and integration are inverse operations i.e. differentiation reverses integration and vice versa

### Differential calculus:-

It is a primary concerned instantaneous rate of change - so that to find slope of the line to some curve

### Integral calculus:-

On the other hand is primarily concerned with areas and volumes. There are plenty of two-dimensional shapes that are hard to calculate their areas without integral calculus.

⇒ It is important to note the difference b/w "derivation" and differentiation.

The process of derivation is too broad any time you actually obtained something out of another thing.

⇒ Calculus is used to solve problems that are naturally random or very messy

⇒ we use calculus in

- ① Thermodynamics
- ② waves
- ③ kinematics
- ④ mechanics
- ⑤ electricity and magnetism