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BE (Civil)

Assignment # 01

Semester:- Summer

Date:- ~~7/07/09~~/09/2020

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Applications of Derivatives

In Engineering

Derivatives are used in engineering to determine the minimum and maximum values of functions.

We use derivatives in engineering and specially in civil engineering to find the cost of material, strength of material, amount of material used in a building, the profit/loss etc.

In Mechanical Engineering we use it to determine the speed or distance covered such as kilometer per hour/- miles per hour.

Applications of Integration

In Engineering

- Applications of Integration in Engineering are the following:
- We use integration to find area between curves. (e.g. arches in ^{civil} engineering)
- We use integration in mechanical engineering for finding distance, velocity, acceleration).
- Integration can also be used to find the surface area.

Other examples are:

- To find volume.
- Centre of mass
- Work
- Arc length.