**Chapter 04**

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## 4.8 Anti-Derivatives

- anti-derivative

- derivative

The process of recovering a function (or anti-derivative) from its derivative (or ) is called anti-differentiation, or integration.

Integrals are of two types, definite and indefinite.

The collection of all anti-derivatives of is called the indefinite integral of with respect to , and is denoted by .

- Sign of integration. Comes from the first letter of ‘Summation’.

- Integrant. The function that appears under the integral sign.

- Variable of integration.

- Integral

- Integral Constant

The same derivative can give different anti-derivatives. The integral constant is a variable that is used to represent the generalized form of the anti-derivative.

Ex. 91

Since ,

The required equation is .

Ex. 113

Find the curve in the plane that passes through the point and whose slope at each point is .

At the point ,

The required curve is .

### Power Law of Integration