**4-6 Integration**

Integration is used to find areas under curves. Integration is the reversal of differentiation hence functions can be integrated by indentifying the anti-derivative.

However, we will learn the process of integration as a set of rules rather than identifying anti-derivatives.

**Terminology**

* Indefinite and Definite integrals

There are two types of integrals: Indefinite and Definite.

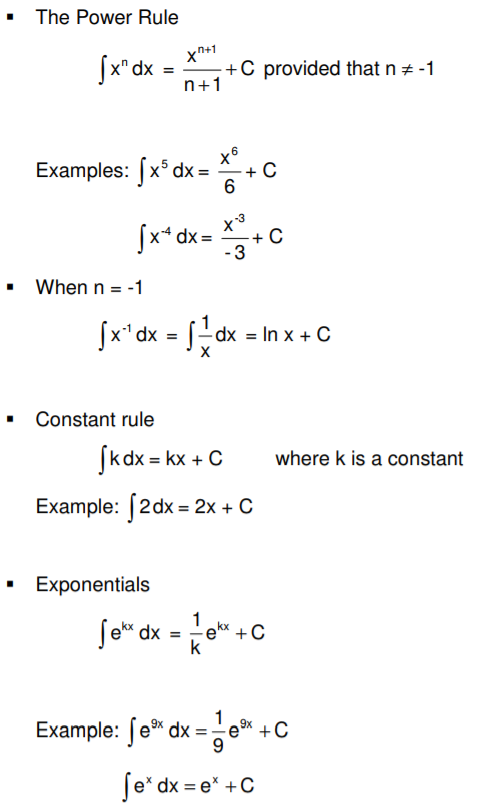
Indefinite integrals are those with no limits and definite integrals have limits.

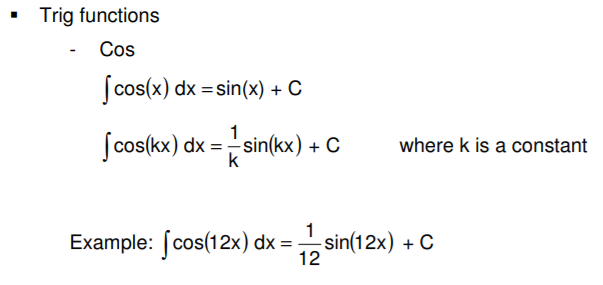
When dealing with indefinite integrals you need to add a constant of integration. For example, if integrating the function f(x) with respect to x:

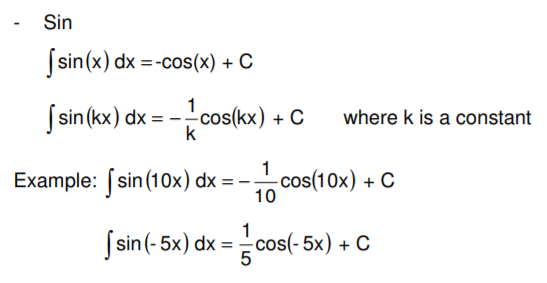
∫(f x) dx = g(x) + C , where g(x) is the integrated function.

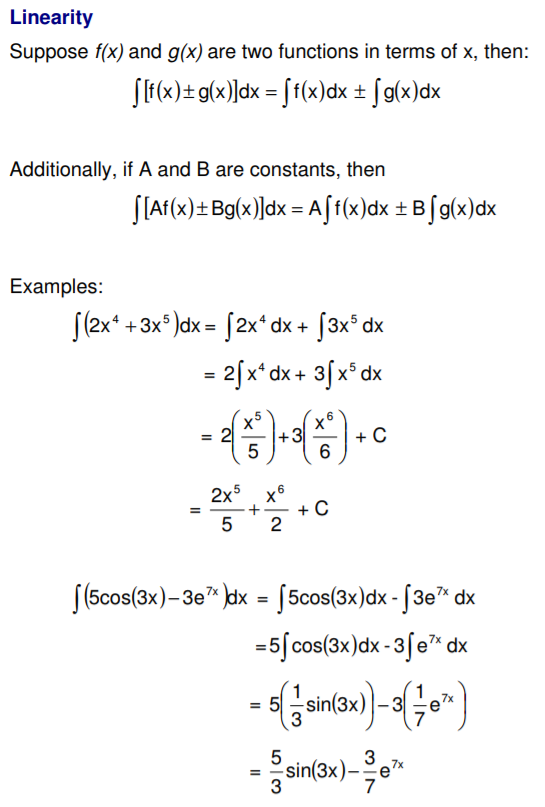
* C is an arbitrary constant called the constant of integration.
* dx indicates the variable with respect to which we are integrating, in this case, x.
* The function being integrated, f(x), is called the integrand.

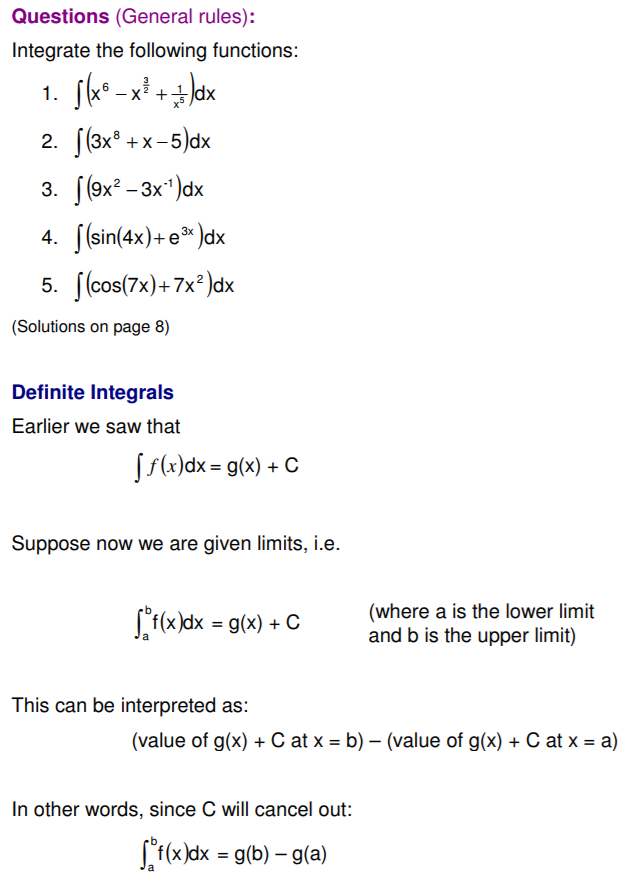
**Rules on next page – see Log Tables/Mathematics Tables**

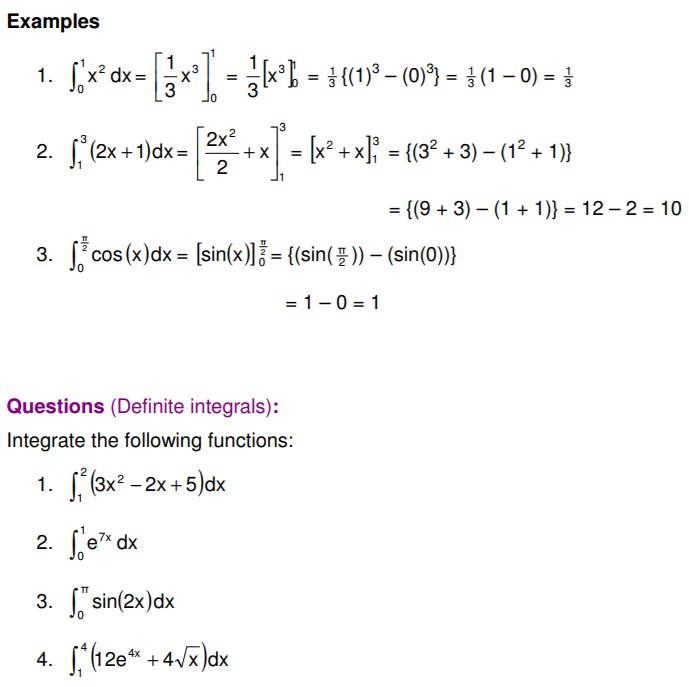












**Integration – Calculating area under a curve**

