

a.  $\int x^n dx \quad (n \neq -1)$

b.  $\int \frac{1}{x} dx$

c.  $\int \sin x dx$

d.  $\int \cos x dx$

e.  $\int \tan x dx$

f.  $\int \cot x dx$

g.  $\int \sec^2 x dx$

h.  $\int \csc^2 x dx$

i.  $\int \sec x \tan x dx$

j.  $\int \csc x \cot x dx$

k.  $\int \frac{1}{\sqrt{1-x^2}} dx$

l.  $\int \frac{1}{1+x^2} dx$

m.  $\int \frac{1}{a+x^2} dx$

n.  $\int e^x dx$

o.  $\int b^x dx$

p.  $\int \sec x dx$

q.  $\int \csc x dx$

r.  $\int \sinh x dx$

s.  $\int \cosh x dx$

## BASIC Antiderivative Forms

$$a) \int x^n dx = \frac{1}{n+1} x^{n+1} + C \quad n \neq -1$$

$$b) \int \frac{1}{x} dx = \ln|x| + C$$

$$c) \int \sin x dx = -\cos x + C$$

$$d) \int \cos x dx = \sin x + C$$

$$e) \int \tan x dx = \ln|\sec x| + C$$

$$f) \int \cot x dx = \ln|\sin x| + C$$

$$g) \int \sec^2 x dx = \tan x + C$$

$$h) \int \csc^2 x dx = -\cot x + C$$

$$i) \int \sec x \tan x dx = \sec x + C$$

$$j) \int \csc x \cot x dx = -\csc x + C$$

$$k) \int \frac{1}{\sqrt{1-x^2}} dx = \sin^{-1} x + C$$

$$l) \int \frac{1}{1+x^2} dx = \tan^{-1} x + C$$

$$m) \int \frac{1}{a+x^2} dx = \frac{1}{\sqrt{a}} \tan^{-1} \left( \frac{x}{\sqrt{a}} \right) + C \quad a > 0$$

$$n) \int e^x dx = e^x + C$$

$$o) \int b^x dx = \frac{1}{\ln b} b^x + C$$

$$p) \int \sec x dx = \ln|\sec x + \tan x| + C$$

$$q) \int \csc x dx = \ln|\csc x - \cot x| + C$$

$$r) \int \sinh x dx = \cosh x + C$$

$$s) \int \cosh x dx = \sinh x + C$$