BASIC INTEGRATION FORMULAS

- $\int k\, dx = kx + C$
- $\int x^r\, dx = \frac{x^{r+1}}{r+1} + C$, provided $r \neq 1$
- $\int x^{-1} dx = \int \frac{1}{x} dx = \ln|x| + C$
- $\int b e^{ax} dx = \frac{b}{a} e^{ax} + C$

MORE ANTIDERIVATIVE RULES

$\int k f(x) dx = k \int f(x) dx$

$\int [f(x) \pm g(x)] dx = \int f(x) dx \pm \int g(x) dx$

TRIG INTEGRALS

$\int \cos x\, dx = \sin x + C$
$\int \sin x\, dx = -\cos x + C$
$\int \sec^2 x\, dx = \tan x + C$
$\int \csc^2 x\, dx = -\cot x + C$
$\int \sec x \tan x\, dx = \sec x + C$
$\int \csc x \cot x\, dx = -\csc x + C$

OTHER COMMON INTEGRAL

$\int \frac{1}{x} dx$ or $\int x^{-1} dx = \ln|x| + c$
$\int e^x dx = e^x + c$
$\int a^x dx = \frac{a^x}{\ln a} + c$