

INTEGRALS:

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

$$2) \int \cos x dx = \sin x + C$$

$$3) \int \sin x dx = -\cos x + C$$

$$4) \int \sec^2 x dx = \tan x + C$$

$$5) \int \operatorname{cosec}^2 x dx = -\cot x + C$$

$$6) \int \sec x \cdot \tan x dx = \sec x + C$$

$$7) \int \operatorname{cosec} x \cot x dx = -\operatorname{cosec} x + C$$

$$8) \int \frac{dx}{\sqrt{1-x^2}} = \sin^{-1} x + C$$

$$9) \int \frac{dx}{\sqrt{1-x^2}} = -\cos^{-1} x + C$$

$$10) \int \frac{dx}{\sqrt{1+x^2}} = \tan^{-1} x + C$$

$$11) \int \frac{ax}{1+x^2} = \frac{a}{2} \ln(1+x^2) + C$$

$$12) \int e^x dx = e^x + C$$

$$13) \int a^x dx = \frac{a^x}{\log a} + C$$

$$14) \int \frac{dx}{x\sqrt{x^2-1}} = \sec^{-1} x + C$$

$$15) \int \frac{dx}{x\sqrt{x^2-1}} = -\operatorname{cosec}^{-1} x + C$$

$$16) \int \frac{1}{x} dx = \log |x| + C$$

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