

$$3 \int \frac{du}{u} = \ln|u| + C$$

$$4 \int e^u du = e^u + C$$

$$5 \int a^u du = \frac{a^u}{\ln a} + C$$

$$6 \int \sin u du = -\cos u + C$$

$$7 \int \cos u du = \sin u + C$$

$$8 \int \sec^2 u du = \tan u + C$$

$$9 \int \csc^2 u du = -\cot u + C$$

$$10 \int \sec u \tan u du = \sec u + C$$

$$11 \int \csc u \cot u du = -\csc u + C$$

$$12 \int \tan u du = \ln|\sec u| + C$$

$$13 \int \cot u du = -\ln|\csc u| + C$$

$$14 \int \sec u du = \ln|\sec u + \tan u| + C$$

$$15 \int \csc u du = -\ln|\csc u + \cot u| + C$$

$$16 \int \frac{du}{\sqrt{a^2 - u^2}} = \sin^{-1} \frac{u}{a} + C$$

$$17 \int \frac{du}{a^2 + u^2} = \frac{1}{a} \tan^{-1} \frac{u}{a} + C$$

$$18 \int \frac{du}{a^2 - u^2} = \frac{1}{2a} \ln \left| \frac{u+a}{u-a} \right| + C$$

$$19 \int \frac{du}{u\sqrt{u^2 - a^2}} = \frac{1}{a} \sec^{-1} \left| \frac{u}{a} \right| + C$$

### TRIGONOMETRIC FORMS

$$20 \int \sin^2 u du = \frac{1}{2}u - \frac{1}{4}\sin 2u + C$$

$$21 \int \cos^2 u du = \frac{1}{2}u + \frac{1}{4}\sin 2u + C$$

$$22 \int \tan^2 u du = \tan u - u + C$$

$$23 \int \cot^2 u du = -\cot u - u + C$$

$$24 \int \sin^3 u du = -\frac{1}{3}(2 + \sin^2 u)\cos u + C$$

$$25 \int \cos^3 u du = \frac{1}{3}(2 + \cos^2 u)\sin u + C$$

$$26 \int \tan^3 u du = \frac{1}{2}\tan^2 u + \ln|\cos u| + C$$

$$27 \int \cot^3 u du = -\frac{1}{2}\cot^2 u - \ln|\sin u| + C$$

### EXPONENTIAL AND LOGARITHMIC FORMS

$$63 \int ue^u du = (u-1)e^u + C$$

$$64 \int u^n e^u du = u^n e^u - n \int u^{n-1} e^u du$$

$$65 \int \ln u du = u \ln u - u + C$$

$$66 \int u^n \ln u du = \frac{u^{n+1}}{n+1} \ln u - \frac{u^{n+1}}{(n+1)^2} + C$$

$$67 \int e^{au} \sin bu du = \frac{e^{au}}{a^2 + b^2} (a \sin bu - b \cos bu) + C$$

$$68 \int e^{au} \cos bu du = \frac{e^{au}}{a^2 + b^2} (a \cos bu + b \sin bu) + C$$

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NAME.

SECTION