

DIFERENCIALES

- 1.- $d(c) = 0$
- 2.- $d(x) = dx$
- 3.- $d(u + v - w) = du + dv - dw$
- 4.- $d(c \cdot u) = c \, du$
- 5.- $d(u \cdot v) = u \, dv + v \, du$
- 6a.- $d(u^n) = n u^{n-1} \, du$
- 6b.- $d(x^n) = n x^{n-1} \, dx$
- 7.- $d\left(\frac{u}{v}\right) = \frac{v \, du - u \, dv}{v^2}, v \neq 0$
- 7a.- $d\left(\frac{u}{c}\right) = \frac{du}{c}, c \neq 0$
- 7b.- $d\left(\frac{c}{u}\right) = -\frac{c}{u^2} \, du, u \neq 0$
- 8.- $d(\ln u) = \frac{du}{u}$
- 9.- $d(\log u) = \frac{\log e}{u} \, du$
- 10.- $d(e^u) = e^u \, du$
- 11.- $d(a^u) = a^u \ln a \, du$
- 12.- $d(u^v) = v u^{v-1} \, du + u^v \ln u \, dv$
- 13.- $d(\operatorname{senu}) = \cos u \, du$
- 14.- $d(\cos u) = -\operatorname{senu} \, du$
- 15.- $d(\tan u) = \sec^2 u \, du$
- 16.- $d(\cot u) = -\operatorname{csc}^2 u \, du$
- 17.- $d(\sec u) = \sec u \tan u \, du$
- 18.- $d(\operatorname{csc} u) = -\operatorname{csc} u \cot u \, du$
- 19.- $d(\operatorname{arcsenu}) = \frac{du}{\sqrt{1-u^2}}$
- 20.- $d(\operatorname{arccos} u) = -\frac{du}{\sqrt{1-u^2}}$
- 21.- $d(\operatorname{arctan} u) = \frac{du}{1+u^2}$
- 22.- $d(\operatorname{arc} \cot u) = -\frac{du}{1+u^2}$
- 23.- $d(\operatorname{arc} \sec u) = \frac{du}{u\sqrt{u^2-1}}$
- 24.- $d(\operatorname{arc} \operatorname{csc} u) = -\frac{du}{u\sqrt{u^2-1}}$

INTEGRALES

- 1.- $\int (du + dv - dw) = \int du + \int dv - \int dw$
- 2.- $\int c \, du = c \int du$
- 3.- $\int dx = x + C$
- 4a.- $\int x^n \, dx = \frac{x^{n+1}}{n+1} + C \quad (n \neq -1)$
- 4b.- $\int u^n \, du = \frac{u^{n+1}}{n+1} + C \quad (n \neq -1)$
- 5.- $\int \frac{du}{u} = \ln|u| + C$
- 6.- $\int a^u \, du = \frac{a^u}{\ln a} + C$
- 7.- $\int e^u \, du = e^u + C$
- 8.- $\int \operatorname{senu} \, du = -\cos u + C$
- 9.- $\int \cos u \, du = \operatorname{senu} + C$
- 10.- $\int \sec^2 u \, du = \tan u + C$
- 11.- $\int \operatorname{csc}^2 u \, du = -\cot u + C$
- 12.- $\int \sec u \tan u \, du = \sec u + C$
- 13) $\int \operatorname{csc} u \cot u \, du = -\operatorname{csc} u + C$
- 14.- $\int \tan u \, du = \ln|\sec u| + C$
- 15.- $\int \cot u \, du = \ln|\operatorname{senu}| + C$
- 16.- $\int \sec u \, du = \ln|\sec u + \tan u| + C$
- 17.- $\int \operatorname{csc} u \, du = \ln|\operatorname{csc} u - \cot u| + C$
- 18.- $\int \frac{du}{u^2 + a^2} = \frac{1}{a} \arctan \frac{u}{a} + C$
- 19.- $\int \frac{du}{u^2 - a^2} = \frac{1}{2a} \ln \left| \frac{u-a}{u+a} \right| + C \quad (u > a)$
- 20.- $\int \frac{du}{a^2 - u^2} = \frac{1}{2a} \ln \left| \frac{a+u}{a-u} \right| + C \quad (a > u)$
- 21.- $\int \frac{du}{\sqrt{a^2 - u^2}} = \operatorname{arcsen} \frac{u}{a} + C$
- 22.- $\int \frac{du}{\sqrt{u^2 \pm a^2}} = \ln \left| u + \sqrt{u^2 \pm a^2} \right| + C$
- 23.- $\int \sqrt{a^2 - u^2} \, du = \frac{u}{2} \sqrt{a^2 - u^2} + \frac{a^2}{2} \operatorname{arcsen} \frac{u}{a} + C$
- 24.- $\int \sqrt{u^2 \pm a^2} \, du = \frac{u}{2} \sqrt{u^2 \pm a^2} \pm \frac{a^2}{2} \ln \left(u + \sqrt{u^2 \pm a^2} \right) + C$