



derivadas

$$y = k \quad y' = 0$$

$$y = k \cdot u \quad y' = k \cdot u'$$

$$y = u \pm v \quad y' = u' \pm v'$$

$$y = u \cdot v \quad y' = u' \cdot v + u \cdot v'$$

$$y = \frac{u}{v} \quad y' = \frac{u' \cdot v - u \cdot v'}{v^2}$$

$$y = u^k \quad y' = k \cdot u^{k-1} \cdot u'$$

$$y = \sqrt{u} \quad y' = \frac{1}{2\sqrt{u}} u'$$

$$y = e^u \quad y' = e^u \cdot u'$$

$$y = k^u \quad y' = k^u \cdot \ln k \cdot u'$$

$$y = \ln u \quad y' = \frac{1}{u} u'$$

$$y = \log_k u \quad y' = \frac{1}{u \cdot \ln k} u'$$

$$y = \operatorname{sen} u \quad y' = \operatorname{cos} u \cdot u'$$

$$y = \operatorname{cos} u \quad y' = -\operatorname{senu} \cdot u'$$

$$y = \operatorname{tgu} \quad y' = \frac{1}{\operatorname{cos}^2 u} u'$$

$$y = \operatorname{arcsen} u \quad y' = \frac{1}{\sqrt{1-u^2}} u'$$

$$y = \operatorname{arccos} u \quad y' = \frac{-1}{\sqrt{1-u^2}} u'$$

$$y = \operatorname{arctg} u \quad y' = \frac{1}{1+u^2} u'$$

integrales

$$\int k \cdot u \quad = \quad k \int u$$

$$\int u \pm v \quad = \quad \int u \pm \int v$$

$$\int u^n \cdot u' \quad = \quad \frac{u^{n+1}}{n+1} + C \quad n \neq -1$$

$$\int e^u \cdot u' \quad = \quad e^u + C$$

$$\int k^u \cdot u' \quad = \quad \frac{k^u}{\ln k} + C$$

$$\int \frac{u'}{u} \quad = \quad \ln|u| + C$$

$$\int \operatorname{cos} u \cdot u' \quad = \quad \operatorname{sen} u + C$$

$$\int \operatorname{sen} u \cdot u' \quad = \quad -\operatorname{cos} u + C$$

$$\int \frac{u'}{\operatorname{cos}^2 u} \quad = \quad \int u'(1 + \operatorname{tg}^2 u) = \operatorname{tgu} + C$$

$$\int \frac{-u'}{\operatorname{sen}^2 u} \quad = \quad \operatorname{cotg} u + C$$

$$\int \frac{u'}{1+u^2} \quad = \quad \operatorname{arctg} u + C$$

$$\int \frac{u'}{\sqrt{1-u^2}} \quad = \quad \operatorname{arcsen} u + C$$

$$\int \operatorname{senh} u \cdot u' \quad = \quad \operatorname{cosh} u + C$$

$$\int \operatorname{cosh} u \cdot u' \quad = \quad \operatorname{senh} u + C$$

$$\int u \cdot dv \quad = \quad u \cdot v - \int v \cdot du$$