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REGLAS DE DERIVACIÓN

1.- $y = k$ $\quad y' = 0$

2.- $y = k \cdot x$ $\quad y' = k$

3.- $y = k[f(x)]^n$ $\quad y' = k \cdot n \cdot [f(x)]^{n-1} \cdot f'(x)$

4.- $y = k^{f(x)}$ $\quad y' = f'(x) \cdot k^{f(x)} \cdot \text{Ln } k$

5.- $y = \lg_a f(x)$ $\quad y' = \dfrac{f'(x)}{f(x)} \cdot \lg_a e$ } Ln e =1

6.- $y = \cdot[f(x)]^{g(x)}$ $\quad y' = [g'(x) \cdot \text{Ln } f(x) + (\text{Ln } f(x))' \cdot g(x)] \cdot y$

7.- $y = f(x) \pm g(x)$ $\quad y' = f'(x) \pm g'(x)$

8.- $y = f(x) \cdot g(x)$ $\quad y' = f'(x) \cdot g(x) + g'(x) f(x)$

9.- $y = \dfrac{f(x)}{g(x)}$ $\quad y' = \dfrac{f'(x) \cdot g(x) - g'(x) \cdot f(x)}{[g(x)]^2}$

10.- $y = \sqrt[n]{f(x)}$ $\quad y' = \dfrac{f'(x)}{n \cdot \sqrt[n]{(f(x))^{n-1}}}$

11.- $y = \text{sen } f(x)$ $\quad y' = f'(x) \cdot \cos f(x)$

12.- $y = \cos f(x)$ $\quad y' = -f'(x) \cdot \text{sen } f(x)$

13.- $y = \text{tg } f(x)$ $\quad y' = \dfrac{f'(x)}{\cos^2 f(x)} = f'(x) \cdot (1 + \text{tg}^2 f(x)) = f'(x) \cdot \sec^2 f(x)$

14.- $y = \text{cotg } f(x)$ $\quad y' = -\dfrac{f'(x)}{\text{sen}^2 f(x)} = -f'(x)(1 + \text{cotg}^2 f(x)) = -f'(x) \cdot \text{cosec}^2 f(x)$

15.- $y = \sec f(x)$ $\quad y' = f'(x) \cdot \sec f(x) \cdot \text{tg } f(x)$

16.- $y = \text{cosec } f(x)$ $\quad y' = -f'(x) \cdot \text{cosec} \cdot f(x) \cdot \text{cotg } f(x)$

17.- $y = \text{arcsen f(x)}$ $\quad y' = \dfrac{f'(x)}{\sqrt{1 - (f(x))^2}}$

18.- $y = \text{arccos f(x)}$ $\quad y' = \dfrac{-f'(x)}{\sqrt{1 - (f(x))^2}}$

19.- $y = \text{arctg f(x)}$ $\quad y' = \dfrac{f'(x)}{1 + (f(x))^2}$

20.- $y = \text{arccotg f(x)}$ $\quad y' = \dfrac{-f(x)}{1 + (f(x))^2}$

21.- $y = (\text{f}^{\text{ón}}.\text{trig.})^n \text{ f(x)} = [\text{f}^{\text{ón}}.\text{trig. f(x)}]^n$ ...y' = regla 3 (Igual si es f$^{\text{ón}}$ logaritmo)

RECUERDA

$$\sqrt[n]{(f(x))^p} = (f(x))^{p/n}$$

$$\log(f(x))^n = n \log(f(x))$$

$$\log\left(\frac{f(x)}{g(x)}\right) = \log f(x) - \log g(x)$$

$$\log(f(x) \cdot g(x)) = \log f(x) + \log g(x)$$

$$\lg_a e = \frac{1}{Lna}$$

$$\lg_{f(x)} g(x) = \frac{Lng(x)}{Lnf(x)}$$