Selenium Derivative Calculator Bot

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0.1 Questao 01

$$\arctan\left(\ln\left(\tan\left(5x-1\right)\right)\right)$$

$$\frac{\mathrm{d}}{\mathrm{d}x}\left[\arctan\left(\ln\left(\tan\left(5x-1\right)\right)\right)\right]$$

$$= \frac{1}{\ln^2\left(\tan\left(5x-1\right)\right)+1} \cdot \frac{\mathrm{d}}{\mathrm{d}x}\left[\ln\left(\tan\left(5x-1\right)\right)\right]$$

$$= \frac{\frac{1}{\tan(5x-1)} \cdot \frac{\mathrm{d}}{\mathrm{d}x}\left[\tan\left(5x-1\right)\right]}{\ln^2\left(\tan\left(5x-1\right)\right)+1}$$

$$= \frac{\sec^2\left(5x-1\right) \cdot \frac{\mathrm{d}}{\mathrm{d}x}\left[5x-1\right]}{\tan\left(5x-1\right)\left(\ln^2\left(\tan\left(5x-1\right)\right)+1\right)}$$

$$= \frac{\left(5 \cdot \frac{\mathrm{d}}{\mathrm{d}x}\left[x\right] + \frac{\mathrm{d}}{\mathrm{d}x}\left[-1\right]\right)\sec^2\left(5x-1\right)}{\tan\left(5x-1\right)\left(\ln^2\left(\tan\left(5x-1\right)\right)+1\right)}$$

$$= \frac{\left(5 \cdot 1 + 0\right)\sec^2\left(5x-1\right)}{\tan\left(5x-1\right)\left(\ln^2\left(\tan\left(5x-1\right)\right)+1\right)}$$

$$= \frac{5\sec^2\left(5x-1\right)}{\tan\left(5x-1\right)\left(\ln^2\left(\tan\left(5x-1\right)\right)+1\right)}$$