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Find :

أوجد :

$$\lim_{x \rightarrow 0^-} \cot^{-1} \left(\tan^{-1} \left(\frac{1}{x^2} \right) \right)$$

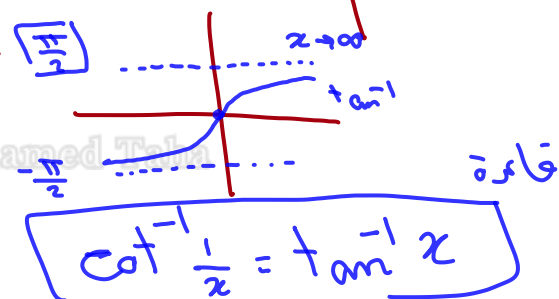
$$\lim_{x \rightarrow 0^-} \cot^{-1} \left(\tan^{-1} \left(\frac{1}{x^2} \right) \right)$$

$$= \cot^{-1} \left[\tan^{-1} \left(\frac{1}{x^2} \right) \right]$$

$$= \cot^{-1} \left[\tan^{-1} \infty \right]$$

$$= \cot^{-1} \left[\frac{\pi}{2} \right]$$

$$= \tan^{-1} \frac{2}{\pi} \approx 0.5669$$



$$\cot^{-1} \frac{1}{x} = \tan^{-1} x$$

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