

Exempel 0.0.1

Bestäm:

$$\lim_{x \rightarrow 0^+} \ln x \cdot \tan x$$

Lösning:

$$\lim_{x \rightarrow 0^+} \ln x \cdot \tan x \iff \lim_{x \rightarrow 0^+} \frac{\ln x}{\frac{\cos x}{\sin x}} \implies \lim_{x \rightarrow 0^+} \frac{\frac{1}{x}}{-\frac{1}{\sin^2(x)}} \iff \lim_{x \rightarrow 0^+} -\frac{\sin^2(x)}{x} \iff \lim_{x \rightarrow 0^+} \frac{\sin x}{x} \cdot \sin x = 1 \cdot 0 = 0$$