

Calcula los siguientes límites de funciones:

$$\lim_{x \rightarrow 0} \frac{e^x - e^{\operatorname{sen} x}}{x^3}$$

$$\lim_{x \rightarrow 0} \frac{\cos^2 x - \cos x}{x^2}$$

$$\lim_{x \rightarrow 0} \frac{x - \operatorname{sen} x}{x^3}$$

$$\lim_{x \rightarrow 0} \frac{\operatorname{sen} 5x}{2x}$$

$$\lim_{x \rightarrow \frac{\pi}{4}} \frac{\sqrt{2} - 2 \cos x}{\pi - 4x}$$

$$\lim_{x \rightarrow \frac{\pi}{2}} \frac{\operatorname{tg} x}{\operatorname{tg} 5x}$$

$$\lim_{x \rightarrow 0} \frac{(2-x)e^x - (2+x)}{x^2}$$

$$\lim_{x \rightarrow 0} \frac{2 \arctg x - x}{2x - \operatorname{arcsen} x}$$

$$\lim_{x \rightarrow 0} \frac{\sqrt[3]{1-x^2} - \cos x}{x^2}$$

$$\lim_{x \rightarrow 0} \frac{e^x \operatorname{sen} x - x}{3x^2 + x^5}$$

$$\lim_{x \rightarrow 0} \frac{e^x \operatorname{sen} x - 1}{\ln(1+x)}$$

$$\lim_{x \rightarrow 1} \left(\frac{x}{\ln x} - \frac{1}{\operatorname{sen}(x-1)} \right)$$

$$\lim_{x \rightarrow \frac{\pi}{2}} (\sec x - \operatorname{tg} x)$$

$$\lim_{x \rightarrow 0^+} \frac{\ln x}{\operatorname{cotg} x}$$

$$\lim_{x \rightarrow 0} (x \cdot \operatorname{cotg} x)$$

$$\lim_{x \rightarrow 1} [\ln(2-x)]^{x-1}$$

$$\lim_{x \rightarrow 0^+} (\operatorname{cotg} 2x)^{\frac{1}{\ln x}}$$

$$\lim_{x \rightarrow 1} (x)^{\frac{1}{x-1}}$$

$$\lim_{x \rightarrow \infty} (x^2 - 1)^{\frac{1}{x}}$$

$$\lim_{x \rightarrow 0} \left(\frac{\operatorname{sen} x}{x} \right)^{\frac{1}{x^2}}$$

$$\lim_{x \rightarrow 1} \left(\operatorname{tg} \left(\frac{\pi x}{4} \right) \right)^{\operatorname{tg} \left(\frac{\pi x}{2} \right)}$$

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

$$\lim_{x \rightarrow 0} \frac{\operatorname{sen}^2 3x}{\operatorname{tg} x^2}$$

$$\lim_{x \rightarrow 0} [(1 - \cos x) \cdot \operatorname{cotg} x]$$

$$\lim_{x \rightarrow 0} \left(\frac{1}{x} \cdot \ln \sqrt{\frac{1+x}{1-x}} \right)$$

$$\lim_{x \rightarrow \infty} \frac{x^n}{e^x}$$