

Solución

a) $\lim_{x \rightarrow 0} \frac{x^2}{\operatorname{sen} x} = 0$

b) $\lim_{x \rightarrow +\infty} \sqrt{x+2} - \sqrt{x-2} = 0$

c) $\lim_{x \rightarrow +\infty} \frac{\sqrt{4x^2+1} + x}{\sqrt[3]{8x^3+7x^2-1}} = \frac{3}{2}$

d) $\lim_{x \rightarrow 0} \frac{1 - \ln x}{x} = +\infty$

e) $\lim_{x \rightarrow +\infty} \left(\frac{x+2}{x+3} \right)^{x^2-1} = 0$

f) $\lim_{x \rightarrow +\infty} x - \sqrt{x^2+x} = -\frac{1}{2}$

g) $\lim_{x \rightarrow 0} \frac{xe^{-x}}{\operatorname{arctg} 5x} = \frac{1}{5}$

h) $\lim_{x \rightarrow 0} (1+x^2)^{\frac{1}{x}} = 1$