

Calcula los siguientes límites:

a)  $\lim_{x \rightarrow +\infty} \frac{x}{\sqrt{2x^2+1} + \sqrt{x^2-1}}$  (Sol:  $\sqrt{2}-1$ )

b)  $\lim_{x \rightarrow +\infty} \sqrt[3]{\frac{-27x^2+1}{2+x^2}}$  (Sol: -3)

c)  $\lim_{x \rightarrow 3} \frac{\sqrt{x+1}-2}{x-3}$  (Sol:  $1/4$ )

d)  $\lim_{x \rightarrow +\infty} \sqrt{x^2-1} - \sqrt{x^2+5}$  (Sol: 0)

e)  $\lim_{x \rightarrow +\infty} \sqrt{x^2-2x}-x$  (Sol: -1)

f)  $\lim_{x \rightarrow +\infty} \left( \frac{10x-3}{5x+3} \right)^{\frac{-x^2+3}{2x}}$  (Sol: 0)

g)  $\lim_{x \rightarrow 0} \frac{\sqrt{x+9}-3}{\sqrt{x+16}-4}$  (Sol:  $4/3$ )

h)  $\lim_{x \rightarrow +\infty} \left( \frac{x-3}{2x-5} \right)^{\frac{x^2+1}{x^2-4x+4}}$  (Sol:  $1/2$ )

i)  $\lim_{x \rightarrow +\infty} \left( \frac{2x+3}{3x-1} \right)^{\frac{4x+1}{x}}$  (Sol:  $16/81$ )

j)  $\lim_{x \rightarrow +\infty} \left( \frac{2x+3}{2x-1} \right)^{\frac{3x^2}{x-1}}$  (Sol:  $e^6$ )

k)  $\lim_{x \rightarrow 2} (x-1)^{\frac{3}{x-2}}$  (Sol:  $e^3$ )

l)  $\lim_{x \rightarrow 1} \left( \frac{x^3+1}{x^2+1} \right)^{\frac{3}{x-1}}$  (Sol:  $e^{3/2}$ )

m)  $\lim_{x \rightarrow 1} \left( \frac{5x-2}{4x+3} \right)^{2x}$  (Sol:  $9/49$ )

n)  $\lim_{x \rightarrow +\infty} \left( \frac{2x^2+3x}{2x^2-5} \right)^{2x+1}$  (Sol:  $e^3$ )

o)  $\lim_{x \rightarrow +\infty} \left( \frac{x^2+1}{x^2-8} \right)^{\frac{x^2}{2}}$  (Sol:  $e^{9/2}$ )

p)  $\lim_{x \rightarrow +\infty} \left( \frac{4x+7}{4x-5} \right)^{\frac{x^2}{x-1}}$  (Sol:  $e^3$ )