

1. Calcula los siguientes límites:

$$a) \lim_{x \rightarrow +\infty} \left( \frac{2x-1}{2x-2} \right)^{\frac{x+1}{x^2}}$$

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

$$c) \lim_{x \rightarrow 3} \left( \frac{2}{x-3} - \frac{12}{x^2-9} \right)$$

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

$$e) \lim_{x \rightarrow +\infty} \left( \frac{3x^2+5x}{2x+5} - \frac{6x^2+9x}{4x+1} \right)$$

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

$$g) \lim_{x \rightarrow 1} \frac{x^2-1}{\sqrt{x}-1}$$

$$h) \lim_{x \rightarrow 3} \frac{\sqrt{x+1}-2}{x-3}$$

$$i) \lim_{x \rightarrow 0} \frac{\sqrt{9+x}-3\sqrt{1+x}}{x}$$

$$j) \lim_{x \rightarrow 0} \frac{\sqrt{x+9}-3}{\sqrt{x+16}-4}$$

$$k) \lim_{x \rightarrow +\infty} (\sqrt{x^2+x}-x)$$

$$l) \lim_{x \rightarrow 0} \frac{x}{1-\sqrt{x+1}}$$