

Leyes y propiedades de los límites

- Completa con la ley o propiedad frente a cada paso

$$\begin{aligned}\bullet \quad \lim_{x \rightarrow 2} \frac{2x^2 - 3x + 1}{x^3 + 4} &= \frac{\lim_{x \rightarrow 2} (2x^2 - 3x + 1)}{\lim_{x \rightarrow 2} (x^3 + 4)} \\&= \frac{2 \cdot \lim_{x \rightarrow 2} x^2 - 3 \cdot \lim_{x \rightarrow 2} x + \lim_{x \rightarrow 2} 1}{\lim_{x \rightarrow 2} x^3 + \lim_{x \rightarrow 2} 4} \\&= \frac{2 \cdot \left(\lim_{x \rightarrow 2} x\right)^2 - 3 \cdot \lim_{x \rightarrow 2} x + \lim_{x \rightarrow 2} 1}{\left(\lim_{x \rightarrow 2} x\right)^3 + \lim_{x \rightarrow 2} 4} \\&= \frac{2(4) - 3(2) + 1}{(2)^3 + 4} = \frac{1}{4}.\end{aligned}$$

$$\begin{aligned}\bullet \quad \lim_{x \rightarrow -3} (4x + 2) &= \lim_{x \rightarrow -3} 4x + \lim_{x \rightarrow -3} 2 \\&= 4 \cdot \lim_{x \rightarrow -3} x + \lim_{x \rightarrow -3} 2 \\&= 4 \cdot (-3) + 2 = -10.\end{aligned}$$

$$\begin{aligned}\bullet \quad \lim_{x \rightarrow -2} \frac{x^3 + 2x^2 - 1}{5 - 3x} &= \frac{\lim_{x \rightarrow -2} (x^3 + 2x^2 - 1)}{\lim_{x \rightarrow -2} (5 - 3x)} \\&= \frac{\lim_{x \rightarrow -2} x^3 + 2 \lim_{x \rightarrow -2} x^2 - \lim_{x \rightarrow -2} 1}{\lim_{x \rightarrow -2} 5 - 3 \lim_{x \rightarrow -2} x} \\&= \frac{(-2)^3 + 2(-2)^2 - 1}{5 - 3(-2)} \\&= -\frac{1}{11}\end{aligned}$$