

1. Ejercicios: - Calcula los siguientes límites:

(a)

$$\lim_{x \rightarrow \infty} \left( \frac{2x^2 - 14x + 12}{x^2 - 10x + 4} \right)$$

**Sol:** 2

(f)

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

**Sol:** No existe el límite

(k)

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

**Sol:**  $\infty$

(b)

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

**Sol:** 5

(g)

$$\lim_{x \rightarrow 0} \left( \frac{2x^3 + 6x^2 - 3x}{2x^2 + 5x} \right)$$

**Sol:**  $-\frac{3}{5}$

(l)

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

**Sol:**  $\frac{1}{2}$

(c)

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

**Sol:** No existe el límite

(h)

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

**Sol:**  $\infty$

(m)

$$\lim_{x \rightarrow \infty} \left( \frac{x^2 + 3}{3x^2 - 5} \right)^{\frac{x^2}{2-x}}$$

**Sol:**  $\infty$

(d)

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

**Sol:** -2

(i)

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

**Sol:**  $-\infty$

(n)

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

**Sol:**  $e^{\frac{3}{2}}$

(e)

$$\lim_{x \rightarrow a} \left( \frac{-a^2 - 2ax + 3x^2}{a^2 - 3ax + 2x^2} \right)$$

**Sol:** 4

(j)

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

**Sol:**  $\frac{3}{4}$

(ñ)

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

**Sol:**  $e$