

Problemas – Tema 8

Problemas resueltos - 2 - propiedades de límites e indeterminación k dividido 0

1. Calcula $\lim_{x \rightarrow 2} \frac{1}{x-2}$

$$\lim_{x \rightarrow 2} \frac{1}{x-2} = \frac{1}{0} = \infty \rightarrow \text{Estudiamos límites laterales}$$

$$\lim_{x \rightarrow 2^-} \frac{1}{x-2} = \frac{1}{0^-} = -\infty$$

$$\lim_{x \rightarrow 2^+} \frac{1}{x-2} = \frac{1}{0^+} = +\infty$$

2. Resuelve:

a) $\lim_{x \rightarrow 1} \frac{x-1}{x+1} = \frac{0}{2} = 0$

b) $\lim_{x \rightarrow -1} \frac{x-1}{x+1} = \frac{-2}{0} = \infty \rightarrow$ Calculamos límites laterales

$$\lim_{x \rightarrow -1^-} \frac{x-1}{x+1} = \frac{-2}{0^-} = +\infty$$

$$\lim_{x \rightarrow -1^+} \frac{x-1}{x+1} = \frac{-2}{0^+} = -\infty$$

c) $\lim_{x \rightarrow 3} \frac{x^3+2x^2-3x}{x^3+4x^2+x-6} = \frac{27+18-9}{27+36+3-6} = \frac{36}{60} = \frac{3}{5}$