



Mi Universidad

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Nombre del tema: Problemario

Parcial: 4 Unidad

Nombre de la Materia: Matemática aplicada

Nombre del profesor: Vania Natali Santizo

Nombre de la Licenciatura: Enfermería

Semestre: 6 Semestre

Plataforma

$$\lim_{x \rightarrow \infty} \frac{3x^2+1}{x^2+5} = \frac{\infty}{\infty} \quad \frac{6x}{2x} = \frac{6}{2} = 3$$

$$\lim_{x \rightarrow 0} \frac{\sin x}{x} = \frac{0}{0} \quad \frac{\sin(0)}{0} = \frac{0}{0} = 1$$

$$\lim_{x \rightarrow \infty} \frac{5x+2}{x^2+1} = \frac{\infty}{\infty} \quad \frac{5}{2x} = 2$$

$$\lim_{x \rightarrow 3} \frac{x^2-9}{x-3} = \frac{3^2-9}{3-3} = \frac{0}{0} \quad \frac{(x+3)(x-3)}{x-3} = 3+3 = 6$$

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

$$\lim_{x \rightarrow \infty} \frac{4x^3 - x}{2x^3 + 5} = \frac{\infty}{\infty} \quad \frac{12x^2 - 1}{6x^2} = \frac{24x}{12x} = \frac{24}{12} = \frac{6}{3} = \frac{2}{1} = 2$$

$$\lim_{x \rightarrow 2} \frac{x^2-4}{x-2} = \frac{2^2-4}{2-2} = \frac{0}{0} \quad \frac{(x+2)(x-2)}{x-2} = 2+2 = 4$$

$$\lim_{x \rightarrow 0} \frac{1 - \cos x}{x^2} = \frac{0}{0} \quad \frac{1 - \cos x}{x^2} = \frac{1 - \sin x}{2x} = \frac{1 - \sin(0)}{2 \cos(0)} = \frac{1-1}{0} = \frac{0}{0}$$

$$\lim_{x \rightarrow 1} \frac{x^3-1}{x-1} = \frac{0}{0} \quad \frac{(x-1)(x^2+x+1)}{x-1} = x^2+x+1 = 1^2+1+1 = 3$$

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