

EJERCICIOS PARA LA TAREA 02– U1

Calcular los siguientes límites:

Calcular si existe $\lim_{x \rightarrow 0} \frac{3x + |x|}{7x - 5|x|}$

Calcular si existe $\lim_{x \rightarrow 2} \frac{x^3 - 2x^2 - 4x + 8}{|x - 2|}$

CALCULAR EL LÍMITE DE LAS SIGUIENTES EXPRESIONES

$$\lim_{x \rightarrow \pm\infty} (\sqrt{x^2 - 2x - 1} - \sqrt{x^2 - 7x + 3})$$

$$\lim_{x \rightarrow -\infty} \frac{\sqrt{2x^2 + 1}}{x + 3}$$

$$\lim_{x \rightarrow +\infty} \frac{\sqrt{x^2 + 1} + \sqrt{x}}{\sqrt[4]{x^3 + x} - x}$$

$$\lim_{x \rightarrow +\infty} (\sqrt{4x + \sqrt{4x + \sqrt{4x}}} - 2\sqrt{x})$$

$$\lim_{x \rightarrow 3^-} \frac{x^3 + 9x^2 + 20x}{x^2 + x - 12}$$

$$\lim_{x \rightarrow 3^+} \frac{\sqrt{x^2 - 9}}{x - 3}$$

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

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

$$\lim_{x \rightarrow 1} \frac{\cos\left(\frac{\pi x}{2}\right)}{1 - \sqrt{x}}$$

$$\lim_{x \rightarrow \frac{\pi}{6}} \frac{\sin(x - \pi/6)}{\sqrt{3}/2 - \cos x}$$

$$\lim_{x \rightarrow \frac{2\pi}{3}} \frac{\sin 6x}{3x - 2\pi}$$

$$\lim_{x \rightarrow 0} \frac{\sqrt{x^2 + 4} - 3 \cos x + 1}{1 - \cos x}$$

$$\lim_{x \rightarrow \frac{\pi}{3}} \frac{\sin^2 6x + \tan 3x}{3x - \pi}$$

$$\lim_{x \rightarrow 0} \frac{\sin(2x + a) - 2 \sin(x + a) + \sin a}{x^2}$$

$$\lim_{x \rightarrow 0} \frac{\cos(a + x) - \cos(a - x)}{x}$$