

Comprueba los siguientes límites:

$$1.- \lim_{x \rightarrow 0} (1 + x)^{\frac{1}{x}} = e$$

$$2.- \lim_{x \rightarrow 3} \left(\frac{2}{x-3} - \frac{12}{x^2-9} \right) = \frac{1}{3}$$

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

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

$$5.- \lim_{x \rightarrow \infty} \frac{6x-}{x+2} = 6$$

$$6.- \lim_{x \rightarrow \infty} \frac{x - x^2}{4x + 2} = -\frac{5x}{1} = -\frac{5}{2}$$

$$7.- \lim_{x \rightarrow -1} \frac{x + 1}{\sqrt{6x^2 + 3} + 3x} = 1$$

$$8.- \lim_{x \rightarrow \infty} \frac{(x-1) \cdot (+1) + 3}{(3x+2) \cdot (-5)} = \frac{1}{3}$$

$$9.- \lim_{x \rightarrow \infty} \left(\frac{5 + 3}{+4} - \frac{3x^2}{x^2} - \frac{7}{2} \right)$$

$$10.- \lim_{x \rightarrow \infty} \left(\frac{2x+1}{2} - \frac{3x^2}{3x+4} - \frac{5x}{2} - \frac{7}{2} \right)$$

$$11.- \lim_{x \rightarrow \infty} \frac{x^2 + 7}{x^5} = 0$$

$$12.- \lim_{x \rightarrow \infty} \left(\frac{2x^2 + 5x + 7}{x + 2} - \frac{x + 5}{x} \right) = \infty$$

$$13.- \lim_{x \rightarrow \infty} \left(1 + \frac{5}{x} \right)^{7x} = e^{35}$$

$$14.- \lim_{x \rightarrow \infty} \left(\sqrt{x^2 - x} - x \right) = -\frac{1}{2}$$

$$15.- \lim_{x \rightarrow \infty} \frac{7x^3 - 8}{4x^3 - 6} = \frac{7}{4}$$

$$16.- \lim_{x \rightarrow \infty} \left(\sqrt{x^2 - 2x} - \sqrt{x + 4} \right) = -1$$

$$17.- \lim_{x \rightarrow \infty} \frac{3x^3 - x - x}{x^2 - 1} = \infty$$

$$18.- \lim_{x \rightarrow \infty} \left(x - \sqrt{x^2 + 10x} \right) = -5$$

$$19.- \lim_{x \rightarrow \infty} \left(1 + \frac{2}{5x} \right)^{2x} = e^2$$

$$20.- \lim_{x \rightarrow -2} \frac{x^4 + 4x^3 + 5x^2 + 4x + 4}{x^4 + 4x} = \frac{5}{4}$$

$$21.- \lim_{x \rightarrow 0} \frac{x^5 - 7x^3}{3x^4 + 6} = \frac{1}{3}$$

$$22.- \lim_{x \rightarrow -3} \frac{x^3 + 5x + 10x + 12}{x^3 + 2x - 2x + 3} = \frac{7}{13}$$

$$23.- \lim_{x \rightarrow \infty} \left(\frac{2x - \frac{x^2-2}{x+1}}{2x +} \right) = e^{-\frac{1}{2}}$$

$$24.- \lim_{x \rightarrow \infty} \left(\frac{4x^3 + 2}{5x^3 - 2} \right)^{\frac{2x^2+}{x^2-1}} = \frac{16}{25}$$

$$25.- \lim_{x \rightarrow 3} \frac{\sqrt{x+1} - 2}{x-3} = \frac{1}{2}$$

$$26.- \lim_{x \rightarrow 0} \frac{\sqrt{1-x} - 1}{x} = \frac{1}{2}$$