

EJERCICIOS DE L'HOPITAL

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

$$2) \lim_{x \rightarrow 0} \frac{x^2 + 5x}{x^2 - 2x}$$

$$3) \lim_{x \rightarrow 3} \frac{x - 3}{x^3 - 27}$$

$$4) \lim_{x \rightarrow 0} \frac{\operatorname{tg}(x)}{\ln(x+1)}$$

$$5) \lim_{x \rightarrow 0} \frac{e^x - e^{-x}}{\operatorname{sen}(x)}$$

$$6) \lim_{x \rightarrow e} \frac{\operatorname{sen}(x) - \operatorname{sen}(e)}{x - e}$$

$$7) \lim_{x \rightarrow \pi/2} \frac{\ln(\operatorname{sen}(x))}{(\pi - 2x)^3}$$

$$8) \lim_{x \rightarrow 0} \frac{x \cdot \cos(x)}{\operatorname{tg}(x)}$$

$$9) \lim_{x \rightarrow \infty} \frac{x^2 + 3x}{x^3 - 1}$$

$$10) \lim_{x \rightarrow \pi/2} \frac{\operatorname{tg}(x)}{\cot g\left(\frac{\pi}{2} - x\right)}$$

$$11) \lim_{x \rightarrow \infty} \frac{x^2}{\ln(x)}$$

$$12) \lim_{x \rightarrow \infty} \frac{x^3}{e^{2x}}$$

$$13) \lim_{x \rightarrow \pi/2} (x - \pi/2) \cdot \operatorname{tg}(x)$$

$$14) \lim_{x \rightarrow 0} x \cdot \operatorname{cotg}(x)$$

$$15) \lim_{x \rightarrow 0} x \cdot \ln(x)$$

$$16) \lim_{x \rightarrow 1} \ln(x) \cdot \operatorname{cot} g(1 - x)$$

$$17) \lim_{x \rightarrow 0} (2x - x^2) \cdot \operatorname{cot} g(x)$$

$$18) \lim_{x \rightarrow 3} \frac{1}{x - 3} - \frac{1}{\ln(x - 2)}$$

$$19) \lim_{x \rightarrow 1} \frac{1}{x - 1} - \frac{1}{\ln(x)}$$

$$20) \lim_{x \rightarrow 0} \frac{1}{e^{2x} - 1} - \frac{1}{\operatorname{sen}(2x)}$$

$$21) \lim_{x \rightarrow 0} \frac{1}{x} - \frac{1}{\operatorname{sen}(x)}$$

$$22) \lim_{x \rightarrow \infty} \left(1 + \frac{3}{x}\right)^{2x}$$

$$23) \lim_{x \rightarrow \infty} \left(\frac{2x + 1}{2x + 3}\right)^{x-2}$$

$$24) \lim_{x \rightarrow 1} (1 + 3 \cdot \ln(x))^{\cos ec(x)}$$

$$25) \lim_{x \rightarrow 0} x^x$$

$$26) \lim_{x \rightarrow 0} (\operatorname{sen}(x))^{\operatorname{tg}(x)}$$

$$27) \lim_{x \rightarrow 1} (x - 1)^{\ln(x)}$$

$$28) \lim_{x \rightarrow 0} \left(\frac{1}{x}\right)^{\operatorname{sen}(x)}$$