

Calcular los siguientes límites usando teorema de L'Hopital

$$\textcircled{1} \quad \lim_{x \rightarrow \infty} \frac{x}{e^{2x}}$$

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

$$\textcircled{3} \quad \lim_{x \rightarrow \infty} \frac{\ln(x)}{x}$$

$$\textcircled{4} \quad \lim_{x \rightarrow \infty} \frac{x^n}{e^x}$$

$$\textcircled{5} \quad \lim_{x \rightarrow 0^+} x \ln(x)$$

$$\textcircled{6} \quad \lim_{x \rightarrow \infty} x(e^{1/x} - 1)$$

$$\textcircled{7} \quad \lim_{x \rightarrow \infty} \left(1 + \frac{2}{x}\right)^x$$

$$\textcircled{8} \quad \lim_{x \rightarrow 0^+} x^x$$

$$\textcircled{9} \quad \lim_{x \rightarrow 1^-} (\sqrt{2 - x^2} - 1)^{x-1}$$

$$\textcircled{10} \quad \lim_{x \rightarrow \infty} (x + e^x)^{2/x}$$

$$\textcircled{11} \quad \lim_{x \rightarrow \infty} x^{1/x}$$

$$\textcircled{12} \quad \lim_{x \rightarrow 1} \left(\frac{1}{\ln(x)} - \frac{1}{x-1} \right)$$

Soluciones

1 0

2 $\frac{1}{2}$

3 0

4 0

5 0

6 1

7 e^2

8 1

9 1

10 e^2

11 1

12 $\frac{1}{2}$