L'Hospital's Rule

1. $\lim_{x\to 1}\dfrac{\ln x}{x-1}$

2. $\lim_{x\to\infty}\dfrac{e^x}{x^2}$

3. $\lim_{x\to\infty}\dfrac{\ln x}{\sqrt[3]{x}}$

4. $\lim_{x\to 0}\dfrac{\tan x-x}{x^3}$

5. $\lim_{x\to\pi^-}\dfrac{\sin x}{1-\cos x}$

6. $\lim_{x\to o^+}(1+\sin 4x)^{\cot x}$

7. $\lim_{x\to -1}\dfrac{x^2-1}{x+1}$

8. $\lim_{x\to\frac{\pi}{2}^+}\dfrac{\cos x}{1-\sin x}$

9. $\lim_{x\to 0}\dfrac{e^x-1}{\sin x}$

10. $\lim_{x\to 0}\dfrac{\tan px}{\tan qx}$

11. $\lim_{x\to 0^+}\dfrac{\ln x}{x}$

12. $\lim_{t\to 0}\dfrac{5^t-3^t}{t}$

13. $\lim_{x\to 0}\dfrac{e^x-1-x}{x^2}$

14. $\lim_{x\to\infty}\dfrac{x}{\ln(1+2e^x)}$

15. $\lim_{x\to 1}\dfrac{1-x+\ln x}{1+\cos\pi x}$

16. $\lim_{x\to 1}\dfrac{x^a-ax+a-1}{(x-1)^2}$

17. $\lim_{x\to 0^+}\sqrt{x}\ln x$

18. $\lim_{x\to\infty}e^{-x}\ln x$

19. $\lim_{x\to\infty}x^3 e^{-x^2}$

20. $\lim_{x\to\infty}xe^{\frac{1}{x}}-x$

21. $\lim_{x\to\infty}(x-\ln x)$

22. $\lim_{x\to 0^+}x^{x^2}$

23. $\lim_{x\to 0}(1-2x)^{\frac{1}{x}}$

24. $\lim_{x\to 0^+}(\cos x)^{\frac{1}{x^2}}$

25. $\lim_{x\to 0}\dfrac{\sin 2x}{\sin 3x}$

26. $\lim_{x\to 0}\dfrac{x-\sin x}{x^3}$

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