

# L'Hospital's Rule

July 6, 2020

1. Find  $\lim_{x \rightarrow 0} \frac{e^x - 1}{x^2 + x}$

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

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

4. Find  $\lim_{x \rightarrow 1} \frac{\ln(x)}{x - 1}$

5. Find  $\lim_{x \rightarrow -\infty} xe^x$

6. Find  $\lim_{x \rightarrow \infty} [e^x + x]^{1/x}$