

Hwk L'Hopital's Rule

Date _____ Period _____

Evaluate each limit. Use L'Hôpital's Rule if it can be applied.

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

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

3) $\lim_{x \rightarrow 0} \frac{\sin(x)}{\sin(2x)}$

4) $\lim_{x \rightarrow 0} \frac{4(e^x - e^{-x})}{\sin x}$

Evaluate each limit using L'Hôpital's Rule.

5) $\lim_{x \rightarrow \infty} \frac{\ln(x+3)^5}{\ln x^2}$

- A) 0 B) $\frac{5}{2}$
C) ∞ D) 5

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

- A) 2 B) ∞
C) 1 D) 0