

Math 1a. §4.5 Worksheet
Indeterminate Forms and l'Hôpital's Rule

Fall 2005

Evaluate each of the following limits using l'Hôpital's Rule if necessary

1. $\lim_{t \rightarrow 0} \frac{e^{3t} - 1}{t}$

2. $\lim_{x \rightarrow 1} \frac{\ln x}{\sin \pi x}$

$$3. \lim_{x \rightarrow 0} \frac{x}{\arctan(4x)}$$

$$4. \lim_{x \rightarrow 0^+} \sqrt{x} \ln x$$

$$5. \lim_{x \rightarrow \infty} x e^{1/x} - x$$

$$6. \lim_{x \rightarrow 0^+} (\tan 2x)^x$$