

## L'Hospital's Rule (2)

## Day 6 Curve Sketching

1-10: Find the limit. Use L'Hospital's Rule where appropriate. If there is a more elementary method, consider using it. If L'Hospital's Rule doesn't apply, explain why.

1.  $\lim_{x \rightarrow 1} \left( \frac{x}{x-1} - \frac{1}{\ln x} \right)$

2.  $\lim_{x \rightarrow 0} (\csc x - \cot x)$

3.  $\lim_{x \rightarrow 0^+} \left( \frac{1}{x} - \frac{1}{e^x - 1} \right)$

4.  $\lim_{x \rightarrow 0^+} \left( \cot x - \frac{1}{x} \right)$

5. omit

6. omit

**Answers:**

1  $\frac{1}{2}$

2 0

3  $\frac{1}{2}$

4 0

5  $e^4$

6  $e^{-2}$

7  $e^{ab}$

8  $e^{-1}$

9  $e^{-1/2}$

10 1

