Name: _____ Group #: _____

Evaluate the following limits using appropriate methods. Be sure to indicate each time L'Hôpital's Rule is used and the indeterminate form.

1. $\lim_{x\to 1} \dfrac{\sin(1-x^2)}{x-1}$

2. $\lim_{x\to 1^+} \left(\dfrac{3}{\ln x} - \dfrac{3}{x-1}\right)$

3. $\lim_{x\to 1} \dfrac{x^2-9}{3-2\ln x}$

4. $\lim_{x\to\infty} \left(1-\dfrac{2}{x}\right)^{4x}$

5. $\lim_{x \to 0^+} x \cot(\pi x)$

6. $\lim_{x \to \infty} \frac{e^{2x}}{x^3}$

7. $\lim_{x \to \pi^-} \sin(x) \csc(5x)$

8. $\lim_{x \to \infty} (x^2 + 1)^{3/x}$