Suppose we have a limit such as $\lim_{x \to \infty} \frac{e^{ugly} - 1}{ugly}$ where $\lim_{x \to \infty} ugly = 0$ and *ugly* is a function of x.

Then the limit is of the form $\frac{0}{0}$.

Use L'Hopital's Rule:

$$\lim_{x \to \infty} \frac{e^{ugly} - 1}{ugly} \overset{\text{LH}}{=} \lim_{x \to \infty} \frac{\frac{d}{dx} e^{ugly} - \frac{d}{dx} 1}{\frac{d}{dx} ugly} = \lim_{x \to \infty} \frac{e^{ugly} \cdot \frac{d}{dx} ugly - 0}{\frac{d}{dx} ugly} = \lim_{x \to \infty} e^{ugly} = e^0 = 1$$