Consider the following limits:

$$\lim_{x\to+\infty}\frac{7^x}{x^2} \qquad \lim_{x\to+\infty}\frac{7^{-x}}{x^2} \qquad \lim_{x\to+\infty}\frac{x^3}{\ln x}$$

$$\lim_{x\to+\infty}\frac{\ln(\ln x)}{\ln x} \qquad \lim_{x\to0}\frac{\sin x - x}{7x^3} \qquad \lim_{x\to0}\frac{\sin x}{x^3}$$

1. For each of the six limits listed above, determine if L'Hôpital's Rule applies. See if you can get your group to agree on the reason(s) why/why not.

2. For those limits to which L'Hôpital's Rule applies, use L'Hôpital's Rule to evaluate the limit. Warning: this may require multiple applications of L'Hôpital's Rule, and after each application, you need to check again that L'Hôpital's Rule still applies.