

Each problem is worth 5 points. Show complete justification for full credit.

1. Find  $\lim_{x \rightarrow \infty} \frac{\ln x}{x}$ . Ind  $\frac{\infty}{\infty}$

$\lim_{x \rightarrow \infty} \frac{\ln x}{x} \stackrel{\text{L'H}}{=} \lim_{x \rightarrow \infty} \frac{1}{1} = \lim_{x \rightarrow \infty} \frac{1}{x} = \frac{1}{\infty} = 0$  Great

2. Find  $\lim_{x \rightarrow -\infty} e^x x^2$ .

$\lim_{x \rightarrow -\infty} e^x x^2 = \lim_{x \rightarrow -\infty} \frac{x^2}{e^{-x}} \stackrel{\text{Ind. } \frac{\infty}{\infty}}{\text{L'H}} = \lim_{x \rightarrow -\infty} \frac{2x}{-e^{-x}} \stackrel{\text{Ind. } \frac{\infty}{\infty}}{\text{L'H}} = \lim_{x \rightarrow -\infty} \frac{2}{-e^{-x}}$

Nice  
Job

