Yet Another Problem Set: Exponentials & Logs

1) \( y = e^x; \ y = \ln(x) \) each have an asymptote.
   a) Which kind of asymptote does each have?
   b) Each of the asymptotes is one sided. Why?

2) Sketch the graph of \( y = e^x; \ y = \ln(x) \). On each graph, identify where \( x = 0, \ x = 1 \) are.

3) What are the definitions of \( y = \cosh(x); \ y = \sinh(x) \)? What would the definition of \( y = \tanh(x) \)?

4) Show that \( y = \cosh(x); \ y = \sinh(x) \) are asymptotic to each other at \(+\infty\).