Question 1. [4 marks] Calculate the following limits:

(a) [2 marks] $\lim_{x \to \infty} (\sinh x - e^x)$.

(b) [2 marks] $\lim_{x \to -\infty} (\ln |x|)^{1/x}$. 

Question 2. [4 marks]

(a) [2 marks] Sketch the graph of \( f(x) = \sin(x) - \sqrt{3} \cos(x) \). Show your steps clearly.

(b) [2 marks] Find the slant asymptotes to the graph of \( f(x) = \sqrt{x^2 + 4x} \).