Math 221 - Quiz #2

You must show all relevant work to receive full credit. The point value of each problem is shown in the left hand margin.

(5) 1. Find the antiderivatives:

(a) \( \int \frac{e^x}{\pi + e^x} \, dx \)

(b) \( \int \frac{10^{1/x}}{x^2} \, dx \)

(2) 2. Differentiate \( y = \sin^{-1} x \).

(3) 3. Find the limit:

\[
\lim_{x \to 0} \frac{e^x - 1}{\sin 2x}
\]