

Name:

**Problem 1:**

a)  $\lim_{x \rightarrow \infty} \frac{1}{\sqrt{x^2 + 1} - x}$

**Problem 2:**  $\lim_{x \rightarrow -\infty} \frac{1}{\sqrt{x^2 + 1} - x}$

**Problem 3:** Find  $\lim_{x \rightarrow 0^-} \frac{|x|}{x}$

**Problem 4:** Find  $\lim_{x \rightarrow 2^+} \frac{x - 2}{|x - 2|}$

**Problem 5:** Find  $\lim_{x \rightarrow \frac{\pi}{2}^-} \frac{\tan(x)}{x - 6}$