Problem 1. (5pts) Find the limit.
\[ \lim_{x \to +\infty} \frac{\sqrt{x^2 + 5 + 2x^2}}{(3x - 1)^2} \]

Problem 2. (5pts) Find all points of discontinuity for the function below, and determine the type of discontinuity for each one. Justify your work!
\[
f(x) = \begin{cases} 
  \frac{x+5}{x+3}, & x \leq -1 \\
  x^2 + 1, & -1 < x < 0 \\
  \frac{\sin x}{x}, & 0 < x 
\end{cases}
\]