Quiz #1, Friday September 4
Math 221 Lecture EL1

Instructions. Be sure to show your work and explain your reasoning for full credit. If the question has a number for an answer, circle your answer.

NAME ______________________

1. Show that \( \lim_{x \to 0} x^2 \sin \left( \frac{1}{x} \right) = 0. \)

2. Find the number \( a \) such that the limit exists:

\[
\lim_{x \to -2} \frac{4x^2 + ax + a + 12}{x^2 + x - 2}
\]