## Remember to show all of your work.

Problem 1. Use the Squeeze Theorem to evaluate the limit, or explain why the theorem should not be used.

$$
\lim _{x \rightarrow 0} x^{4} \sin \left(\frac{4}{x^{2}}\right)
$$

Problem 2. Determine the interval(s) on which the following function is continuous. Write your answer in interval notation.

$$
g(x)=\sqrt{x^{2}-1}+\frac{\sin (x)}{x+2}
$$

