

Show all work and circle/box your final answer. Justify your answers. All answers must be simplified unless stated otherwise.

1. Find $\lim_{x \rightarrow 0} \frac{\sin(2x)}{x}$

2. Find $\lim_{x \rightarrow 1^+} \frac{x+1}{(x-1)^2}$

3. Find $\lim_{x \rightarrow 0} x^2 \sin\left(\frac{1}{x}\right)$ (Hint: Squeeze)