

$$\frac{42}{(116)} \quad \lim_{x \rightarrow 0} x \cdot \sin \frac{1}{x} = \lim_{x \rightarrow 0} x \cdot \lim_{x \rightarrow 0} \sin \frac{1}{x} = 0 \quad \underbrace{\lim_{x \rightarrow 0} \sin \frac{1}{x}}_{\substack{\text{oscillation} \\ 1 - \delta}} = 0$$