

The Squeeze Theorem is a method for computing limits without excessive applications of limit laws.

If $f(x) \leq g(x) \leq h(x)$ when x is near a and $\lim_{x \rightarrow a} f(x) = \lim_{x \rightarrow a} h(x) = L$ then $\lim_{x \rightarrow a} g(x) = L$.

$\frac{\sin x}{x}$ Condition 1: $\frac{-1}{x} \leq \frac{\sin x}{x} \leq \frac{1}{x}$ Condition 2: $\lim_{x \rightarrow \infty} \frac{1}{x} = \lim_{x \rightarrow \infty} \frac{-1}{x} = 0$

Therefore $\lim_{x \rightarrow \infty} \frac{\sin x}{x} = \lim_{x \rightarrow \infty} \frac{1}{x} = 0$