

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