The Squeeze Theorem

Name _____

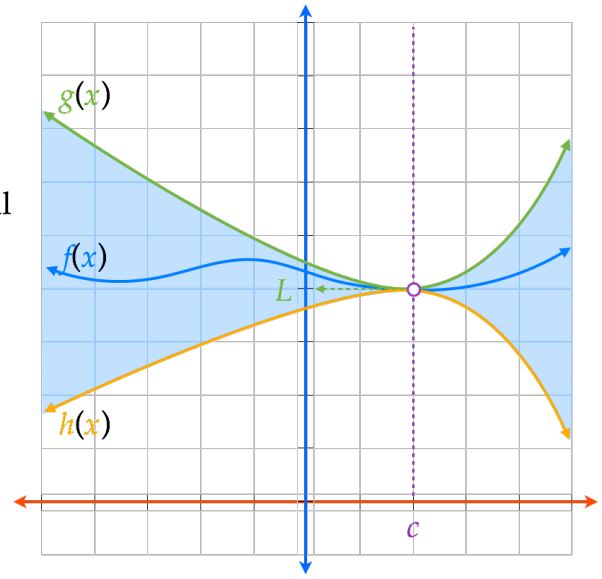
Date _____ Period _____

The Squeeze Theorem

If $h(x) \le f(x) \le g(x)$ for all x in an open interval containing point c (except possibly c), and if…

$$\lim_{x \to c} h(x) = L = \lim_{x \to c} g(x)$$

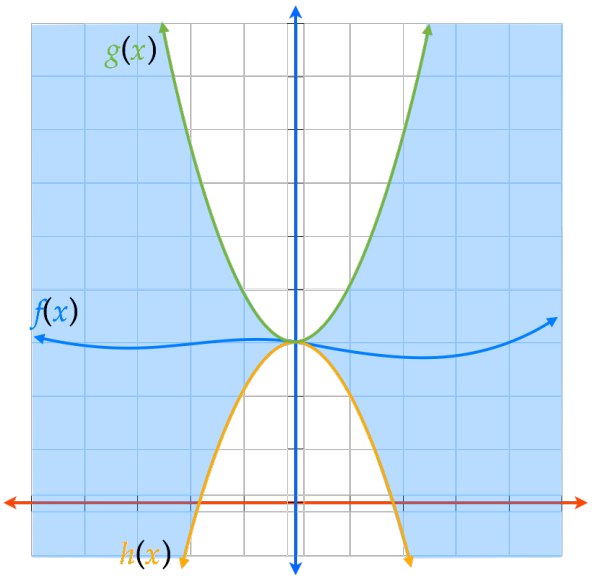
then $\lim_{x \to c} f(x) = L$



Given

$3 - x^2 \le f(x) \le 3 + x^2$

show $\lim_{x \to 0} f(x) = 3$



Given

$3x \le f(x) \le x^3 + 2$, for $0 \le x \le 2$

find $\lim_{x \to 1} f(x)$

Given

$4 \le f(x) \le x^2 + 6x - 3$, for all x

find $\lim_{x \to 1} f(x)$

Given

$1 + x^2 \le f(x) \le \cos x$, for all x

find $\lim_{x \to 0} f(x)$

Find $\lim_{x \to 0} x^2 \cdot \cos \frac{1}{x^2}$

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