



# Calculus 1 Workbook

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Squeeze theorem

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MATH

## SQUEEZE THEOREM

- 1. Use the Squeeze Theorem to evaluate the limit.

$$\lim_{x \rightarrow 0} x^2 \sin \left( \frac{1}{x} \right) - 2$$

- 2. Use the Squeeze Theorem to evaluate the limit.

$$\lim_{x \rightarrow \infty} \frac{3 \sin x}{4x}$$

- 3. Use the Squeeze Theorem to evaluate the limit.

$$\lim_{x \rightarrow 0} x^2 \cos \left( \frac{1}{x^2} \right) + 1$$

- 4. Use the Squeeze Theorem to evaluate the limit.

$$\lim_{x \rightarrow \infty} \frac{e^{-x}}{x}$$

- 5. Use the Squeeze Theorem to evaluate the limit.



$$\lim_{x \rightarrow 0} \frac{\sin\left(\frac{1}{x}\right)}{\frac{1}{x}}$$

■ 6. Find  $\lim_{x \rightarrow 4} f(x)$  if  $x^2 + 1 \leq f(x) \leq 4x + 1$ .

■ 7. Find  $\lim_{x \rightarrow 3} g(x)$  if  $x^2 - 7 \leq g(x) \leq \sqrt{13 - x^2}$ .

■ 8. Find  $\lim_{x \rightarrow 5} h(x)$  if  $x^2 - 6x + 9 \leq h(x) \leq x - 1$ .



