

## Limits

## Advanced

## Squeeze Theorem

1. 
$$\lim_{x \rightarrow \infty} \left( \frac{\cos(x)}{x} \right)$$

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

3. 
$$\lim_{x \rightarrow 0} \left( x \sin\left(\frac{1}{x}\right) \right)$$

4. 
$$\lim_{x \rightarrow 0} \left( x^2 \sin\left(\frac{1}{x}\right) \right)$$

5. 
$$\lim_{x \rightarrow \infty} \left( \frac{\cos^2(x-4)}{2-x^2} \right)$$

6. 
$$\lim_{x \rightarrow 0} \left( x^8 \sin\left(\frac{1}{x}\right) \right)$$

7. 
$$\lim_{x \rightarrow \infty} (2x + x \sin(x))$$

8. 
$$\lim_{x \rightarrow 0} \left( x^2 e^{\sin\left(\frac{1}{x}\right)} \right)$$

9. 
$$\lim_{x \rightarrow 0} \left( x \sin\left(\frac{1}{x^2}\right) \right)$$

10. 
$$\lim_{x \rightarrow \infty} \left( 2 \sin\left(\frac{x}{2}\right) - 3x \right)$$

**Answers**

**Limits**

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**Squeeze Theorem**

1. 0

2. 0

3. 0

4. 0

5. 0

6. 0

7.  $\infty$

8. 0

9. 0

10.  $-\infty$