

## Limits

## Advanced

## Chain Rule

1.  $\lim_{x \rightarrow \infty} e^{2-4x-8x^2}$

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

3.  $\lim_{x \rightarrow \infty} \left( e^{-x^2} \right)$

4.  $\lim_{x \rightarrow \infty} (2^x)$

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

6.  $\lim_{x \rightarrow \infty} (\ln(x+1))$

7.  $\lim_{x \rightarrow \infty} (\arctan(e^x))$

8.  $\lim_{x \rightarrow \frac{\pi}{2}^+} (e^{\tan(x)})$

9.  $\lim_{x \rightarrow -\infty} ((1.001)^x)$

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

**Answers**

**Limits**

**Advanced**

**Chain Rule**

1. 0

2. 1

3. 0

4.  $\infty$

5.  $-\infty$

6.  $\infty$

7.  $\frac{\pi}{2}$

8. 0

9. 0

10. 1