

## **L'Hopital's Rule**

1.  $\lim_{x \rightarrow -2} \frac{x^2 + 8x + 12}{x + 2} =$

2.  $\lim_{x \rightarrow \frac{\pi}{2}} \frac{\cos(x) + 1}{x} =$

3.  $\lim_{t \rightarrow \infty} \frac{1 + 4t^2}{5t + 3t^2} =$

4.  $\lim_{\theta \rightarrow 0} \frac{\theta}{\tan(\theta)} =$

5.  $\lim_{x \rightarrow 0} \frac{\sin(x) + x \cos(x)}{x + \sin(x)} =$

6.  $\lim_{x \rightarrow 1} \frac{e^x - e}{\ln(x)} =$

7.  $\lim_{x \rightarrow 3} \frac{\sqrt{x+1} - 2}{x^2 - 5x + 7} =$

8.  $\lim_{x \rightarrow \infty} (x^2 + 3x + 1)e^{-2x} =$

9.  $\lim_{x \rightarrow 0} x \ln(x)$