

8.1

$$39) \lim_{n \rightarrow \infty} n \sin\left(\frac{1}{n}\right)$$

$$\lim_{n \rightarrow \infty} \frac{\sin\left(\frac{1}{n}\right)}{\frac{1}{n}}$$

$$\lim_{n \rightarrow \infty} \frac{\cos\left(\frac{1}{n}\right) \left[-\frac{1}{n^2}\right]}{\left[-\frac{1}{n^2}\right]} = 1$$

$$44) \lim_{n \rightarrow \infty} \frac{\sin^2 n}{2^n} = 0$$