

8.1

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

$$\lim_{n \rightarrow \infty} \frac{\sin \frac{1}{n}}{\frac{1}{n}}$$

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

$$\boxed{1}$$

$$(37) a_n = (1.1)^n$$

$$(53) \lim_{n \rightarrow \infty} n \sin\left(\frac{3\pi}{n}\right)$$

$$\lim_{n \rightarrow \infty} \frac{\sin\left(\frac{3\pi}{n}\right)}{\frac{1}{n}}$$

$$\lim_{n \rightarrow \infty} \frac{\cos\left(\frac{3\pi}{n}\right) \left[\frac{-3\pi}{n^2} \right]}{\left[\frac{-1}{n^2} \right]} = \boxed{3\pi}$$

$$(21) 3010$$

4th

5th

6th

3,010,000

7th



$$\frac{3,010,000}{3010}$$

$$r^3 = 1000$$

$$\boxed{r = 10}$$

$$a_n = 3.01(10)^{n-1}$$

3.01

30.1

301

1st

2nd

3rd