

## Quiz 2

Name: \_\_\_\_\_

1. Determine whether the sequence converges or diverges, and, if it converges, find the limit.

(a)  $a_n = \frac{n \cos(n\pi)}{2n + 1}$

(b)  $b_n = \frac{\ln n}{\sqrt{2n}}$

2. Indicate whether the series converges or diverges, and, if it converges, find the sum.

(a) 
$$\sum_{k=0}^{\infty} \left(\frac{\pi}{e}\right)^k$$

(b) 
$$\sum_{k=2}^{\infty} \ln\left(1 - \frac{1}{k^2}\right)$$