

## Quiz 4

1. Determine if the given series converges or diverges. Show all work for full credit.

(a)  $\sum_{n=1}^{\infty} \frac{(\ln(n) + 1)^2}{n}$  (7 pts.)

(b)  $\sum_{n=2}^{\infty} \left( \frac{1}{\sqrt{n}} - \frac{1}{\sqrt{n+1}} \right)$  (6 pts.)

2. Compute the value of the series or show that the series diverges. (7 pts.)

$$\sum_{n=1}^{\infty} \frac{3(-2)^n}{5^{n-1}}$$