

Quiz 5

Determine whether the given series converge or diverge using any method. You must clearly and fully justify your answer for full credit and please clearly state which convergence test you are using, making sure to indicate that the proper conditions of the test are satisfied.

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

2. $\sum_{n=1}^{\infty} \left(\frac{1}{n} - \frac{1}{n^2} \right)^n$ *Hint: root test*

3. $\sum_{n=1}^{\infty} \frac{(n+1)(n+2)}{n!}$ *Hint: ratio test*

4. $\sum_{n=1}^{\infty} \left(\frac{7n-4}{6n+2} \right)^n$