

The majority of the credit you receive will be based on the completeness and the clarity of your responses. **Show all of your work and justify your solutions as much as possible.**  
This is a 15 minute quiz and has 2 questions, for a total of 10 points

- (5 points) 1. Determine if the following series converges or diverges.

$$\sum_{n=1}^{\infty} \frac{n^2 + 1}{5^n}$$

- (5 points) 2. Determine if the following series converges or diverges.

$$\sum_{n=1}^{\infty} \frac{\cos(n\pi/3)}{n!}$$