Directions: This assessment has 3 questions, for a total of 20 points. You must show all of your work to receive full credit for an answer. Remember, you may not use a calculator or any other resources during this assessment. Good luck!!

First Name: _____ Last Name: _____ # _____

1. (4 points) Write 3 different partial sums of the series $\sum_{n=1}^{\infty}(-1)^n\frac{1}{n}$.

2. (8 points) Determine if the following series converges or diverges. If the series converges, find the sum of the series?
$$\sum_{n=1}^{\infty}\frac{(n^2+3)(n+2)}{n^2+5n+6}$$

3. (8 points) Determine if the following series converges or diverges. If the series converges, find the sum of the series?
$$\sum_{n=1}^{\infty}(\frac{2}{3})^n+(\frac{1}{\sqrt{5}})^n$$