

November 12, 2004

Show all work for credit.

1. Find the n th partial sum of the series $\sum_{i=1}^{\infty} \frac{1}{i(i+1)}$

Determine if the series diverges or converges. If it converges, determine what it converges to.

2. Determine if the following series converges or diverges, and if it converges, determine what it converges to.

$$\sum_{n=1}^{\infty} \frac{2^{2n+1}}{8^n}$$