

# Calculus II

## Add telescoping series, part 1

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Therefore  $\sum_{n=1}^{\infty} \frac{1}{n(n+1)} = \lim_{k \rightarrow \infty} s_k$

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Therefore  $\sum_{n=1}^{\infty} \frac{1}{n(n+1)} = \lim_{k \rightarrow \infty} S_k = \lim_{k \rightarrow \infty} \left( 1 - \frac{1}{k+1} \right)$

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Therefore  $\sum_{n=1}^{\infty} \frac{1}{n(n+1)} = \lim_{k \rightarrow \infty} s_k = \lim_{k \rightarrow \infty} \left( 1 - \frac{1}{k+1} \right) = 1$