## Advanced Calculus: 15-Minute Quiz 05

Name : $\qquad$ Student ID \#: $\qquad$ Score : $\qquad$

1. Find the sum of the series $\sum_{n=1}^{\infty} \frac{1}{n(n+1)(n+2)}$.
2. Does the series $\sum_{n} \sqrt{a_{n} a_{n+1}}$ converge, if $\sum_{n} a_{n}$ converges and $a_{n} \geq 0$ ?
3. For which $p$, does the series $\sum_{n} \frac{1}{(\log n)^{p}}$ converge?
