Positive Term Tests		
Tests	**Conditions**	**Conclusion**
Integral Test $a_k = a(k)$, $a(x)$ is positive, continuous, decreasing	$\int_1^\infty a(x)dx$ converges	Converges
	$\int_1^\infty a(x)dx$ diverges	Diverges
Comparison Test	$0 \leq a_k \leq b_k$ and $\sum_{k=1}^{\infty} b_k$ converges	Converges
	$0 \leq b_k \leq a_k$ and $\sum_{k=1}^{\infty} b_k$ diverges	Diverges
Limit Comparison Test $\lim_{k\to\infty} \frac{a_k}{b_k} = L$, $0 < L < \infty$	$\sum_{k=1}^{\infty} b_k$ converges	Converges
	$\sum_{k=1}^{\infty} b_k$ diverges	Diverges
Alternating Series		
Alternating Series Test $a_k > 0$ and $0 < a_{k+1} \leq a_k$	$\lim_{k\to\infty} a_k = 0$	Converges
	$\lim_{k\to\infty} a_k \neq 0$	Use Divergence Test to show divergent
Series		
Ratio Test $\lim_{k\to\infty} \left\lvert \frac{a_{k+1}}{a_k} \right\rvert = \rho$	$\rho < 1$	Converges
	$\rho > 1$	Diverges
	$\rho = 1$	Inconclusive
Root Test $\lim_{k\to\infty} \lvert a_k \rvert^{1/k} = \rho$	$\rho < 1$	Converges
	$\rho > 1$	Diverges
	$\rho = 1$	Inconclusive