|  |  |  |  |
| --- | --- | --- | --- |
| ***Series or Test*** | ***Form of series*** | ***Convergence/Divergence*** | ***Example*** |
| Geometric series |  | ***Convergence*** | The series ***converges*** and its |
|  |  | ***Divergence*** | ;  The series ***diverges*** |
| Divergence Test |  | ***Divergence*** | ; The series ***diverges*** |
| Integral Test |  | ***Convergence*** | The series ***converges*** |
|  |  | ***Divergence*** | Series ***diverges*** |
| *p*−series |  | ***Convergence*** | ; Series ***converges*** *p*-series |
|  |  | ***Divergence*** | ; Series ***diverges*** *p*-series |
| Ratio Test |  | ***Convergence*** | ;      Series ***converges*** |
|  |  | ***Divergence*** | ;      Series ***diverges*** |
| Root Test |  | ***Convergence*** | ;  Series ***converges*** |
|  |  | ***Divergence*** | ;    Series ***diverges*** |
| Comparison Test |  | ***Convergence***  ***converges*** | ;  ***converges*** Geometric  Series ***converges*** by ***Direct Comparison Test*** |
|  |  | ***Divergence***  ***diverges*** | ;  ***diverges*** *p*-series  Series ***diverge*** by ***Direct Comparison Test*** |
| Limit Comparison Test |  | ***Convergence***  ***converges*** | ;  ***converges*** *p*-series    Series ***converges*** by ***Limit Comparison Test*** |
|  |  | ***Divergence***  ***diverges*** | ;  ***diverges***    Series ***diverges*** by ***Limit Comparison Test*** |
| Alternating Series Test |  | ***Convergence*** | ;        Series ***converges***. |
|  |  | ***Divergence*** | Series ***diverges***. |
| Absolute Convergence |  | ***Convergence*** | Series ***converges*** absolutely by the ratio test |