- **Ratio Test**

1. If
$$\lim_{n\to\infty}\left|\frac{a_{n+1}}{a_n}\right| = L < 1,$$
then $\sum_{n=1}^{\infty} a_n$ is (absolutely) convergent.
2. If
$$\lim_{n\to\infty}\left|\frac{a_{n+1}}{a_n}\right| = L > 1 \text{ or } \lim_{n\to\infty}\left|\frac{a_{n+1}}{a_n}\right| = \infty,$$
then $\sum_{n=1}^{\infty} a_n$ is divergent.
3. If
$$\lim_{n\to\infty}\left|\frac{a_{n+1}}{a_n}\right| = 1,$$
the Ratio Test is inconclusive.

- **Root Test**

1. If
$$\lim_{n\to\infty} |a_n|^{1/n} = L < 1,$$
then $\sum_{n=1}^{\infty} a_n$ is (absolutely) convergent.
2. If
$$\lim_{n\to\infty} |a_n|^{1/n} = L > 1 \text{ or } \lim_{n\to\infty} |a_n|^{1/n} = \infty,$$
then $\sum_{n=1}^{\infty} a_n$ is divergent.
3. If
$$\lim_{n\to\infty} |a_n|^{1/n} = 1,$$
the Root Test is inconclusive.