Theorem 7.19. [219] *Let* $\alpha = \limsup_{n\to\infty} \sqrt[n]{|a_n|}$ *then*

- *if* $\alpha < 1$ *the series* $\sum_{n=1}^{\infty} a_n$ *converges absolutely;*

- *if* $\alpha = 1$ *nothing can be concluded;*

- *if* $\alpha > 1$ *the series* $\sum_{n=1}^{\infty} a_n$ *does not converge, and also* $\sum_{n=1}^{\infty} |a_n|$ *diverges.*

Proof. [21B] $\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad$ □