3/ 八

1. $a_1, \cdots a_m > 0$, $m \in \mathbb{N}$

$$\lim_{n\to\infty} \left(a_1^n + a_2^n + \cdots + a_m^n\right)^{\frac{1}{n}} = \max_{1\le j\le m} a_j$$

2. 非负函数 $f \in C[a,b]$, 则

$$\lim_{n\to\infty} \left(\int_a^b f^n(x)\,dx\right)^{\frac{1}{n}} = \max_{x\in[a,b]} f(x)$$