Definition Ⅱ

August 7, 2019

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First, ±∞ is constant at any observation point (position).

If a set of real numbers is R, then

$$R\times(\pm\infty)=\pm\infty,\ R+(\pm\infty)=\pm\infty,\ (-1)\times(\pm\infty)\neq\mp\infty$$

On the other hand, when x (∈R)is taken on a number line, the absolute value X becomes larger toward ±∞ as the absolute value X is expanded.

Similarly, as the size decreases, the absolute value X decreases toward 0.

Furthermore, x (-1) represents the reversal of the direction of the axis.

$$(-1)\times(\pm\infty)=\frac{1}{\pm\infty} \qquad \boxed{\therefore(\pm\infty)\cdot i-1=0}$$

Second, from the definition of napier number e

$$\lim_{n\to\infty}\left(1+\frac{1}{(\pm\infty)}\right)^{(\pm\infty)}=e$$

$$\boxed{\begin{array}{l} 1+i=e^{i}\left(\because(1+i)^{\frac{1}{i}}=e\right)\\ i=\log(1+i)\left(\because 1+i=e^{i}\right)\\ (1+i)^{\pi}=-1\left(\because e^{i\pi}=-1\right)\end{array}}$$

$$\boxed{\begin{array}{l} (1+i\pi)^{\frac{1}{i}}=e^{\pi}\left(\because(1+ir)^{\frac{1}{i}}=e^{r}\right)\\ i\pi=-2\\ e=-i\left(\because e^{-2}=-1,\log i=\frac{1}{2}\pi i=-1\right)\end{array}}$$