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1. _____ :

$$\lim_{n \rightarrow \infty} \sqrt[n]{n^3 + 3^n}.$$

2

$$\lim_{x \rightarrow 0} \frac{e^x \sin x - x(1+x)}{x^3}.$$

3. $\int \sin^4 x dx.$

4 $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1 \quad \frac{x^2}{b^2} + \frac{y^2}{a^2} = 1 \quad (a > 0, b > 0)$

5. $\sum_{n=0}^{\infty} \frac{2n+1}{2^{n+1}} x^{2n}.$

6. $f(x)$ _____ 2π _____, $[-\pi, \pi)$

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11 $\lim_{n \rightarrow \infty} a_n = a, \quad : \lim_{n \rightarrow \infty} \frac{a_1 + a_2 + \dots + a_n}{n} = a.$

12 $f(x) = 0 \quad x, y \in \mathbb{R} \quad f(x+y) = f(x) + f(y) \quad f: \mathbb{R} \rightarrow \mathbb{R}.$

13 $f: (a, b) \rightarrow \mathbb{R} \quad \lim_{x \rightarrow a^+} f(x) = \lim_{x \rightarrow b^-} f(x) = 0.$

14. $f: [A, +\infty) \rightarrow \mathbb{R} \quad \int_a^{+\infty} f(x) dx \quad \lim_{x \rightarrow +\infty} f(x) = 0.$

15. $f(x) \quad , F(x)$