$$\sin x = \sum_{k=0}^{\infty} (-1)^k \tfrac{x^{2k+1}}{(2k+1)!}; \qquad |x| < \tfrac{\pi}{2} \qquad (1)$$

$$\cos x = \sum_{k=0}^{\infty} (-1)^k \tfrac{x^{2k}}{(2k)!}; \qquad |x| < \pi \qquad (2)$$

$$\arcsin x = +\tfrac{x^3}{2*3} + \tfrac{1*3x^5}{2*4*5} + \cdots + \tfrac{1*3*5...(2n-1)x^{2n+1}}{2*4*6...2n(2n+1)}; \qquad |x| < 1 \qquad (3)$$

$$\arccos x = \tfrac{\pi}{2} - \left[+ \tfrac{x^3}{2*3} + \tfrac{1*3x^5}{2*4*5} + \cdots + \tfrac{1*3*5...(2n-1)x^{2n+1}}{2*4*6...2n(2n+1)} \right]; \qquad |x| < 1 \qquad (4)$$

$$\operatorname{tg} x = +\tfrac{1}{3}^3 + \tfrac{2}{15}^5 + \tfrac{17}{315}^7 + \tfrac{62}{2835}^9 + \ldots; \qquad |x| < \tfrac{\pi}{2} \qquad (5)$$

$$\operatorname{ctg} x = \tfrac{\pi}{2} - \left[+ \tfrac{1}{3}^3 + \tfrac{2}{15}^5 + \tfrac{17}{315}^7 + \tfrac{62}{2835}^9 + \ldots \right]; \qquad 0 < |x| < \pi \qquad (6)$$

$$\operatorname{arctg} x = \sum_{k=0}^{\infty} (-1)^k \tfrac{x^{2k+1}}{(2k+1)}; \qquad |x| \leq 1 \qquad (7)$$

$$\operatorname{arcctg} x = \tfrac{\pi}{2} - \sum_{k=0}^{\infty} (-1)^k \tfrac{x^{2k+1}}{(2k+1)}; \qquad |x| < 1 \qquad (8)$$

$$\operatorname{cosec} x = \tfrac{1}{x} + \tfrac{1}{6}x + \tfrac{7}{360}x^3 + \tfrac{31}{15120}x^5 + \ldots; \qquad |x| < \pi \qquad (9)$$

$$\sin^2 x = \sum_{k=1}^{\infty} (-1)^{k+1} \tfrac{2^{2k-1}x^{2k}}{(2k)!}; \qquad |x| < \tfrac{\pi}{2} \qquad (10)$$

$$\cos^2 x = 1 - \sum_{k=1}^{\infty} (-1)^{k+1} \tfrac{2^{2k-1} x^{2k}}{(2k)!}; \qquad |x| < \pi \tag{11}$$

$$\sin^3 x = \tfrac{1}{4} \sum_{k=1}^{\infty} (-1)^{k+1} \tfrac{3^{2k+1}-3}{(2k+1)!} x^{2k+1}; \qquad |x| < \tfrac{\pi}{2} \tag{12}$$

$$\cos^3 x = \tfrac{1}{4} \sum_{k=0}^{\infty} (-1)^{k+1} \tfrac{3^{2k}+3}{(2k)!} x^{2k+1}; \qquad |x| < \pi \tag{13}$$