

补充题：函数量阶

试用简单函数（如幂级数、指数函数、对数函数）来表示当 $\varepsilon \rightarrow 0$ 时函数的量阶

$$(1) \frac{1 - \cos \varepsilon}{1 + \cos \varepsilon}, (2) \frac{\varepsilon^{1/2}}{1 - \cos \varepsilon}, (3) \sinh^{-1} \varepsilon, (4) \ln \left(1 + \frac{\ln(1 + 2\varepsilon)}{1 - 2\varepsilon} \right)$$
$$(5) \ln \left(1 + \frac{\ln[(1 + 2\varepsilon)/\varepsilon]}{1 - 2\varepsilon} \right), (6) e^{-\cosh \frac{1}{\varepsilon}}, (7) \int_0^\varepsilon e^{-\zeta^2} d\zeta$$