

Reduction formulae Definite Integration.

$$(1) \int_0^{\infty} e^{-ax} \sin bxdx = \frac{b}{a^2 + b^2}$$

$$(2) \int_0^{\infty} e^{-ax} \cos bxdx = \frac{a}{a^2 + b^2}$$

$$(3) \int_0^{\infty} e^{-ax} x^n dx = \frac{n!}{a^{n+1}}$$