

C4282

! For an efficient use of these tables, first read [HowTo.pdf](#).

C4282

T3.56B. Integrands involving exponentials, logarithm functions and powers of $(a + bx)$ on the interval $(1, \infty)$.

$$1. \int_1^\infty \frac{e^{-\mu x} \ln x}{1+x} dx = \frac{1}{2} e^\mu [\text{Ei}(-\mu)]^2, \quad \Re\{\mu\} > 0.$$

C4282

$$2. \int_1^\infty x^{\nu-1} e^{-\mu x} (\ln x)^m dx = \frac{\partial^m}{\partial \nu^m} \{\mu^{-\nu} \Gamma(\nu, \mu)\}, \quad m = 0, 1, \dots; \Re\{\mu\} > 0, \Re\{\nu\} > 0.$$

$$3. \int_1^\infty e^{-\mu x} \ln(2x-1) \frac{dx}{x} = \frac{1}{2} \left[\text{Ei}\left(-\frac{\mu}{2}\right) \right]^2, \quad \Re\{\mu\} > 0.$$

C4282

C4282

C4282

C4282

C4282

C4282