

C4282

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

C4282

T3.01C. Powers of x and binomials of the form $(a + bx)$ on the interval (y, ∞) .

$$1. \int_y^\infty \frac{x^{\mu-1} dx}{(1 + \beta x)^\nu} = \frac{y^{\mu-\nu}}{\beta^\nu (\nu - \mu)} {}_2F_1 \left(\nu, \nu - \mu; \nu - \mu + 1; -\frac{1}{\beta y} \right), \quad \Re\{\nu\} > \Re\{\mu\}.$$

C4282

$$2. \int_y^\infty (x + \beta)^{-\nu} (x - y)^{\mu-1} dx = (y + \beta)^{\mu-\nu} B(\nu - \mu, \mu), \quad \left| \arg \frac{y}{\beta} \right| < \pi, \quad \Re\{\nu\} > \Re\{\mu\} > 0.$$

$$3. \int_y^\infty x^{-\lambda} (x + \beta)^\nu (x - y)^{\mu-1} dx = y^{-\lambda} (\beta + y)^{\mu+\nu} B(\lambda - \mu - \nu, \mu) {}_2F_1 \left(\lambda, \mu; \lambda - \mu; -\frac{\beta}{y} \right),$$

C4282

$$\left| \arg \frac{y}{\beta} \right| < \pi \text{ or } \left| \frac{\beta}{y} \right| < 1, \quad 0 < \Re\{\mu\} < \Re\{\lambda - \nu\}.$$

C4282

C4282

C4282

C4282

C4282