! For an efficient use of these tables, first read `HowTo.pdf`.

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

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

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

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

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