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

T2.35B. Integrands involving exponentials and arbitrary powers of $(a + b\,x)$ on the intervals $(0, 1)$ and $(-1, 1)$.

1. $$\int_0^1 x^{\nu-1}(1-x)^{\lambda-1}(1-\beta x)^{-\rho} e^{-\mu x}\, dx = \mathrm{B}(\nu,\, \lambda)\Phi_1(\nu,\, \rho,\, \lambda+\nu,\, \beta,\, -\mu),$$
$$\Re\{\lambda\} > 0,\ \Re\{\nu\} > 0,\ |\arg(1-\beta)| < \pi.$$

2. $$\int_{-1}^1 (1-x^2)^{\nu-1} e^{-\mu x}\, dx = \sqrt{\pi}\left(\frac{2}{\mu}\right)^{\nu-1/2} \Gamma(\nu)\, I_{\nu-1/2}(\mu), \quad \Re\{\nu\} > 0,\ |\arg\mu| < \frac{\pi}{2}.$$

3. $$\int_{-1}^1 (1-x)^{\nu-1}(1+x)^{\mu-1} e^{-ipx}\, dx = 2^{\mu+\nu-1}\mathrm{B}(\mu,\, \nu)\, e^{i\,p}\, {}_1F_1(\mu;\, \nu+\mu;\, -2i\,p),$$
$$\Re\{\nu\} > 0,\ \Re\{\mu\} > 0.$$

4. $$\int_{-1}^1 (1-x^2)^{\nu-1} e^{i\mu x}\, dx = \sqrt{\pi}\left(\frac{2}{\mu}\right)^{\nu-1/2} \Gamma(\nu) J_{\nu-1/2}(\mu), \quad \Re\{\nu\} > 0.$$