

FORMULA 3.381.2

$$\begin{aligned}\int_0^u x^{p-1} e^{-x} dx &= \sum_{k=0}^{\infty} (-1)^k \frac{u^{p+k}}{k!(p+k)} \\ &= e^{-u} \sum_{k=0}^{\infty} \frac{u^{p+k}}{p(p+1)\cdots(p+k)}\end{aligned}$$