

FORMULA 3.222.2

$$\int_0^{\infty} \frac{x^{a-1} dx}{x+c} = \begin{cases} \frac{\pi}{\sin \pi a} c^{a-1} & \text{if } c > 0 \\ -\frac{\pi}{\tan \pi a} (-c)^{a-1} & \text{if } c < 0 \end{cases}$$