

FORMULA 3.228.1

$$\int_a^b \frac{(x-a)^\nu (b-x)^{-\nu} dx}{x-c} = \frac{\pi}{\sin \pi\nu} \times \begin{cases} 1 - \left(\frac{a-c}{b-c}\right)^\nu & \text{for } c < a \\ 1 - \cos(\pi\nu) \left(\frac{c-a}{b-c}\right)^\nu & \text{for } a < c < b \\ 1 - \left(\frac{c-a}{c-b}\right)^\nu & \text{for } c > b \end{cases}$$