

FORMULA 3.196.5

The original formula is

$$\int_{-\infty}^1 \frac{dx}{(a-bx)(1-x)^\nu} = \frac{\pi}{b} \operatorname{cosec} \nu\pi \left(\frac{b}{a-b} \right)^\nu$$

This looks better if written as

$$\int_{-\infty}^1 \frac{dx}{(a-bx)(1-x)^\nu} = \frac{\pi}{b \sin \pi\nu} (a/b - 1)^{-\nu}$$