

**FORMULA 3.267.2**

$$\int_0^1 \frac{x^{3n-1} dx}{\sqrt[3]{1-x^3}} = \frac{\Gamma(n)\Gamma(\frac{2}{3})}{3\Gamma(n+\frac{2}{3})} = \frac{(n-1)!}{3(\frac{2}{3})_n}$$