

FORMULA 3.267.1

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