

NEW FORMULA 3.248.3

The original formula is

$$\int_0^1 \frac{x^{2n} dx}{\sqrt{1-x^2}} = \frac{(2n-1)!!}{(2n)!!} \frac{\pi}{2}$$

it should be written as

$$\int_0^1 \frac{x^{2n} dx}{\sqrt{1-x^2}} = \frac{\sqrt{\pi}}{2n!} \Gamma\left(n + \frac{1}{2}\right) = \frac{(2n-1)!!}{(2n)!!} \frac{\pi}{2}$$