multiplication formula for gamma function

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For any integer $n > 0$, the gamma function satisfes the following relation:

$$\Gamma(nz) = (2\pi)^{\frac{n-1}{2}} n^{nz-\frac{1}{2}} \prod_{k=0}^{n-1} \Gamma\left(z + \frac{k}{n}\right)$$

This equation is true for all complex values of z for which both sides are defined.