PROOF OF FORMULA 3.326.2

$$\int_0^\infty x^m \exp(-bx^n)\,dx = \frac{\Gamma(\mu)}{nb^\mu}, \qquad \text{with } \mu = \frac{m+1}{n}$$

Let $t = bx^n$ to obtain

$$\int_0^\infty x^m \exp(-bx^n)\,dx = \frac{1}{nb^\mu}\int_0^\infty t^{\mu-1}e^{-t}\,dt.$$

The result now follows from the integral representation of the gamma function.