

**PROOF OF FORMULA 3.463**

$$\int_0^{\infty} (e^{-x^2} - e^{-x}) \frac{dx}{x} = \frac{\gamma}{2}$$

Entry **3.476.2** states that

$$\int_0^{\infty} [\exp(-x^p) - \exp(-x^q)] \frac{dx}{x} = \frac{p-q}{pq} \gamma.$$

Now put  $p = 2$  and  $q = 1$  to obtain the current integral.