

NEW FORMULA 3.322.1

The original formula is

$$\int_u^\infty e^{-x^2/4\beta-\gamma x} dx = \sqrt{\pi\beta} e^{\beta\gamma^2} \left[1 - \operatorname{erf} \left(\frac{u}{2\sqrt{\beta}} + \sqrt{\beta}\gamma \right) \right]$$

The change of variables $x = 2\sqrt{\beta}t$ and replacing $u/2\sqrt{\beta}$ by u and $\sqrt{\beta}\gamma$ by a (and going back to x as the integration variable) gives the new formula

$$\int_u^\infty e^{-x^2-2ax} dx = \frac{\sqrt{\pi}}{2} e^{a^2} [1 - \operatorname{erf}(u + a)]$$