NEW FORMULA 3.322.2

The original formula is

$$\int_0^\infty e^{-x^2/4\beta-\gamma x}\,dx = \sqrt{\pi\beta}\,e^{\beta\gamma^2}\left[1-\operatorname{erf}\left(\gamma\sqrt{\beta}\right)\right]$$

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

$$\int_0^\infty e^{-x^2-2ax}\,dx = \frac{\sqrt{\pi}}{2}\left[1-\operatorname{erf}(a)\right]e^{a^2}$$