

C4282

! For an efficient use of these tables, first read [HowTo.pdf](#).

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T3.10B. Integrands of the form $\frac{1}{x^2 \sqrt{(a^2 \pm x^2)(b^2 \pm x^2)}}$ and $\frac{1}{(ax^2 + 2bx + c)^\alpha}$, $\alpha > 1/2$,
on the interval $(-\infty, \infty)$.

$$1. \int_{-\infty}^{\infty} \frac{dx}{(ax^2 + 2bx + c)^\alpha} = a^{\alpha-1} (ac - b^2)^{1/2-\alpha} \sqrt{\pi} \frac{\Gamma(\alpha - 1/2)}{\Gamma(\alpha)}, \quad a > 0, \quad b^2 - ac < 0, \quad \alpha > 1/2.$$

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