

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

T3.09A. Integrands of the form $\frac{x^n}{\sqrt{(a^2 \pm x^2)(b^2 \pm x^2)}}$, $n = 0, 2, 4$, on the interval (y, ∞) .

Notation used: $\beta = \arctan \frac{a}{y}$, $\xi = \arcsin \sqrt{\frac{a^2 + b^2}{a^2 + y^2}}$, $\nu = \arcsin \frac{a}{y}$,

$$q = \frac{\sqrt{a^2 - b^2}}{a}, \quad s = \frac{a}{\sqrt{a^2 + b^2}}, \quad t = \frac{b}{a}.$$

$$1. \int_y^\infty \frac{dx}{\sqrt{(x^2 + a^2)(x^2 + b^2)}} = \frac{1}{a} F(\beta, q), \quad a > b > 0.$$

$$2. \int_y^\infty \frac{dx}{\sqrt{(x^2 + a^2)(x^2 - b^2)}} = \frac{1}{\sqrt{a^2 + b^2}} F(\xi, s), \quad y > b > 0.$$

$$3. \int_y^\infty \frac{dx}{\sqrt{(x^2 - a^2)(x^2 - b^2)}} = \frac{1}{a} F(\nu, t), \quad y \geq a > b > 0.$$
