

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

T2.15A. Integrands of the form $\frac{1}{x^2 \sqrt{(a^2 \pm x^2)(b^2 \pm x^2)}}$ on the intervals (y, a) and (a, y) .

Notation used: $\lambda = \arcsin \sqrt{\frac{a^2 - y^2}{a^2 - b^2}}, \quad \mu = \arcsin \sqrt{\frac{y^2 - a^2}{y^2 - b^2}},$

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

$$1. \int_y^a \frac{dx}{x^2 \sqrt{(a^2 - x^2)(x^2 - b^2)}} = \frac{1}{ab^2} E(\lambda, q) - \frac{1}{a^2 b^2 y} \sqrt{(a^2 - y^2)(y^2 - b^2)}, \quad a > y \geq b > 0.$$

$$2. \int_a^y \frac{dx}{x^2 \sqrt{(x^2 - a^2)(x^2 - b^2)}} = \frac{1}{ab^2} \{F(\mu, t) - E(\mu, t)\} + \frac{1}{a^2 y} \sqrt{\frac{y^2 - a^2}{y^2 - b^2}}, \quad y > a > b > 0.$$