! For an efficient use of these tables, first read `HowTo.pdf`.

T3.10A. Integrands of the form $\dfrac{1}{x^2\sqrt{(a^2 \pm x^2)\,(b^2 \pm x^2)}}$ on the interval (y, ∞).

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

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

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

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

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