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

T2.19A. Integrands of the form $\dfrac{1}{\sqrt{(a^2 \pm x^2)^5\,(b^2 \pm x^2)}}$ on the intervals (y, a) and (a, y).

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

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

1. $$\int_y^a \frac{dx}{\sqrt{(a^2 - x^2)(x^2 - b^2)^5}} = \frac{3b^2 - a^2}{3ab^2(a^2 - b^2)^2} F(\lambda,\, q) + \frac{2a(a^2 - 2b^2)}{3b^4(a^2 - b^2)^2} E(\lambda,\, q)$$
$$+ \frac{y[2(2b^2 - a^2)y^2 + (3a^2 - 5b^2)b^2]}{3b^4(a^2 - b^2)^2(y^2 - b^2)} \sqrt{\frac{a^2 - y^2}{y^2 - b^2}}, \quad a > y > b > 0.$$

2. $$\int_a^y \frac{dx}{\sqrt{(x^2 - a^2)(x^2 - b^2)^5}} = \frac{2a^2 - 3b^2}{3ab^4(a^2 - b^2)} F(\mu,\, t) + \frac{2a(2b^2 - a^2)}{3b^4(a^2 - b^2)^2} E(\mu,\, t)$$
$$+ \frac{y}{3b^2(a^2 - b^2)(y^2 - b^2)} \sqrt{\frac{y^2 - a^2}{y^2 - b^2}}, \quad y > a > b > 0.$$