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

T3.11A. Integrands of the form $\dfrac{1}{\left(\pm p \mp x^2\right)^2 \sqrt{(a^2 \pm x^2)\,(b^2 \pm x^2)}}$ 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. $$\int_y^\infty \frac{dx}{(p-x^2)\sqrt{(x^2+a^2)(x^2+b^2)}} = -\frac{1}{a(a^2+p)}\left\{\Pi\left(\beta,\, \frac{a^2+p}{a^2},\, q\right) - F\left(\beta,\, q\right),\right\}.$$

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

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