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

T3.04A. Integrands of the form $\dfrac{1}{(r-x)\,\sqrt{(a-x)(b-x)(c-x)}}$ on the interval (y,∞) and $(-\infty,y)$.

Notation used: $\alpha = \arcsin\sqrt{\dfrac{a-c}{a-y}}$, $\nu = \arcsin\sqrt{\dfrac{a-c}{y-c}}$,

$p = \sqrt{\dfrac{a-b}{a-c}}$, $q = \sqrt{\dfrac{b-c}{a-c}}$.

1. $$\int_{-\infty}^{y} \frac{dx}{(r-x)\sqrt{(a-x)(b-x)(c-x)}} = \frac{2}{(a-r)\sqrt{a-c}}\left[\Pi\left(\alpha,\, \frac{a-r}{a-c},\, p\right) - F\left(\alpha,\, p\right)\right],$$
$a > b > c \geq y.$

2. $$\int_{y}^{\infty} \frac{dx}{(x-r)\sqrt{(x-a)(x-b)(x-c)}} = \frac{2}{(r-c)\sqrt{a-c}}\left[\Pi\left(\nu,\, \frac{r-c}{a-c},\, q\right) - F\left(\nu,\, q\right)\right],$$
$y \geq a > b > c.$