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

T3.17A. Integrands of the form $\dfrac{1}{\sqrt{x^4+1}}$, $\dfrac{1}{x^2\sqrt{x^4+1}}$, $\dfrac{x^2}{(x^4\pm 1)\sqrt{x^4+1}}$, $\dfrac{\sqrt{x^4+1}}{(x^2\pm 1)^2}$, and $\dfrac{(x^2\pm 1)^2}{(x^2+2ax+a^2)\sqrt{x^4+1}}$ on the interval (y,∞).

Notation used: $\alpha = \arccos\dfrac{y^2-1}{y^2+1}$, $r = \dfrac{\sqrt{2}}{2}$.

1. $$\int_y^\infty \frac{dx}{\sqrt{x^4+1}} = \frac{1}{2}F(\alpha,\, r), \quad y \ge 0.$$

2. $$\int_y^\infty \frac{dx}{x^2\sqrt{x^4+1}} = \frac{1}{2}[F(\alpha,\, r) - 2E(\alpha,\, r)] + \frac{\sqrt{y^4+1}}{y(y^2+1)}, \quad y > 0.$$

3. $$\int_y^\infty \frac{x^2\, dx}{(x^4+1)\sqrt{x^4+1}} = \frac{1}{2}E(\alpha,\, r) - \frac{1}{4}F(\alpha,\, r) - \frac{y(y^2-1)}{2(y^2+1)\sqrt{y^4+1}}, \quad y \ge 0.$$

4. $$\int_y^\infty \frac{x^2\, dx}{(x^2+1)^2\sqrt{x^4+1}} = \frac{1}{4}[F(\alpha,\, r) - E(\alpha,\, r)], \quad y \ge 0.$$

5. $$\int_y^\infty \frac{x^2\, dx}{(x^2-1)^2\sqrt{x^4+1}} = \frac{y\sqrt{y^4+1}}{2(y^4-1)} - \frac{1}{4}E(\alpha,\, r), \quad y > 1.$$

6. $$\int_y^\infty \frac{\sqrt{x^4+1}}{(x^2-1)^2}\, dx = \frac{1}{2}[F(\alpha,\, r) - E(\alpha,\, r)] + \frac{y\sqrt{y^4+1}}{y^4-1}, \quad y > 1.$$

7. $$\int_y^\infty \frac{(x^2-1)^2\, dx}{(x^2+1)^2\sqrt{x^4+1}} = E(\alpha,\, r) - \frac{1}{2}F(\alpha,\, r), \quad y \ge 0.$$

8. $$\int_y^\infty \frac{\sqrt{x^4+1}\, dx}{(x^2+1)^2} = \frac{1}{2}E(\alpha,\, r), \quad y \ge 0.$$

9. $$\int_y^\infty \frac{(x^2+1)^2\,dx}{[(x^2+1)^2-4p^2x^2]\sqrt{x^4+1}} = \frac{1}{2}\Pi(\alpha,\,p^2,\,r), \quad y \geq 0.$$