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“To a factor près”: Cayley’s partial anticipation of the Weierstrass  $\wp$ -function.

Am. Math. Mon. 117, No. 4, 291-302 (2010).

In a nutshell, this article presents – apart from biographical material on Cayley and Weierstraß – Cayley’s transformation of an integral  $\int \frac{dx}{y}$ , where  $y^2 = f_4(x)$  equals a quartic polynomial, into an integral of Weierstraß form  $\int \frac{dx}{w}$ , where  $w^2 = f_3(x)$  equals a cubic polynomial. Neither the result nor Cayley’s method of proof via invariants are as obscure as the author seems to believe: all of these classical results have found their way into modern presentations of the general 2-descent on elliptic curves [see e.g. *J. E. Cremona*, *J. Symb. Comput.* 31, No. 1-2, 71–87 (2001; Zbl 0965.11025)]. For this reason, the article under review is recommended to number theorists who wonder where the invariants, covariants and syzygies they are using came from.

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*Keywords:* invariants; Weierstrass  $\wp$ -function; elliptic functions; elliptic integrals

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