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Jeremy Muskat* (muskat@math.colostate.edu), Colorado State University, Department of Mathematics, Fort Collins, CO 80523. *Determining the Zeta Function of Gauss' Curve.*

For $p \equiv 3 \pmod{4}$, we give a proof that the zeta function of the curve $C : x^2t^2 + y^2t^2 + x^2y^2 - t^4 = 0$ in \mathbb{P}^2 defined over \mathbb{F}_p is

$$Z_C(u) = \frac{(1 + pu^2)(1 + u)^2}{(1 - pu)(1 - u)}.$$

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