minimal lines and curves. *In fact the conformal group may be defined as consisting of all point transformations for which L is invariant.* In particular it is found that two regular elements in the plane are conformally equivalent when and only when they agree with respect to L.

This is not true of irregular arcs. The complete discussion of the conformal invariants of irregular analytic curves, or elements, will be given in another paper. The main result is that every such curve has differential invariants (certainly more than one, and probably an infinite number) except in the type represented by an ordinary cusp with non-minimal tangent. This type can be reduced formally to the normal form $y = x^{\frac{3}{2}}$, and therefore has no invariant. Furthermore, any such analytic cusp can be transformed into any other by a *unique* conformal transformation.

The power series defining an analytic element may be real or imaginary, integral or fractional. If, furthermore, we allow the series to be divergent as well as convergent, we have also a classification of elements as divergent or convergent. The concept of *divergent* differential element of infinite order thus introduced promises to lead to greater simplicity and generality in the differential geometry of curves and surfaces. The resulting "geometry of divergent power series" will be treated elsewhere.

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A MERSENNE PRIME.

By Lucas's theorem (*American Journal of Mathematics*, volume 1, page 305) a Mersenne number $n = 2^{4q+3} - 1$ with $4q + 3$ a prime and $8q + 7$ composite is a prime number if the first term of the series 3, 7, 47, 2207, . . . divisible by n lies between the $(2q + 1)$th and the $(4q + 2)$th. My computations show that $2^{107} - 1$ divides the 106th term of the series and is therefore a prime number.

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