This talk is based on the joint work with S. T. Yau. An invariant metric on a complex manifold is in some sense a generalization of the Poincare metric on the unit disk. The classical invariant metrics are the Bergman metric, Caratheodory–Reiffen metric, the Kobayashi–Royden metric, and the complete Kahler–Einstein metric of negative scalar curvature. In 1979, R. E. Greene and H. Wu conjectured that on a simply-connected complete Kahler manifold of negatively pinched sectional curvature, the Bergman metric and the Kobayashi–Royden metric are uniformly equivalent to the background Kahler metric. In this talk, we shall start from elementary complex analysis, present some ideas of the proof of these conjectures, as well as a result on the complete Kahler–Einstein metric.