1007-53-110 **Marcus A Khuri*** (`khuri@math.stanford.edu`), Department of Mathematics, Stanford University, 450 Serra Mall, Bldg. 380, Stanford, CA 94305. *Qualitative Properties of Solutions to the Yamabe Problem.* Preliminary report.

The Yamabe problem asks if every compact Riemannian manifold is conformally equivalent to one of constant scalar curvature. As is well-known, an affirmative answer was provided through the works of Yamabe, Trudinger, Aubin, and Schoen. However, their methods only give limited information about the solution(s). We will review the current state of knowledge, and introduce some new results. (Received February 11, 2005)