1027-58-42 Chris M Judge* (cjudge@indiana.edu), 3611 Bainbridge Drive, Bloomington, IN 47401, and Luc Hillairet. Spectral simplicity of the Laplacian on generic polygons.

We consider the Laplacian acting on either Dirichlet or Neumann functions on a simply connected polygon with n > 4 vertices. We show that, for almost every polygon, the eigenvalues of this operator are simple. We will also discuss generalizations to non-simply connected domains, other manifolds, and higher dimensions. (Received February 04, 2007)