1014-20-422 Benjamin Newton* (newton@math.wisc.edu), Department of Mathematics, University of Wisconsin-Madison, 480 Lincoln Drive, Madison, WI 53706, and Bret Benesh (benesh@math.harvard.edu), Department of Mathematics, One Oxford St., Cambridge, MA 02138. A Classification of Certain Maximal Subgroups of Finite Symmetric Groups.

Problem 12.82 of the Kourovka Notebook (a collection of unsolved problems in group theory) asks for all ordered pairs (n,m) such that the symmetric group S_n embeds in S_m as a maximal subgroup. One family of such pairs is obtained when m = n + 1. Results due to Kalužnin and Klin, and Halberstadt provided an additional infinite family. This paper answers the Kourovka question by producing a third infinite family of ordered pairs and showing that no other pairs exist. (Received September 15, 2005)