Math 8201 **Homework 5** **PJW**
Date due: October 14, 2002

Hand in only the starred questions.

Section 3.4 2, 5, 11*, 12*

Section 3.5 3*, 4, 7(rigid motions = rotations), 9*, 10, 17

T. Prove that A_4 is the only subgroup of S_4 having order 12.

U*. Make a complete list of all possible composition series for S_4. Show that there are no more composition series other than the ones you have indicated. [You may use results from other homework questions.]