

Date due: October 17, 2005

Hand in only the starred questions. There were many questions listed on homework sheet 4 and I think some of them deserve further attention, so I include questions from Section 3.3 again here.

If you want me to do in class any of the questions I set you, do let me know (on or after the due date for the assignment). For instance, if you want me to do on October 17 any of the questions below not assigned to be handed in, please tell me.

Section 3.3 3, 7*, 9*

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.]