

HOMWORK 4 FOR M343K

- Please label your homework clearly with your name.
- Homework must be neatly written and stapled.
- Feel free to discuss your solutions with other students but try to solve the problems by yourself first.
- All solutions must take the form of complete sentences.

DUE THURSDAY OCTOBER 6TH

- (1) Find the 10 element subgroup of S_5 that corresponds to the group of symmetries of the regular pentagon D_5 . Give the group table for this subgroup
- (2) Prove that D_5 is not cyclic.
- (3) Show that the group D_5 can be generated by two elements of order 2.
- (4) Give the Cayley digraph for D_5 .