TEST: ALGEBRA I
JANUARY 19 2018

Question 1. Group homomorphisms and kernels: *What is a group homomorphism? How group isomorphism can be characterized? What finite groups can be imbeded into symmetric groups? What is a kernel of a group homomorphism? How are kernels related to normal subgroups?*

Question 2. *Define an Euklidean domain. Prove that every Euklidean domain is a principal ideal domain.*

Question 3. *How many elements and how many conjugacy classes has the group S_6? List all normal subgroups of S_6.*