My formalization project

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Lemma 1. $minpoly_degle_two$

Lemma 2. $minpoly_dvd_{X}powsub_one$

Lemma 3. $exist_normalizefactor$

Lemma 4. $normalizedfactor_eq_cyclotomicminpoly_dvd_{X}powsub_one$

Lemma 5. $cyclotomic_dege_eq_totient$

Lemma 6. $exist_factorization$

Lemma 7. $totient_factorization$

Lemma 8. $n_existtotient_factorization, exist_factorization$

Lemma 9. $totient_eq_two_iffn_exist$

Lemma 10. $totient_le_two_iffotient_eq_two_iff$

Lemma 11. $cyclotomic_four$

Lemma 12. $cyclotomic_six$

Lemma 13. $normalizedfactor_classnormalizedfactor_eq_cyclotomic, minpoly_degle_two, cyclotomic_dege_eq_totient, to$

Lemma 14. $minpoly_squarefreeminpoly_dvd_{X}powsub_one$

Lemma 15. $minpoly_classexist_normalizefactor, normalizedfactor_class, minpoly_degle_two, minpoly_squarefree$

Lemma 16. $minpoly_cyc_order cyclotomic_four, cyclotomic_six$

Theorem 17. $finorder_classminpoly_class, minpoly_cyc_order$

Definition 18. toGL

Theorem 19. $finite_order_matrixtoGL$