

Reading/Blogging Assignments

Come to class on

1. Wednesday having read 4.4
2. Friday having read 4.5
3. Monday having read 4.5

Problem Set 11, Due December 6

Feel free to do some experimentation via a computer algebra system to develop intuition for the problem.

1. Show that A_n is generated by 3-cycles when $n \geq 3$.
2. Finish off the details of the Galois correspondence you started in class on Monday.
3. Explain how the isomorphism theorems we talked about on Wednesday are equivalent to what we wrote on the board in class.
4. Show that the dihedral group is soluble.
5. What is the Galois group of $t^p - 1$ over \mathbb{Q} for prime p ?
6. Show that if $N > 1$ is an integer and p is prime, then the quintic $x^5 - Npx + p = 0$ cannot be solved by radicals.