

Math 491, Thursday, April 16, Fields in Sage

Fri - Chapter 23

RQ

W/WF: CR/NC

Mon - Problem Session (22)

Sage 22



23

Sun - 11:59 Projects

Math

$GF(5^8)$

$GF(5^4)$

Mapping

Math

$GF(5^4) \rightarrow GF(5^8)$

Sage

$\langle x^4 \rangle \rightarrow \langle x \rangle$

$x^4 \rightarrow 4x^7 + x^6 + 3x^4 + x^3 + x + 4$

(1-1)

Sage

$\langle x \rangle$

$\langle y \rangle = \langle x^4 \rangle$

$$(5^4 - 1)(5^4 + 1) = 5^8 - 1$$