

MATH 696 Reading & Research II: REDUCTIONS AND CORE OF IDEALS

1. BOOK

Prüfer domains by M. Fontana, J. A. Huckaba, and I. J. Papick, Monographs and Textbooks in Pure & Applied Mathematics, Vol. 203. Marcel Dekker, New York, 1997.

2. RESEARCH PAPERS

- J. H. Hays, Reductions of ideals in commutative rings, Trans. Amer. Math. Soc. 177 (1973) 51-63.
- J. H. Hays, Reductions of ideals in Prüfer domains, Proc. Amer. Math. Soc. 52 (1975) 81-84.
- L. J. Ratliff; D. E. Rush, Two notes on reductions of ideals, Indiana Univ. Math. J. 27 (6) (1978) 929-934.
- H.-J. Wang, Core of ideals of Noetherian local rings, Proc. Amer. Math. Soc. 136 (3) (2008) 801-807.
- S. Kabbaj; A. Mimouni, Core of ideals in integral domains. Preprint, June 2011.

3. SYLLABUS

Week	Material	Main
1	General pullbacks	1.1.4, 1.1.5, 1.1.8, 1.1.9
2-3	When I^{-1} is a ring	3.1.1 – 3.1.13
4-5	Divisorial ideals	4.1.1 – 4.1.23
6	When all ideals are divisorial	4.3.1 – 4.3.5
7	Reductions of ideals in commutative rings (1)	ALL
8	Reductions of ideals in commutative rings (2)	..
9	Reductions of ideals in commutative rings (3)	..
10	Reductions of ideals in Prüfer domains	..
11	Two notes on reductions of ideals (1)	..
12	Two notes on reductions of ideals (2)	..
13	Core of ideals in integral domains (1)	..
14	Core of ideals in integral domains (2)	..
15	Core of ideals in integral domains (3)	..

4. SEMINAR

- Trivial ring extensions and the λ -dimension

5. OPEN QUESTIONS

- Core of ideals in pullbacks
- Core of ideals in trivial ring extensions

6. GRADING POLICY

120-minute presentations (15)	100
Take-home Exam	100
Seminar	50
Work on open questions	50