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Jeongho Park* (pkskng@naver.com), Department of Mathematics, Pohang University of Science and Technology, San 31 Hyoja Dong, Nam-Gu, Pohang, 790-784, South Korea. *Notes on the Principal Primes of Real Quadratic Number Fields.*

The ideal class group of a number field K has various aspects. Its size measures how far one has to go up to principalize every ideal of K , how small the portion of the principal fractional ideals is, and how small the Dirichlet density of principal primes is. Simple observation suggests that knowing a single principal prime and its conjugate is almost equivalent to knowing the fundamental unit and successively to knowing a precise bound for the class number. This translates the problem of ideal class group to one about principal prime ideals over a fixed rational prime p . In this talk an explicit construction will be given that covers all real quadratic number fields K whose prime ideals lying over p are principal. (Received August 27, 2012)