



**IDEAL CLASS GROUPS AND GENERALIZED
EULER-RABINOWITSCH POLYNOMIALS**

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Abstract

In this work, we present a new criterion for class number 1 or 2 that generalizes previous criteria. In particular, we generalize the Euler-Rabinowitsch polynomial introduced by the first author some twenty years ago. This generalization is utilized to obtain known and new results on class numbers. For instance, Rabinowitsch's famous result on class number 1 for complex quadratic fields is obtained as an immediate consequence. Several results are presented that correct and extend results in the literature.

Keywords and phrases: class numbers, real quadratic fields, prime-producing polynomials, continued fractions.

