1116-01-720 **Jenny Boucard*** (jenny.boucard@univ-nantes.fr), Centre François Viète, UFR Sciences et Techniques, 2 rue de la Houssinière - BP92208, 44322 Nantes cedex 3, France. *Quadratic forms, Fermat's Last Theorem and Bernoulli numbers from Cauchy to Kummer (1830-1850).*

In 1847 Kummer announced a proof of Fermat's Last Theorem (FLT). The proof was part of Kummer's work on reciprocity laws and was applied to a class of numbers which he called *regular numbers*. To achieve these results, Kummer used the earlier works of Gauss, Jacobi and Dirichlet among others. 1847 was also a year in which were held several discussions on FLT in the Parisian *milieu*. Lamé and Cauchy are for example regularly cited in historical accounts, usually for their failed attempts to make progess on FLT. Through the *Journal of Pure and Applied Mathematics*, Liouville provides communication between these two groups of scholars whose research would appear *a priori* isolated.

In this paper, we will focus on the preceding period, when many results were obtained about Gauss sums, quadratic forms, indeterminate equations, and other mathematical objects. It will enable us to put into perspective the exchanges held between these scholars in 1847. We will analyze a corpus of texts published after 1830 by Cauchy, Kummer, Dirichlet or Jacobi. We will emphasize the links between the various actors involved and their results. We will show that several mathematical results were in circulation in these research areas and used from different perspectives. (Received September 11, 2015)