Can. J. Math., Vol. XLII, No. 6, 1990, p. 1131

ADDENDUM

Corrections to S. Louboutin, [**1**].

I would like to correct some errors committed in **4. Cases involving the polynomial** $pk^2 + pk + (p - q)/4$ of my paper. Since we assume $d = pq$ with $p \equiv q \equiv 3$ [4], we cannot have $d = 4p^2s^2+p$. Thus, we do not have $d = 4p^2s^2+p$ neither in Conjecture 2 nor in Theorem 10. Moreover, whenever $d = p\,\frac{ps^2+4}{9}$, $s \geqq 7$, $s \equiv 1$ [6] then $k = \frac{2ps-p-3s-2}{18}$, $\frac{2ps-p+4}{9}$ and $\frac{2p^2s-6ps-p^2+10p-9}{36}$ are positive integers such that $|f_p(k)| = \frac{2ps-p+4}{9}\,\frac{2p^2s-6ps-p^2+10p-9}{36}$ is neither prime nor equal to one and such that $k < \frac{ps}{9} - 1 < \frac{1}{3}\sqrt{d} - 1$ (we do not want to dwell at length on the way we got this value of k together with this factorization of $f_p(k)$ from our unsuccessful study of the converse of theorem 10). Thus, theorem 10 must be replaced by the following:

Theorem 10′: $d = pq \equiv 5$ [8], $p < q$ primes and $p \equiv q \equiv 3$ [4]. If

$$|f_p(k)| = \left| pk^2 + pk + \frac{p-q}{4} \right|$$

is prime or equal to one whenever $0 \leqq k \leqq \frac{1}{3}\sqrt{d} - 1$, then $h(d) = 1$ and $d = p^2s^2 \pm 4p$ or $d = 4p^2s^2 - p$. The only known such values are: $d = 21$, 69, 77, 93, 141, 213, 237, 413, 437, 453, 573, 717, 1077, 1133, 1253, 1293 and 1757.

Reference

1. S. Louboutin, *Prime producing quadratic polynomials and class-numbers of real quadratic fields*, Can. J. Math. *42*, N. 2 (1990), 315–341.