shown to be rigid in 5.2, this is correct. Thus the applications in the remainder of the proof of Proposition 5.3 are valid.

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ERRATA
CORRECTION TO SUMS OF PRODUCTS OF POWERS OF GIVEN PRIME NUMBERS

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Lemma 3(b) is false and hence the proof of Theorem 3 needs revision. We present a corrected version of Lemma 3(b) and a proof of Theorem 3 based on it.

LEMMA 3(b). *If* $3^b \mid 2^a + 1$, *then* $a \geq 3^{b-1}$.

Proof. If $3^b \mid 2^a + 1$, then $2^{2a} - 1 = (2^a + 1)\,(2^a - 1) \equiv 0 \pmod{3^b}$. Since 2 is a primitive root of 3^b for any $b \in \mathbf{N}$, $\varphi(3^b) \mid 2a$ where $\varphi(x)$ is the Euler's function. Hence $3^{b-1} \mid a$. □

Proof of Theorem 3. Without loss of generality we may assume that $x \geq 1$, $y \geq 0$, $z \geq 2$, $w \geq 1$. By (1.3) and Lemma 3(b), we have $x \leq z$ and $z \geq 3^{\min(y,w)-1}$. We derive from (1.3) that $2^x \mid 3^w - 1$ and therefore $2^{x-2} \leq w$. Hence

$$x < (\log 2)^{-1} \log w + 2.$$

We distinguish between two cases.