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CORRIGENDUM TO "ON PARTITION CONGRUENCES FOR OVERCUBIC PARTITION PAIRS" [COMMUN. KOREAN MATH. SOC. 27 (2012), NO. 3, 477–482]

Byungchan Kim

Abstract. An error in the proof of Theorem 1 of "On partition congruences for overcubic partition pairs" [Commun. Korean Math. Soc. 27 (2012), no. 3, 477–482] is corrected.

Here we correct an error in the proof of [1, Theorem 1]. Let $R(n, Q(x_1, x_2, \ldots, x_k)$ be the number of representations of n by the polynomial $Q(x_1, x_2, \ldots, x_k)$, where $x_1, \ldots, x_k$ are positive integers. During the proof of [1, Theorem 1], the author claimed that

$$R(8n+7, x_1^2 + x_2^2 + 2x_3^2) \equiv 0 \pmod 4,$$

which should be corrected to

$$R(8n+7, x_1^2 + x_2^2 + 2x_3^2) = 2R\left(n, \binom{x_1}{2} + 2\binom{x_2}{2} + 4\binom{x_3}{2}\right).$$

As a consequence, [1, Theorem 1] should be corrected as follows.

Theorem 1. *For all nonnegative integers n,*

$$\overline{cp}(8n+7) \equiv 0 \pmod{32}.$$

The author claimed the congruence in Theorem 1 held for the modulus 64 instead of 32. For the modulus 64, we find that

$$\overline{cp}(8n+7) \equiv 32R\left(n, \binom{x_1}{2} + 2\binom{x_2}{2} + 4\binom{x_3}{2}\right) \pmod{64}.$$

Consequently, the modulus in [1, Corollary 3] should be 96 instead of 192.

Corollary 2. *For all nonnegative integer n,*

$$\overline{cp}(72n+39) \equiv 0 \pmod{96}.$$

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References

[1] B. Kim, *On partition congruences for overcubic partition pairs*, Commun. Korean Math. Soc. **27** (2012), no. 3, 477–482.

Byungchan Kim
School of Liberal Arts
Seoul National University of Science and Technology
Seoul 01811, Korea
E-mail address: bkim4@seoultech.ac.kr