

# CORRIGENDUM TO GENERALIZATIONS OF HERMITE'S IDENTITY AND APPLICATIONS

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## 1. INTRODUCTION AND MAIN RESULTS

For each  $x \in \mathbb{R}$ , let  $\lfloor x \rfloor$  be the largest integer not exceeding  $x$ , and let  $\{x\} = x - \lfloor x \rfloor$ . Previously, we [1] gave various generalizations of Hermite's identity. We made a mistake in the process of typing and editing the manuscript. The term  $\lfloor m/n \rfloor a$  was forgotten and disappeared from our formula in Corollary 3.3 of [1]. The correct version of Corollary 3.3 is as follows.

**Corollary 1.1.** *Let  $x \in \mathbb{R}$ ,  $n \in \mathbb{N}$ ,  $a, b \in \mathbb{Z}$  and  $a < b$ . Then,*

$$\sum_{a \leq k < b} \left\lfloor x + \frac{k}{n} \right\rfloor = \frac{n}{2} \left\lfloor \frac{m}{n} \right\rfloor \left( \left\lfloor \frac{m}{n} \right\rfloor - 1 \right) + \left\lfloor \frac{m}{n} \right\rfloor r + \left\lfloor \frac{m}{n} \right\rfloor \lfloor nx \rfloor + \left\lfloor \frac{m}{n} \right\rfloor a \\ + \max \left\{ r \left\lfloor x + \frac{a}{n} \right\rfloor, r \left\lfloor x + \frac{a}{n} \right\rfloor + r - n + \left\lfloor n \left\{ x + \frac{a}{n} \right\} \right\rfloor \right\},$$

where  $m = b - a$  and  $r$  is the remainder in the division of  $b - a$  by  $n$ .

*Proof.* The previous proof in [1] is correct. Replacing  $k$  by  $k + a$ , the left side of the above equation is suitable for an application of Theorem 3.2 in [1]. This leads to the desired result.  $\square$

## REFERENCES

- [1] S. Aursukaree, T. Khemaratchatakumthorn, and P. Pongsriiam, *Generalizations of Hermite's identity and applications*, The Fibonacci Quarterly, **57.2** (2019), 126–133.

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