A BRIEF COMMENT ON A PREVIOUS PAPER

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In this paper we make a brief comment about the article "On the Interval $[n, 2n]$: Primes, Composites and Perfect Powers" (General Mathematics Notes, Vol. 15, No. 1, March 2013, pp. 1–15; arXiv:1309.0479 [math.NT]).

On page 8 of the mentioned article we can read the following:

> In the following table we also show that the interval $[2n, 4n]$ contains at least two prime numbers r and s such that $2n < r < 3n < s < 4n$ for every integer $2n$ such that $2 \leq 2n \leq 14$:
>
> | $2n$ | r | $3n$ | s | $4n$ |
> |---|---|---|---|---|
> | **2** | 2, 3 | **3** | 3 | **4** |
> | **4** | 5 | **6** | 7 | **8** |
> | **6** | 7 | **9** | 11 | **12** |
> | **8** | 11 | **12** | 13 | **16** |
> | **10** | 11, 13 | **15** | 17, 19 | **20** |
> | **12** | 13, 17 | **18** | 19, 23 | **24** |
> | **14** | 17, 19 | **21** | 23 | **28** |

(1)

This should be replaced with the following:

> In the following table we also show that the interval $[2n, 4n]$ contains at least two prime numbers r and s such that $2n < r < 3n < s < 4n$ for every integer $2n$ such that $4 \leq 2n \leq 14$:
>
> | $2n$ | r | $3n$ | s | $4n$ |
> |---|---|---|---|---|
> | **4** | 5 | **6** | 7 | **8** |
> | **6** | 7 | **9** | 11 | **12** |
> | **8** | 11 | **12** | 13 | **16** |
> | **10** | 11, 13 | **15** | 17, 19 | **20** |
> | **12** | 13, 17 | **18** | 19, 23 | **24** |
> | **14** | 17, 19 | **21** | 23 | **28** |

(2)

In other words, (1) should be replaced with (2). This is a minor error which does not affect results at all.

Now, let us consider the following true statements:

- The intervals $[2n, 3n]$ and $[3n, 4n]$ both contain at least one prime for $n = 1$.
- The interval $[2n, 4n]$ contains at least two prime numbers r and s such that $2n < r < 3n < s < 4n$ for every integer $2n$ such that $4 \leq 2n \leq 14$, according to (2).

Date: December 31, 2013.

If we combine these two statements with Theorem 6.5 (see article), we conclude that the intervals $[2n, 3n]$ and $[3n, 4n]$ both contain at least one prime number for every integer $n \geq 1$ (already proved by M. El Bachraoui and Andy Loo).

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