

Values of the polygamma functions at rational arguments

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Corrigendum

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J Choi and D Cvijović 2007 *J. Phys. A: Math. Theor.* **40** 15019–28

The authors regret that there are errors in some of the equations in the final section of their paper. They would like to express their gratitude to Dr K S Kölbig for bringing the errors to their attention.

The sentence on page 15026 beginning with ‘We also need the relations . . .’ has to be replaced with:

We also need the relations

$$\psi^{(n)}\left(\frac{1}{3}\right) + \psi^{(n)}\left(\frac{2}{3}\right) = (3^{n+1} - 1)\psi^{(n)}(1) \quad (n \in \mathbb{N})$$

and

$$\psi^{(n)}\left(\frac{1}{4}\right) + \psi^{(n)}\left(\frac{3}{4}\right) = 2^{n+1}\psi^{(n)}\left(\frac{1}{2}\right) \quad (n \in \mathbb{N}),$$

which are easily obtained by recalling the multiplication formula for $\psi^{(n)}(z)$:

$$\psi^{(n)}(mz) = \frac{1}{m^{n+1}} \sum_{j=1}^m \psi^{(n)}\left(z + \frac{j-1}{m}\right) \quad (n, m \in \mathbb{N}).$$

Further, equations (3.2) and (3.3) on page 15027 should read as follows:

$$\left. \begin{array}{l} \psi^{(2n)}\left(\frac{1}{3}\right) \\ \psi^{(2n)}\left(\frac{2}{3}\right) \end{array} \right\} = \pm (-1)^n \sqrt{3} 3^{2n} \frac{(2\pi)^{2n+1}}{2(2n+1)} B_{2n+1}\left(\frac{1}{3}\right) + \frac{1}{2} (2n)!(1 - 3^{2n+1}) \zeta(2n+1) \quad (n \in \mathbb{N}) \quad (3.2)$$

and

$$\left. \begin{array}{l} \psi^{(2n)}\left(\frac{1}{4}\right) \\ \psi^{(2n)}\left(\frac{3}{4}\right) \end{array} \right\} = \pm (-1)^n 4^{2n} \frac{(2\pi)^{2n+1}}{2n+1} B_{2n+1}\left(\frac{1}{4}\right) + (2n)!(1 - 2^{2n+1}) 2^{2n} \zeta(2n+1) \quad (n \in \mathbb{N}). \quad (3.3)$$