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A Twist of a Ramanujan Identity,
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Abstract

Ramanujan wrote the following identity

$$\begin{aligned} & \sqrt{2 \left(1 - \frac{1}{3^2}\right) \left(1 - \frac{1}{7^2}\right) \left(1 - \frac{1}{11^2}\right) \left(1 - \frac{1}{19^2}\right)} \\ &= \left(1 + \frac{1}{7}\right) \left(1 + \frac{1}{11}\right) \left(1 + \frac{1}{19}\right), \end{aligned}$$

on which Berndt asked “Is this an isolated result, or are there other identities of this type?” Rebák provided formulas that generate many similar identities and believed that the curious identity is related to the reciprocal of the Landau-Ramanujan constant. In a previous work, the first author of the present paper examined necessary and sufficient conditions for the integers in the identity and proved that there are only finitely many such identities. In this note, we twist the identity to have infinitely many Ramanujan-type identities.