

A SOLUTION OF SUN'S 520 CHALLENGE CONCERNING $\frac{520}{\pi}$

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ABSTRACT. Series for $1/\pi$ and their relation to modular forms have a long history going back to Ramanujan. We will review this connection and give a brief account of the history. We then indicate how to prove a Ramanujan-type formula for $520/\pi$ that was conjectured by Zhi-Wei Sun. A key ingredient is a hypergeometric representation of the relevant double series, which relies on a recent generating function for Legendre polynomials by Wan and Zudilin. This is joint work with Mathew Rogers.