

Sums of sixteen and twenty-four triangular numbers

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Abstract. The triangular numbers are the integers of the form $m(m + 1)/2$, where m is a positive integer. In 1994, using the representation theory of affine superalgebras, Kac and Wakimoto gave formulae for the number of representations of a nonnegative integer as the sum of 16 triangular numbers and as the sum of 24 triangular numbers. Using a recent elementary arithmetic identity of Huard, Ou, Spearman, and Williams, we give elementary proofs of these formulae.

This is joint work with K. S. Williams.

