**Title:** Series with Hermite polynomials and applications

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We obtain a series transformation formula involving the classical Hermite polynomials. We then provide a number of applications using appropriate binomial transformations. Several of the new series involve Hermite polynomials and harmonic numbers, Lucas sequences, exponential and geometric numbers. We also obtain a series involving both Hermite and Laguerre polynomials, and a series with Hermite polynomials and Stirling numbers of the second kind.

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