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Nodes and Weights of Gauss-Hermite

Related Calculator

Nodes and Weights

of Gauss-Hermite

Gauss-Hermite quadrature

Not registered.

Nodes and Weights of Gauss-Hermite Calculator

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Calculates the nodes and weights of the Gauss-Hermite quadrature.

 $Gauss-Hermite\ quadrature$ $\int_{-\infty}^{\infty}\!e^{-x^2}f(x)dx\simeq\sum_{i=1}^n\!w_if(x_i)$ nodes $x_i: the i-th zeros of <math>H_n(x)$ $weights \quad w_i = rac{2^{n-1}n!\sqrt{\pi}}{[nH_{n-1}(x_i)]^2}$



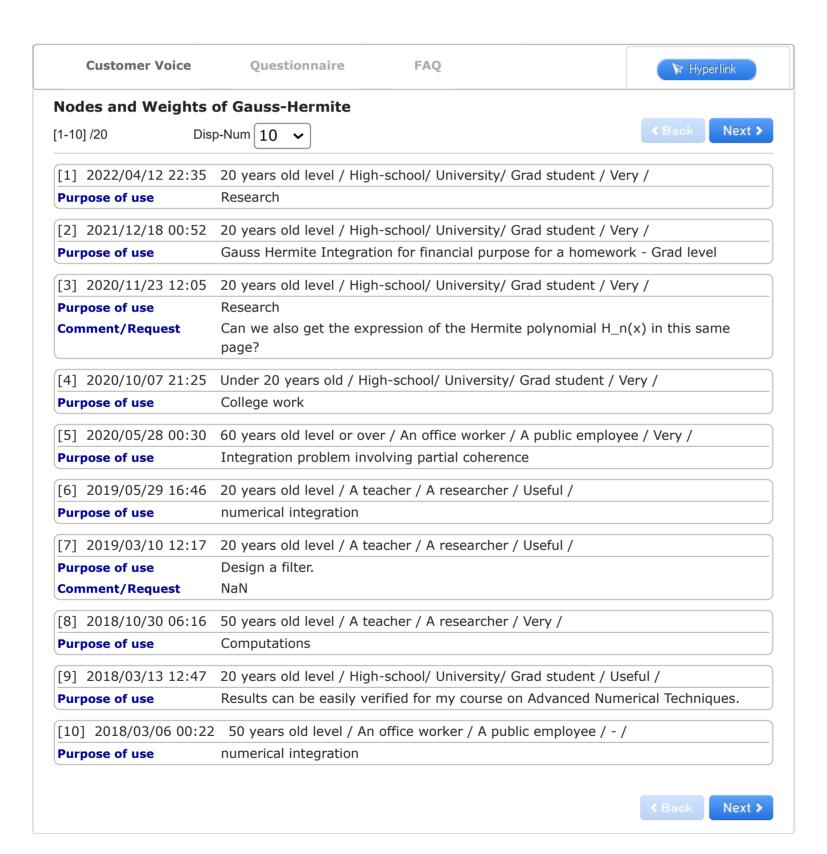


w_ie^{x_i²} w_i 1 -0.707107 0.886227 1.46114 2 0.707107 0.88623 1.46114

 $Gaussian\ quadrature$

$$\int_a^b \! w(x) f(x) dx \simeq \sum_{i=1}^n \! w_i f(x_i), \; \int_a^b \! g(x) dx \simeq \sum_{i=1}^n rac{w_i}{w(x_i)} g(x_i)$$

 $Gauss-Hermite\ quadrature$ $interval(a,b): (-\infty,\infty)$ w(x): $polynomialsl: H_n(x)$



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