

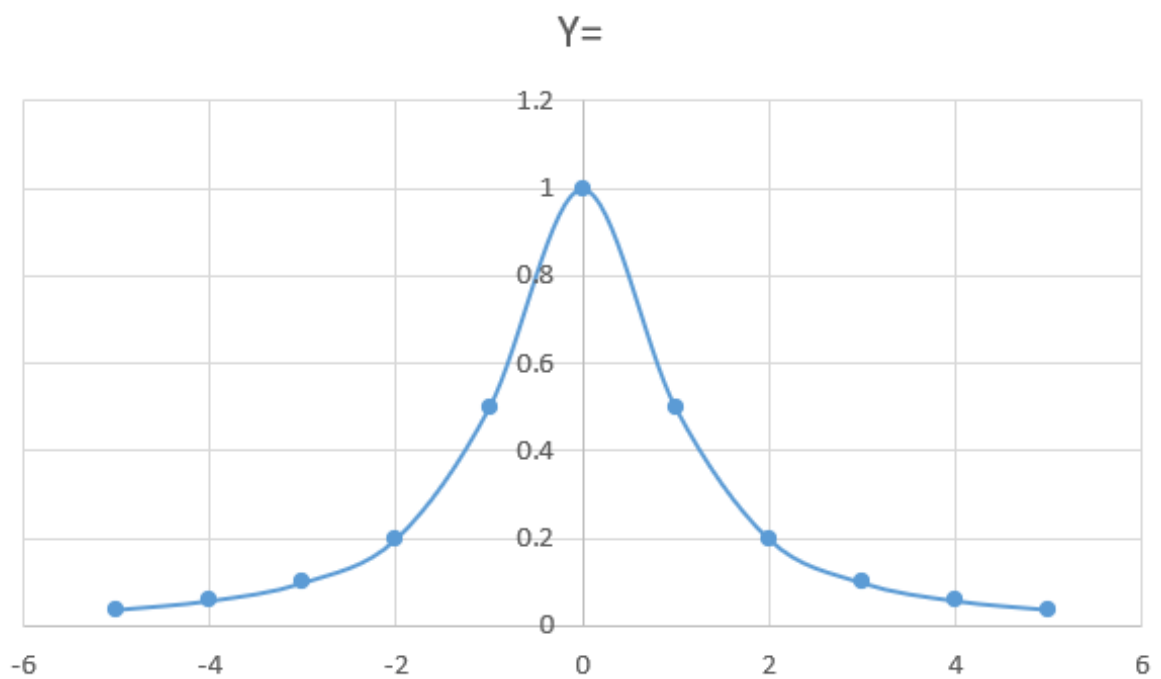
Q2

The time complexity of my Lagrange interpolation algorithm is $O(N^2)$.

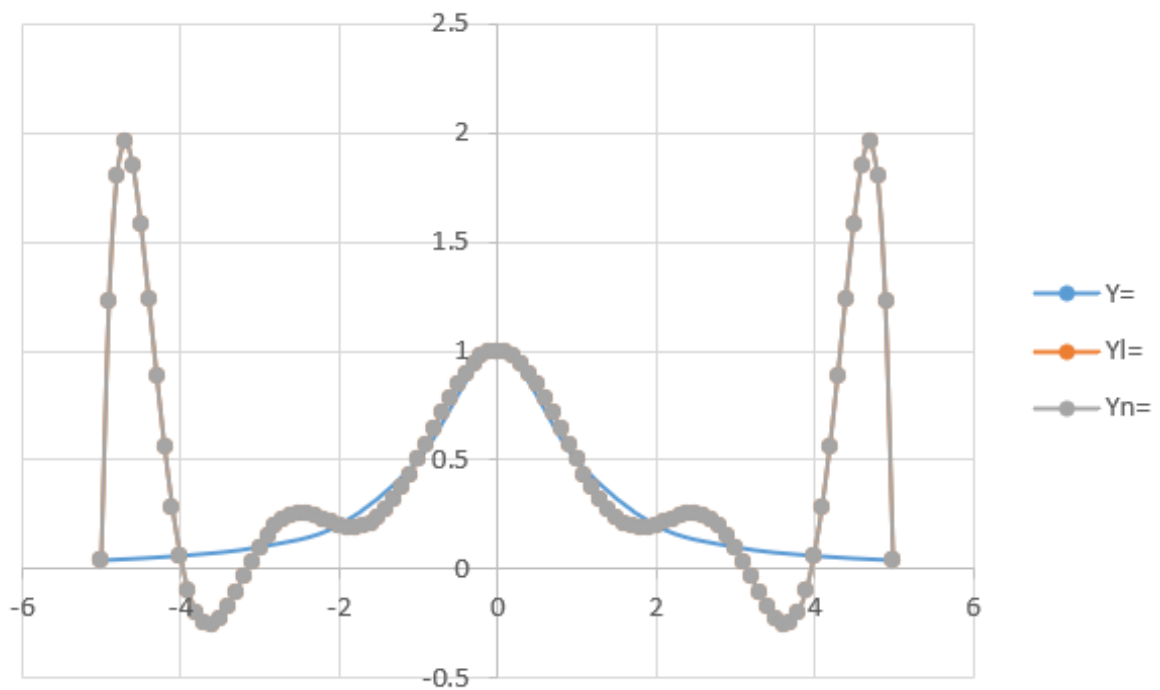
The time complexity of my Newton interpolation algorithm is $O(N^2)$.

Q3

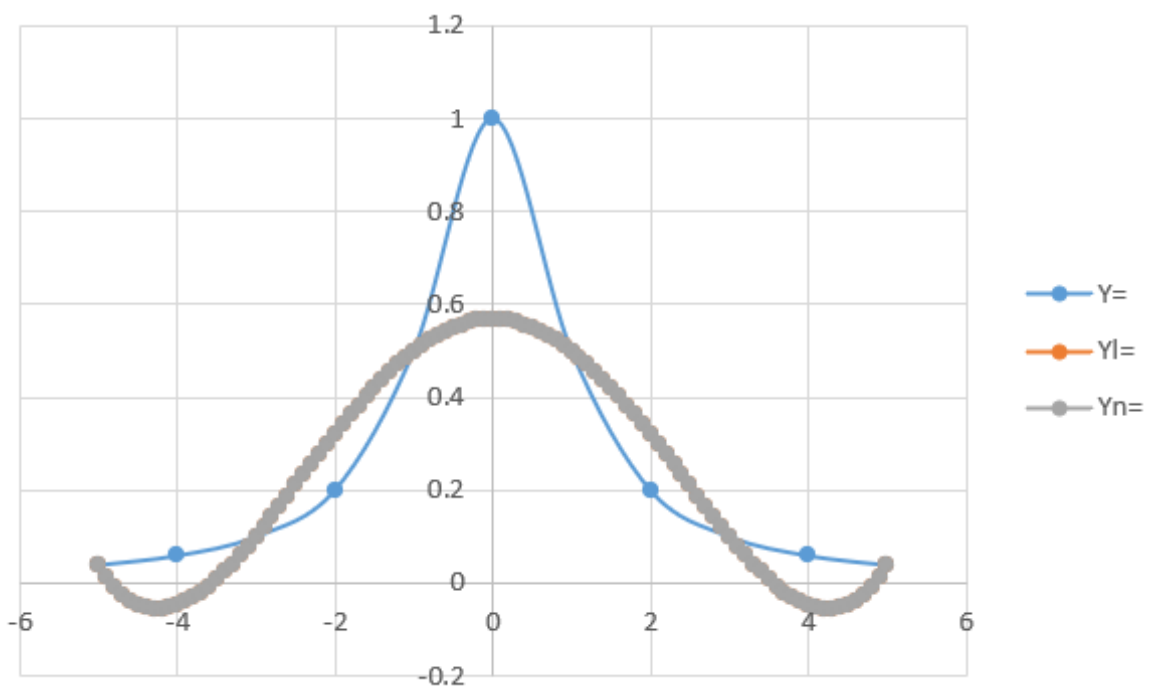
Original function:



$h=1$:



$h=2$:



In the “ $h=1$ ” graph, the interpolating polynomials is closer to the original function when x is closer to 0.

In the “ $h=2$ ” graph, the interpolating polynomials is closer to the original function when x is farther to 0.