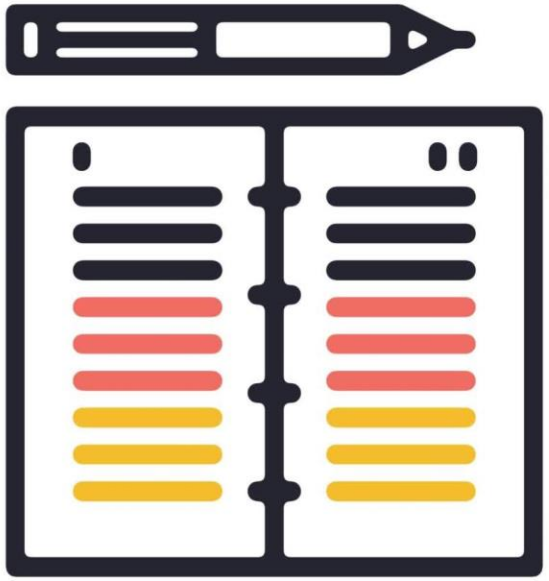


Przybliżanie funkcji

podsumowanie

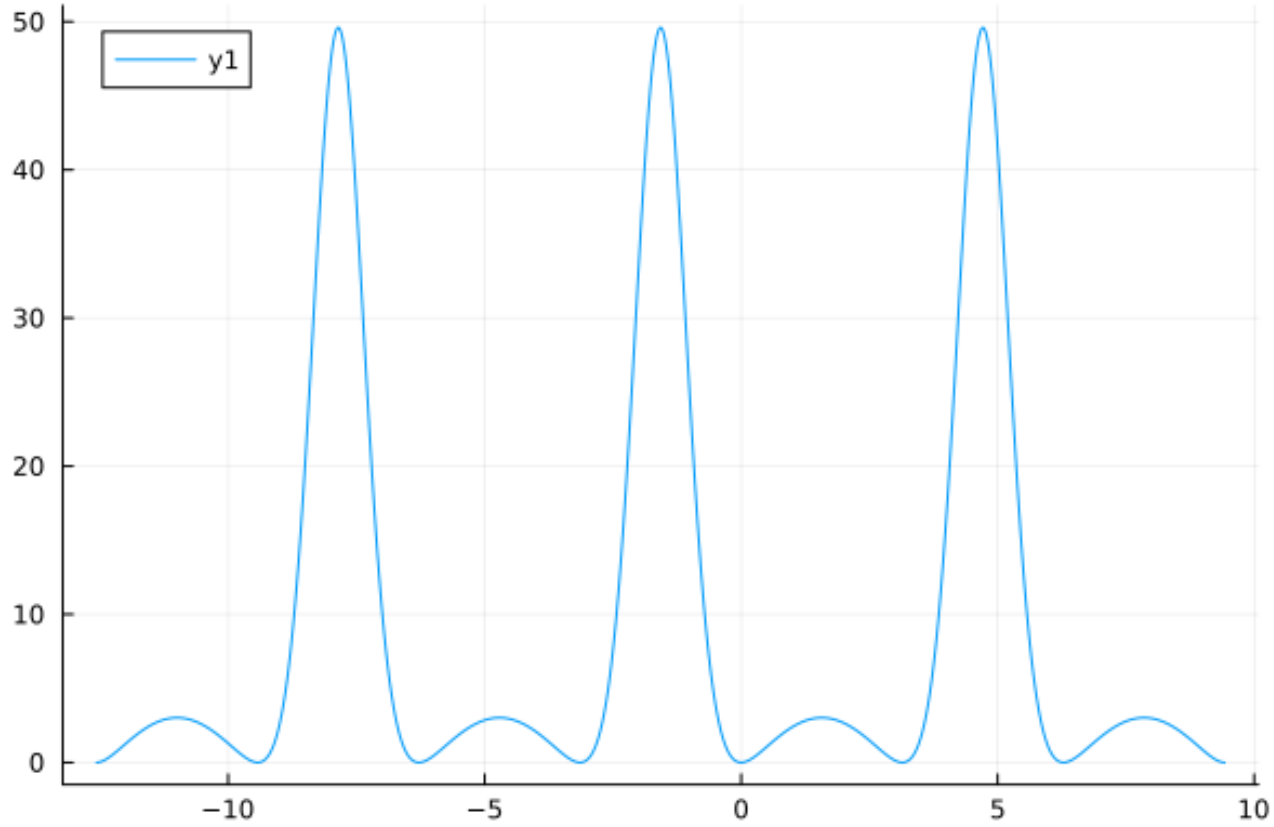
Zadana funkcja

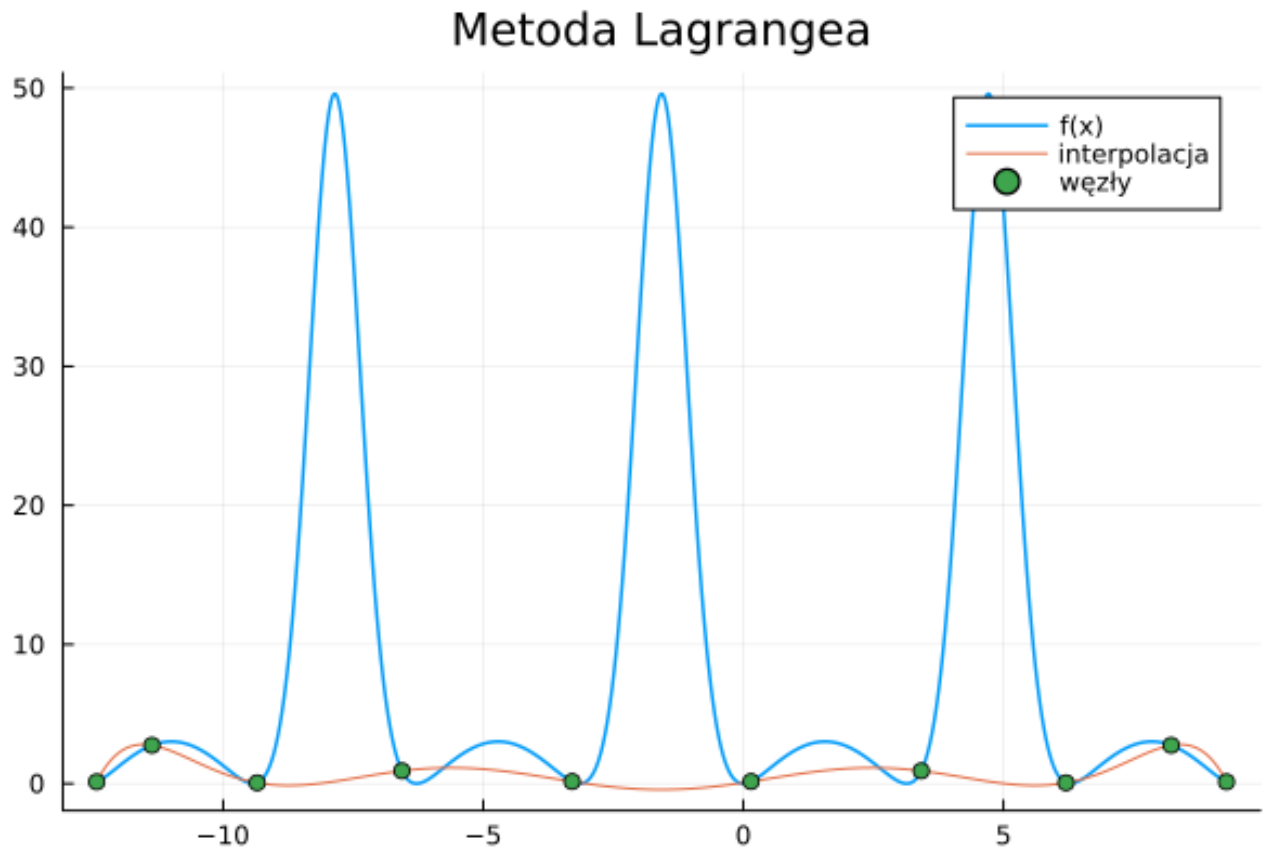
$f(x)=\exp(-k\sin(mx))+k\sin(mx)-1$

,dla

k = 4

m = 1



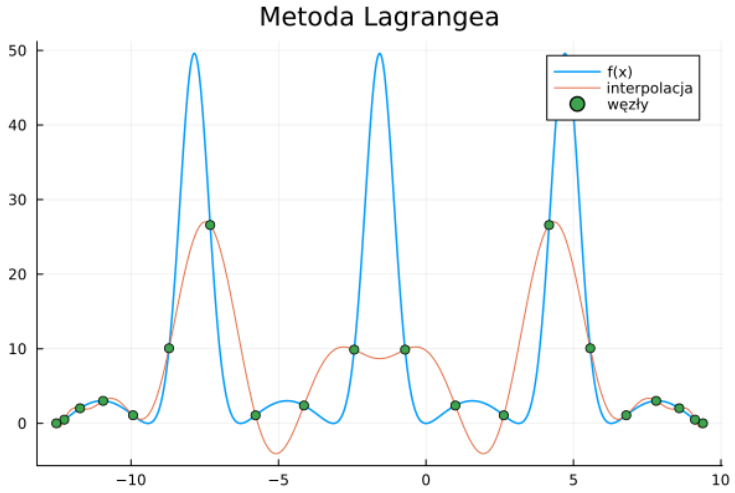


Interpolacja metodą Lagrangea

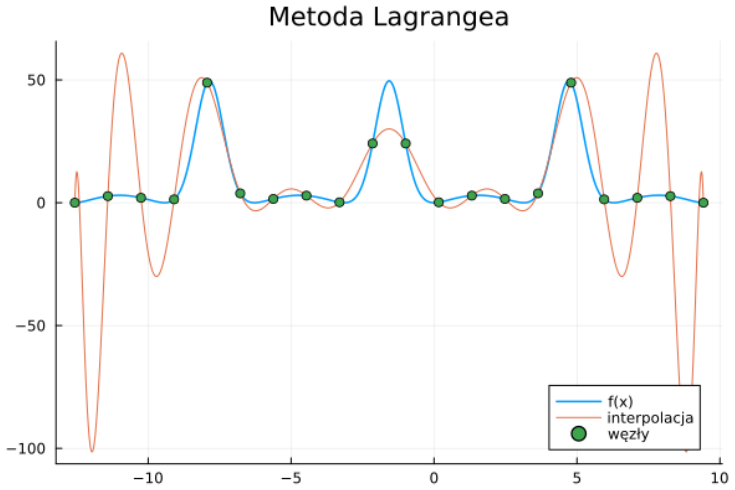
+

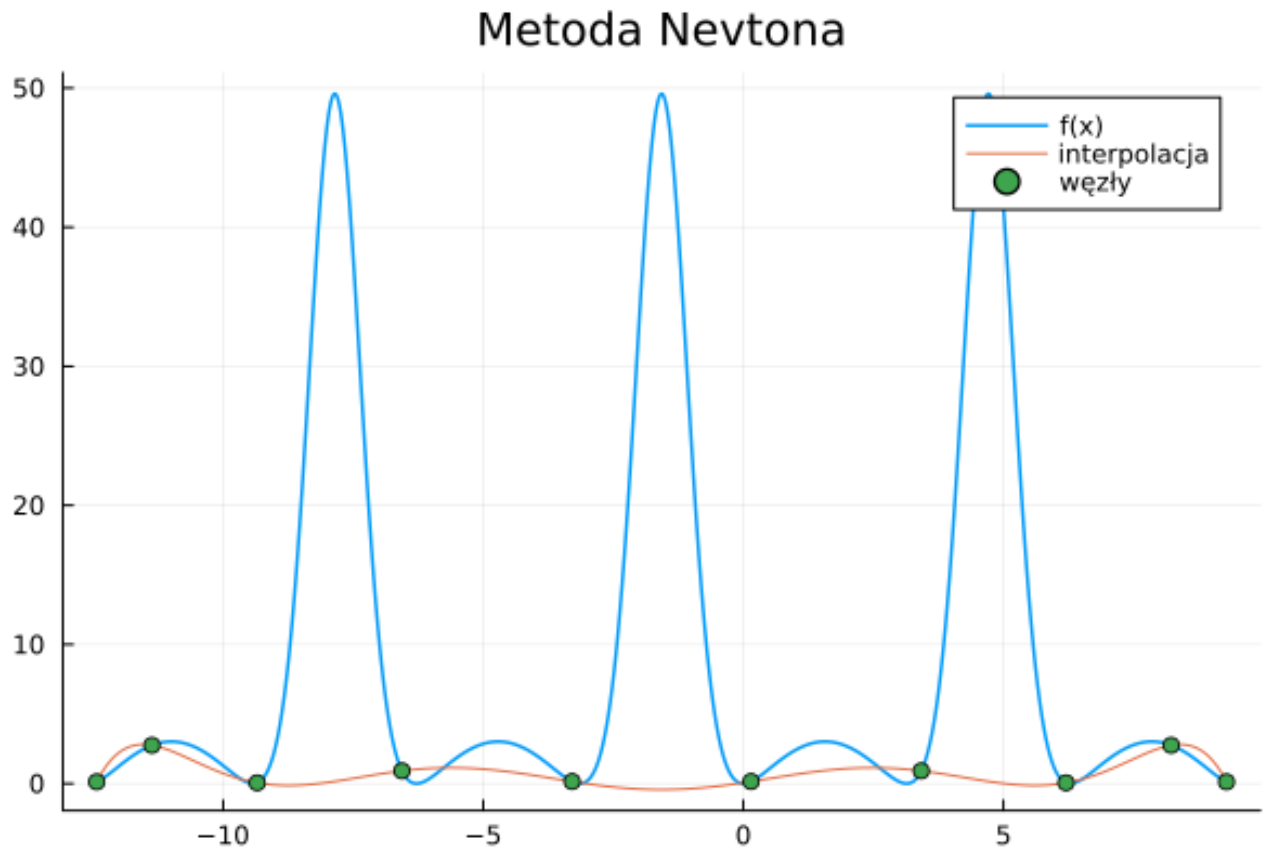
Porównanie doboru węzłów
n = 20

Zera czebyszewa



Równe odstępy



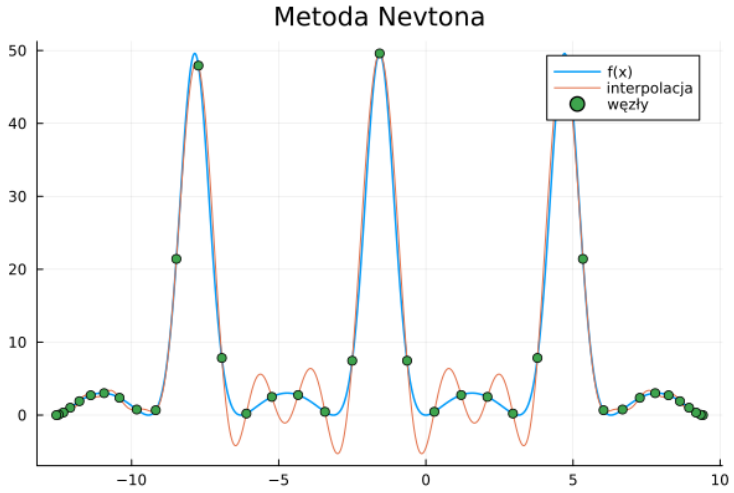


Interpolacja metodą Newtona

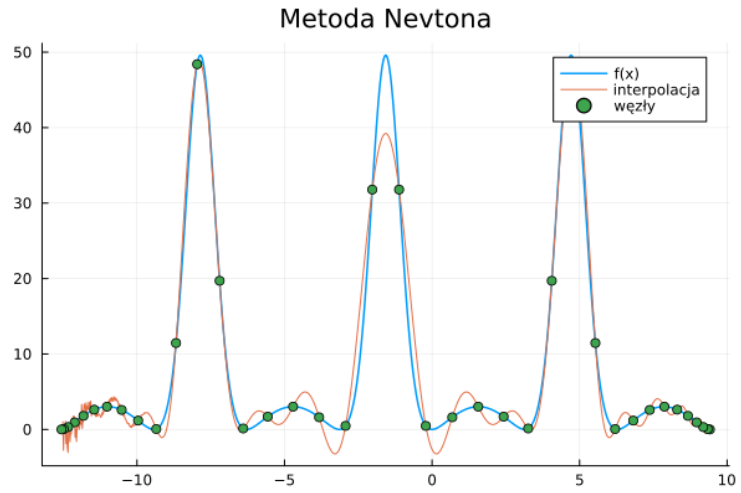
+

Szybko pojawiający się błąd maszynowy

n = 37

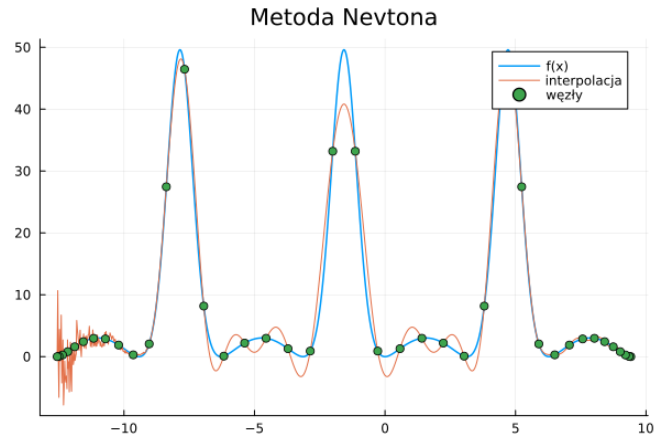


n = 38

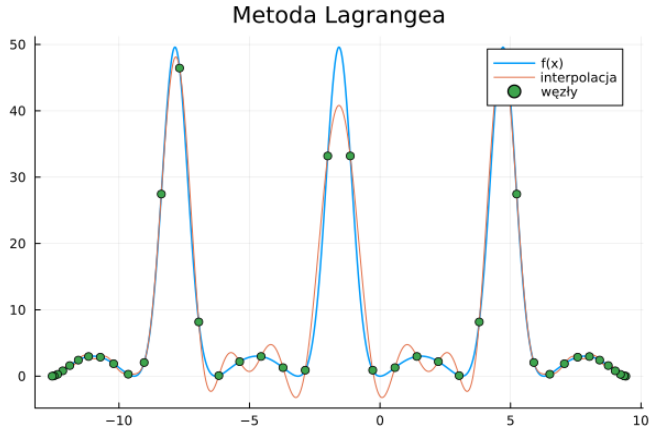


Porównanie Lagrangea i Nevtona

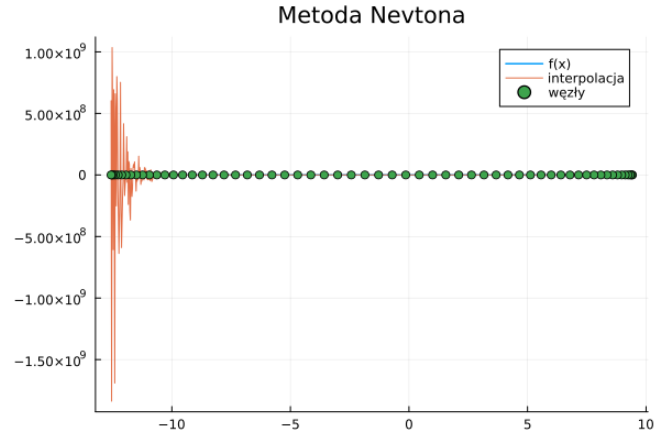
Nevton n = 40



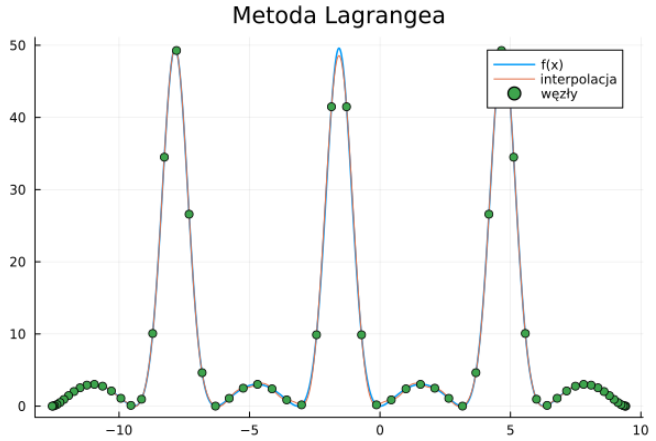
Lagrange n = 40



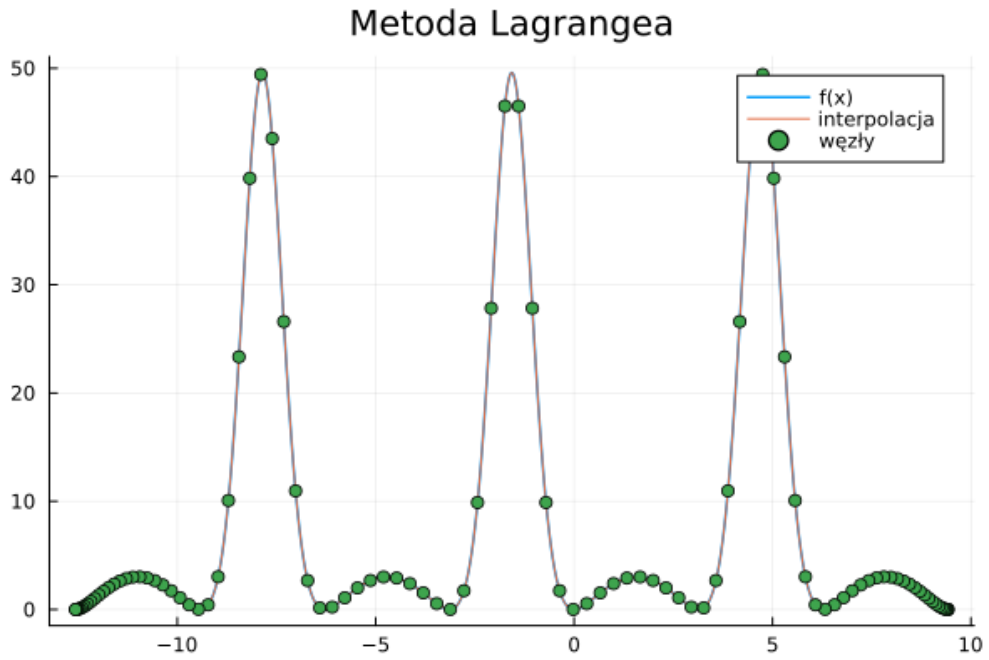
Nevton n = 60

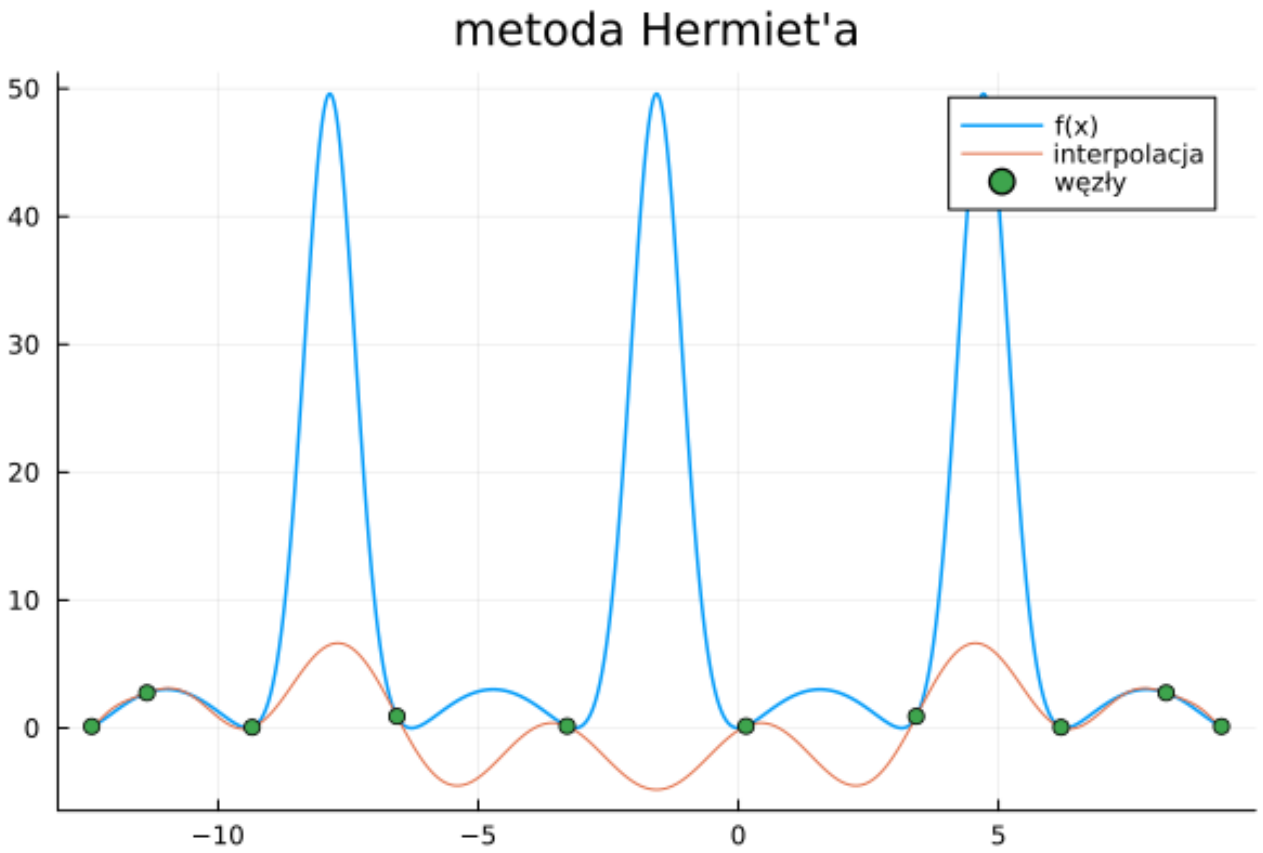


Lagrange n = 60



Lagrange n = 100



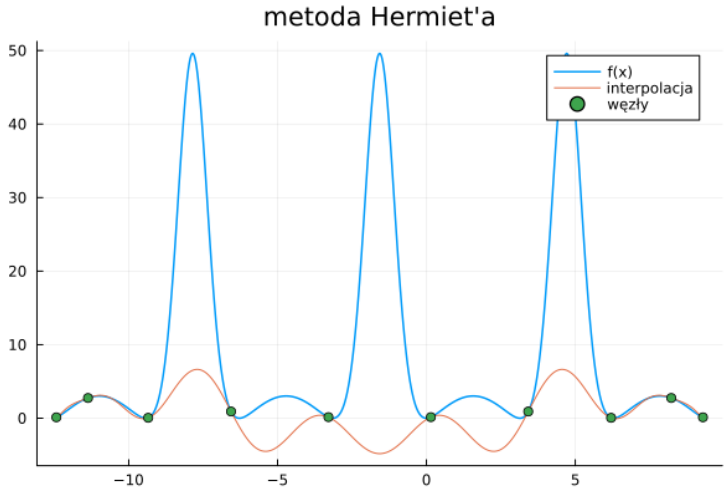


Interpolacja metodą Hermiet'a

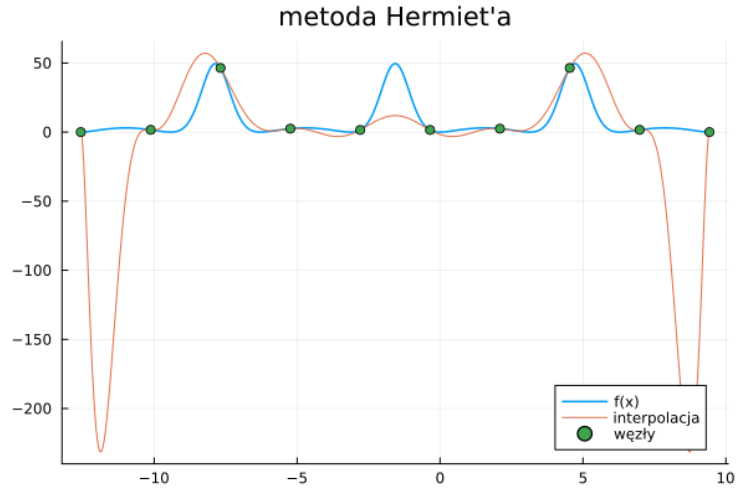
+

Porównanie doboru węzłów
n = 10

Zera czebyszewa

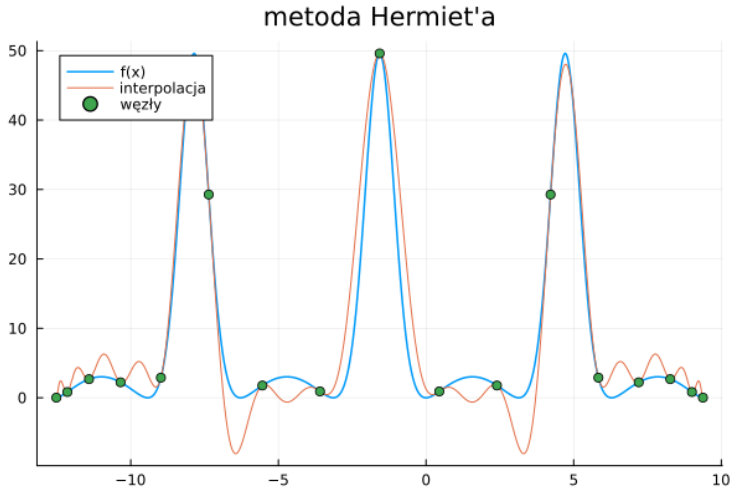


Równe odstępy

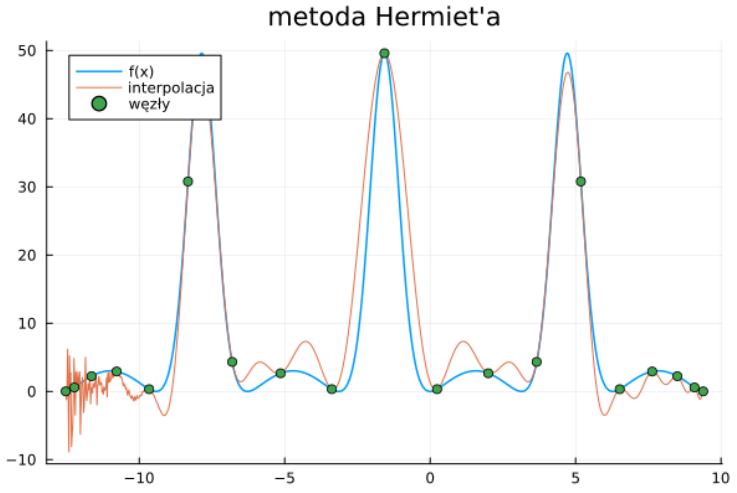


Szybko pojawiający się błąd maszynowy

n = 17

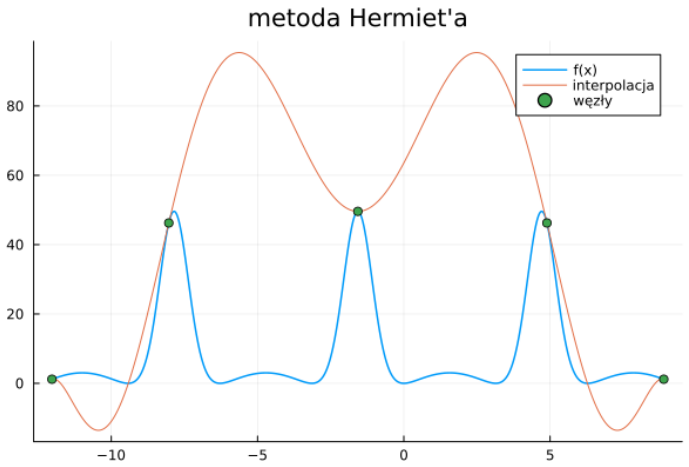


n = 19

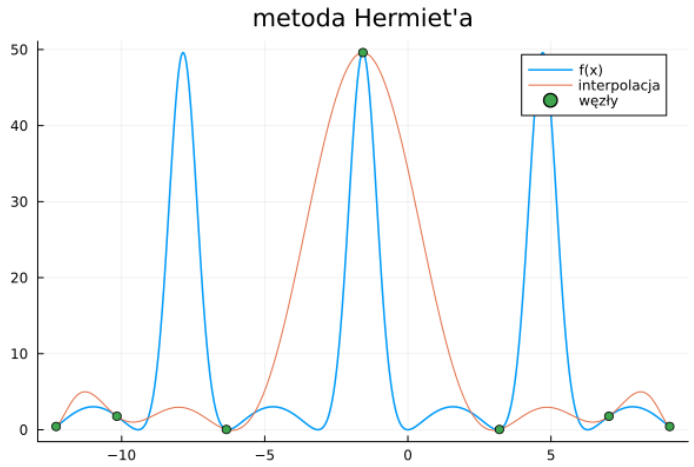


Maksimum lokalne jako węzeł

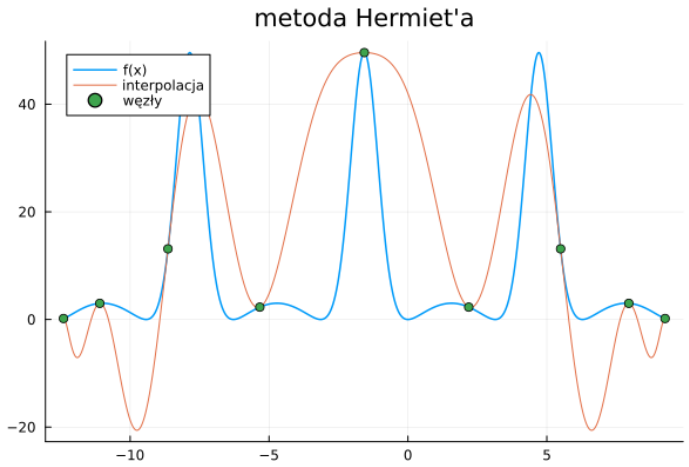
n = 5

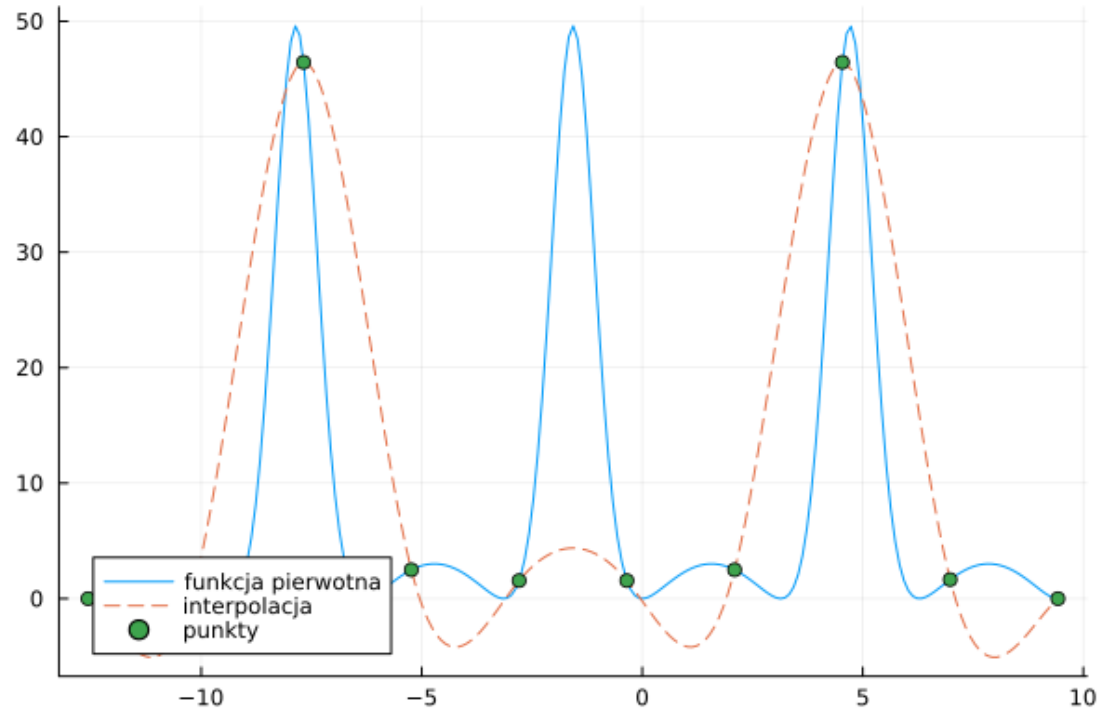


n = 7



n = 9



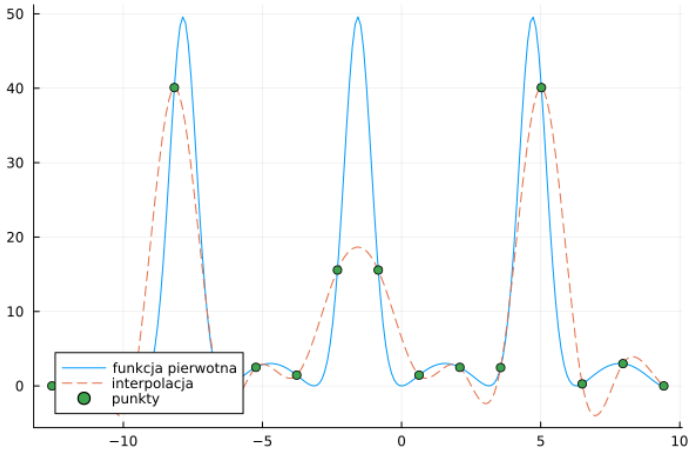


Interpolacja funkcją sklejaną

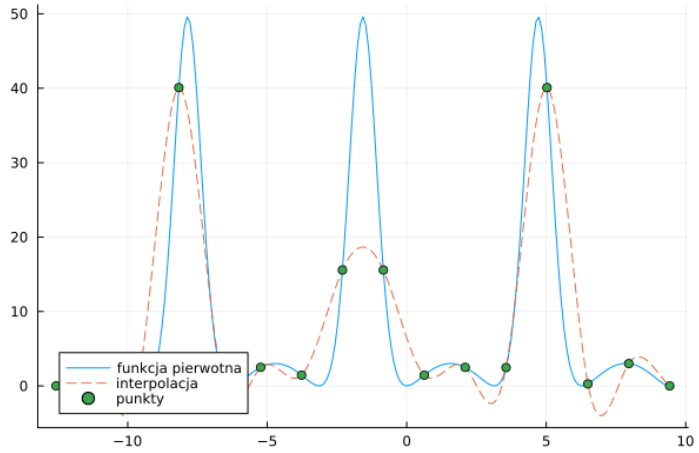
+

Warunki brzegowe

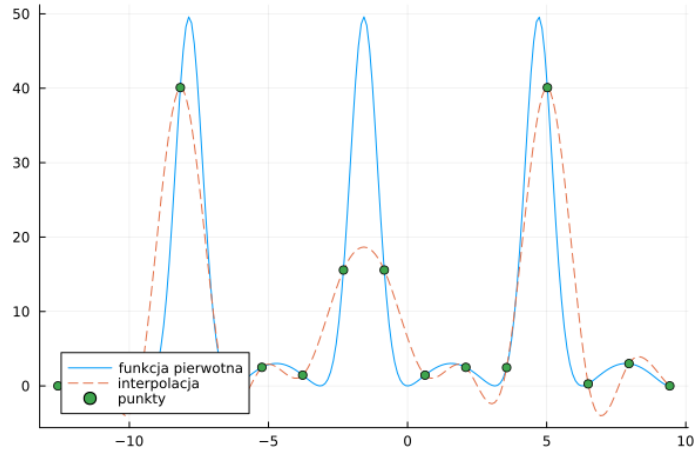
Naturalne

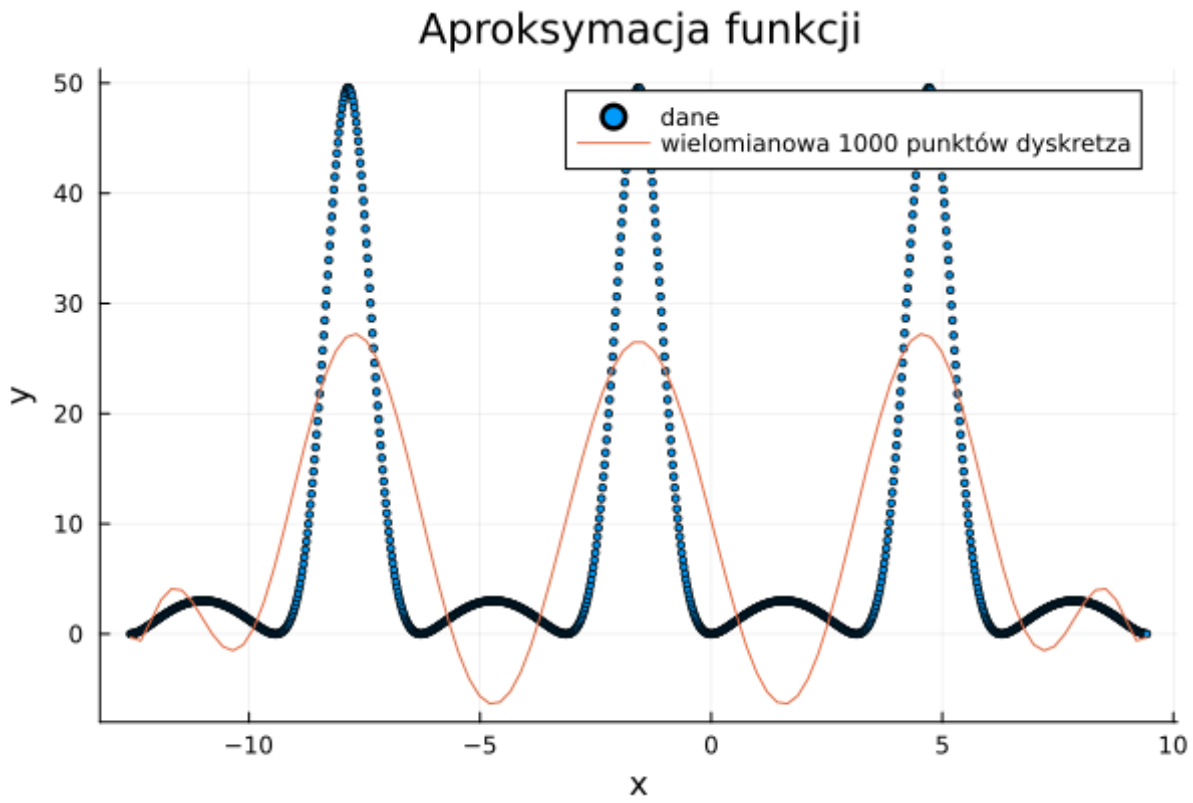


Hermite'a



"not-a-knot"



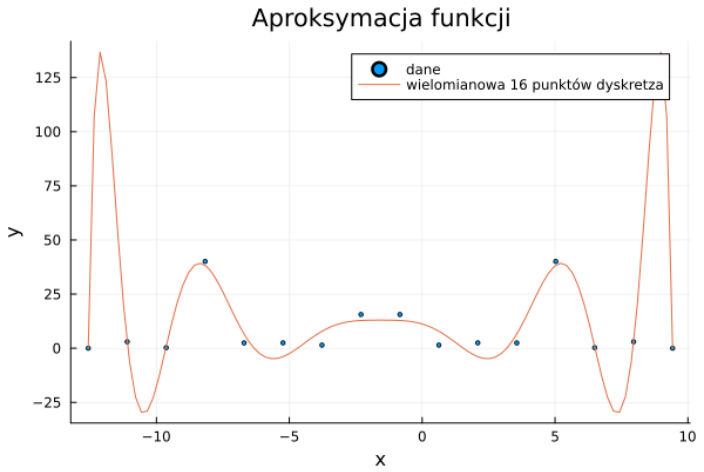


Aproksymacja Średniokwadratowa Wielomianami algebraicznymi

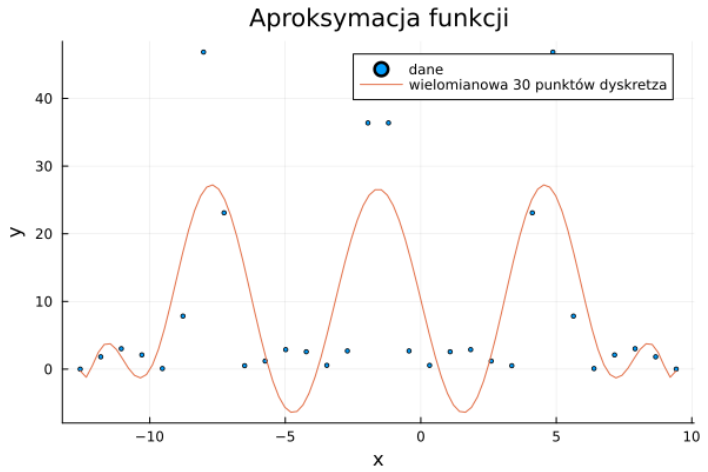
+

Brak zmian od pwnej liczby punktów dyskretyzacji

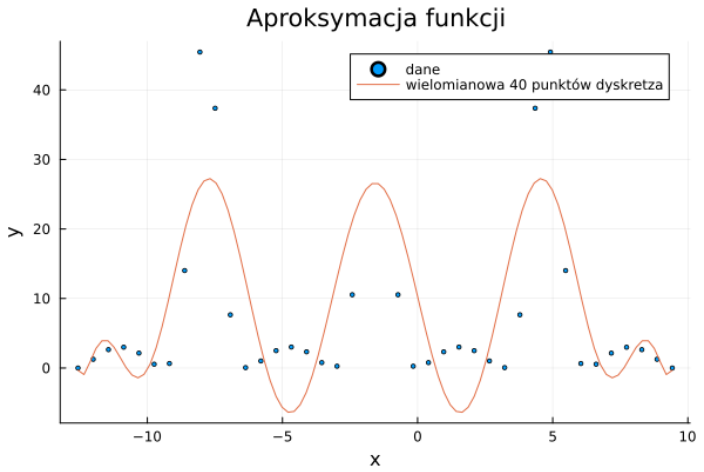
n = 16



n = 30

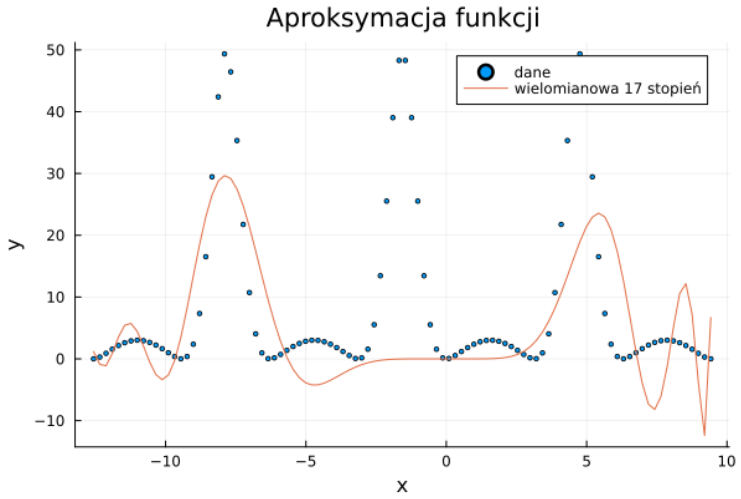


n = 40

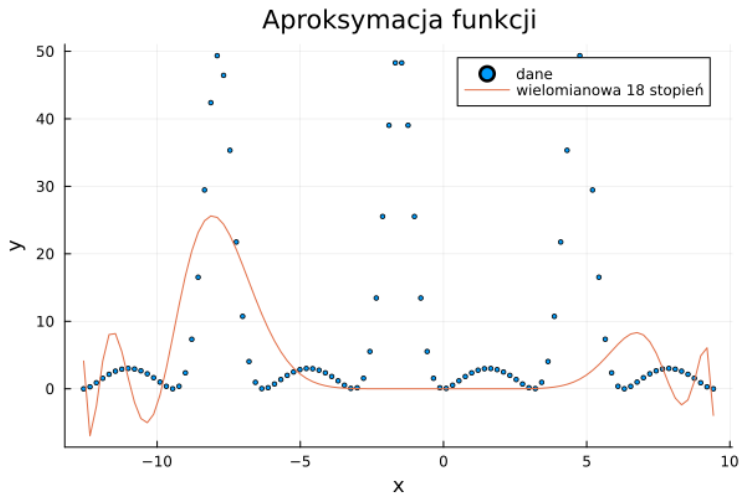


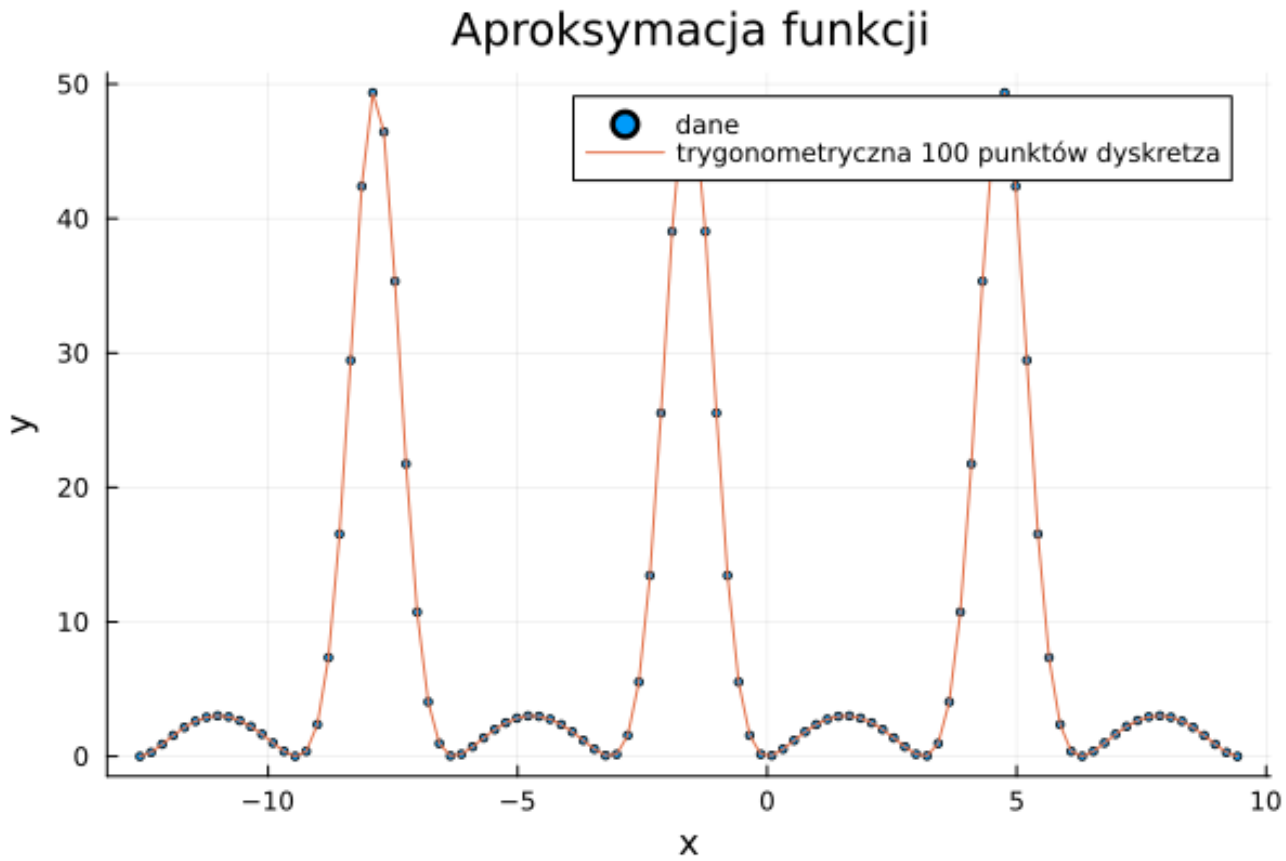
Błąd zwiazany z zbyt dużą ilością funkcji bazowych

m= 17



m= 18

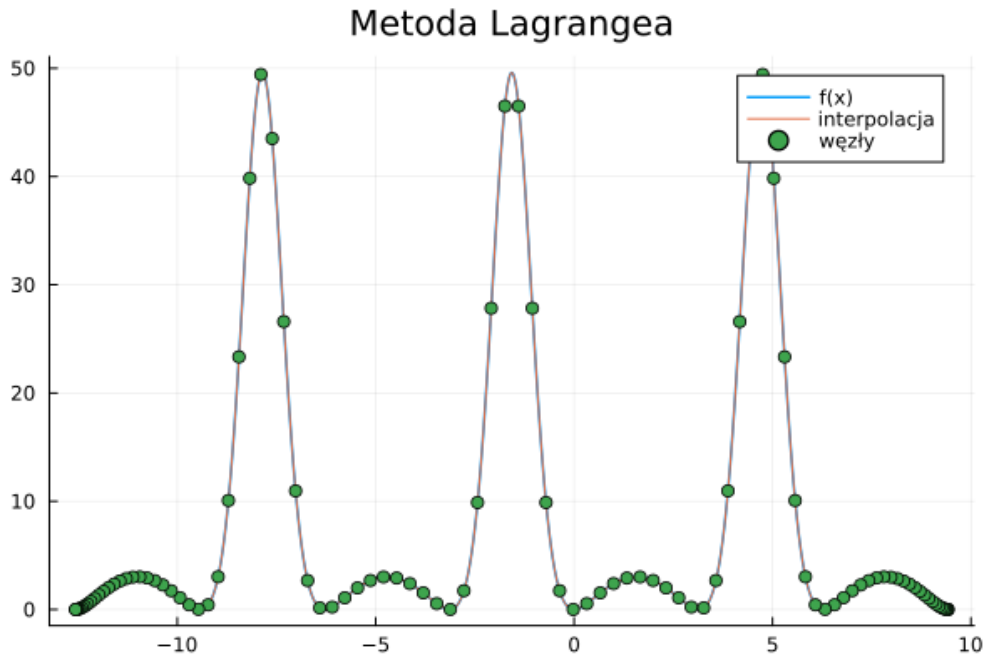




Aproksymacja średniokwadratowa trygonometryczna

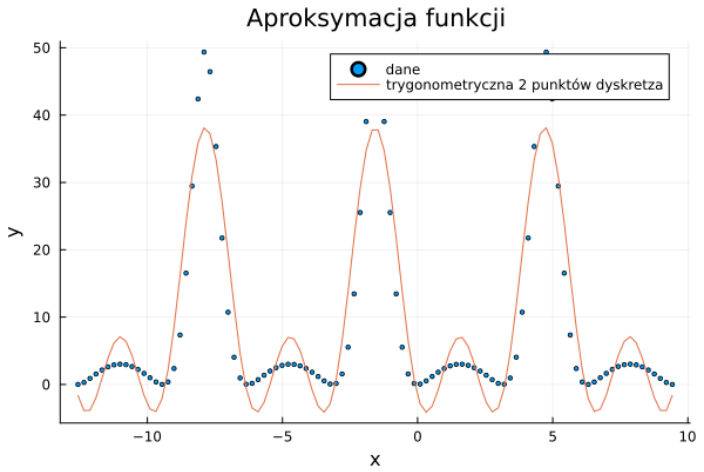
+

Wysokie dopasowanie jóż dla niewielkiej ilości punktów dyskretyzacji

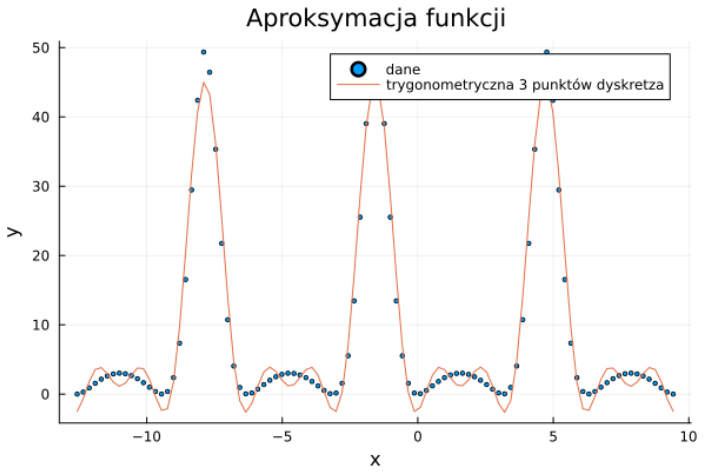


Ilość funkcji bazowych

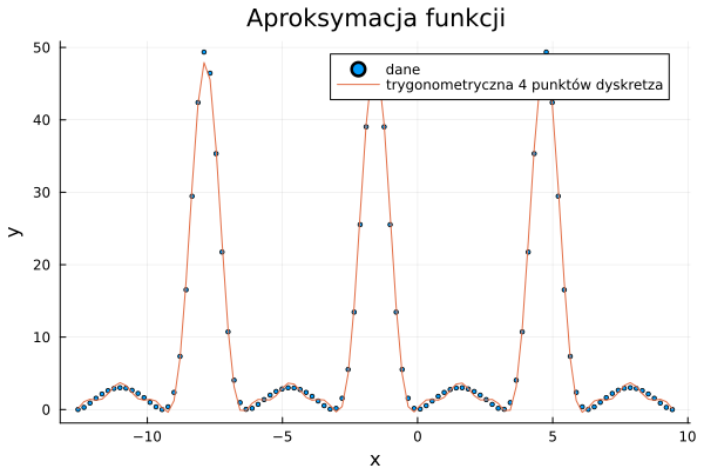
m = 2

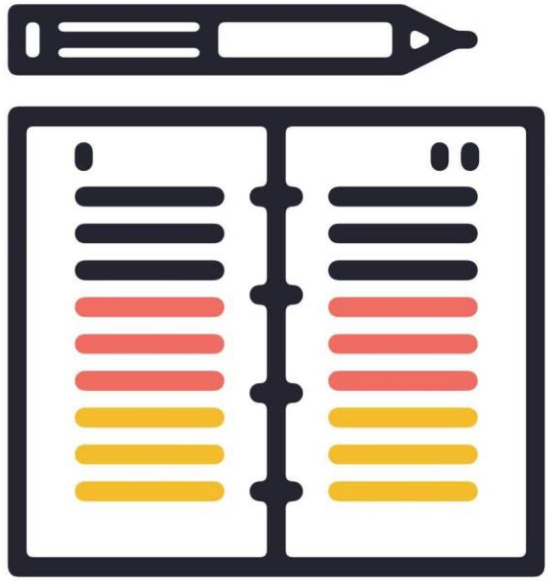


m = 3



m = 4





Dziękuję za uwagę

Dominik Jeżów