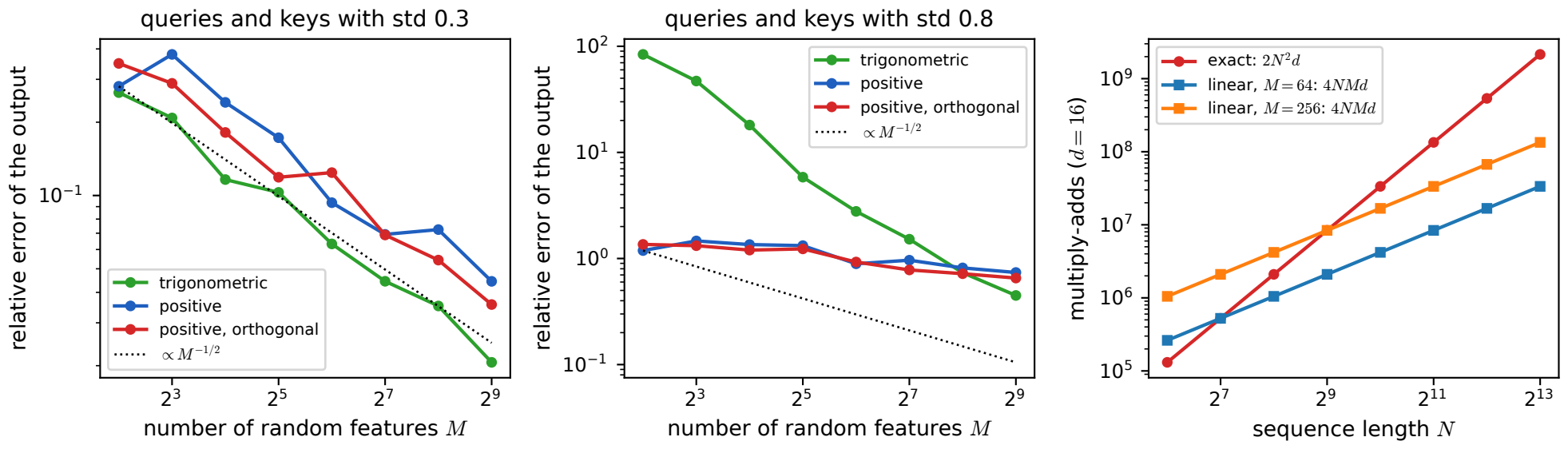

queries and keys with std 0.3
relative error of the output
10^{-1}
trigonometric
positive
positive, orthogonal
$\propto M^{-1/2}$
2^3
2^5
2^7
2^9
number of random features M
queries and keys with std 0.8
relative error of the output
10^2
10^1
10^0
10^{-1}
trigonometric
positive
positive, orthogonal
$\propto M^{-1/2}$
2^3
2^5
2^7
2^9
number of random features M
multiply-adds ($d = 16$)
exact: $2N^2d$
linear, $M = 64$: $4NMd$
linear, $M = 256$: $4NMd$
10^9
10^8
10^7
10^6
10^5
2^7
2^9
2^{11}
2^{13}
sequence length N