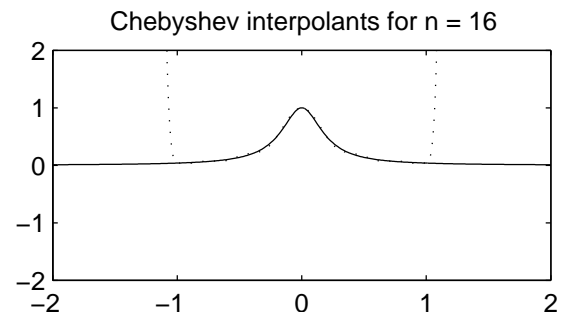
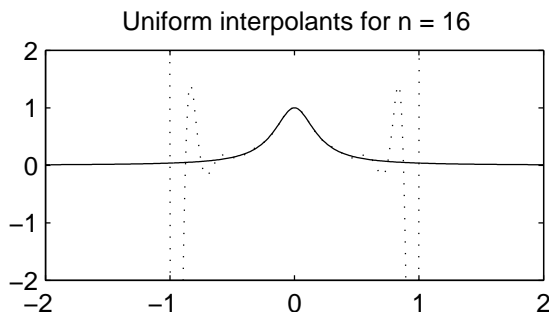
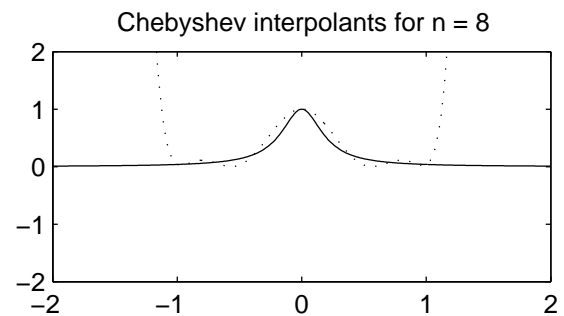
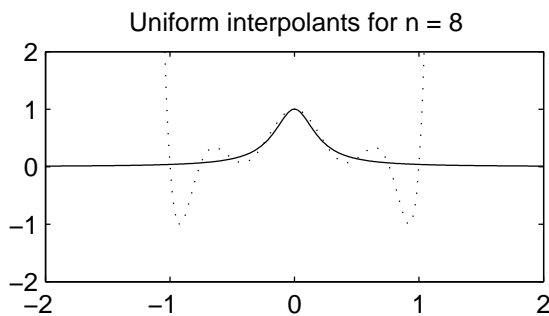
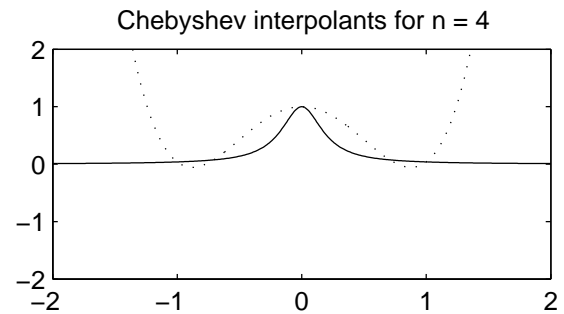
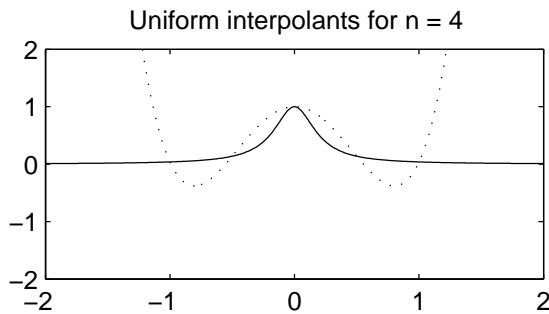


Polynomial Interpolation

$$f(x) = \frac{1}{1+25x^2}, \quad x \in [-1, 1]$$



Note:

1. Interpolation at the uniform points is well behaved near the center of the interval but is badly behaved near the endpoints of the interval.
2. Interpolation at the Chebyshev points is well behaved over the entire interval.
3. In general, if $f(x)$ and $f'(x)$ are continuous of $[-1, 1]$, Chebyshev interpolation will produce a sequence of polynomials $\{P_n\}$ that converge uniformly to $f(x)$ on $[-1, 1]$.