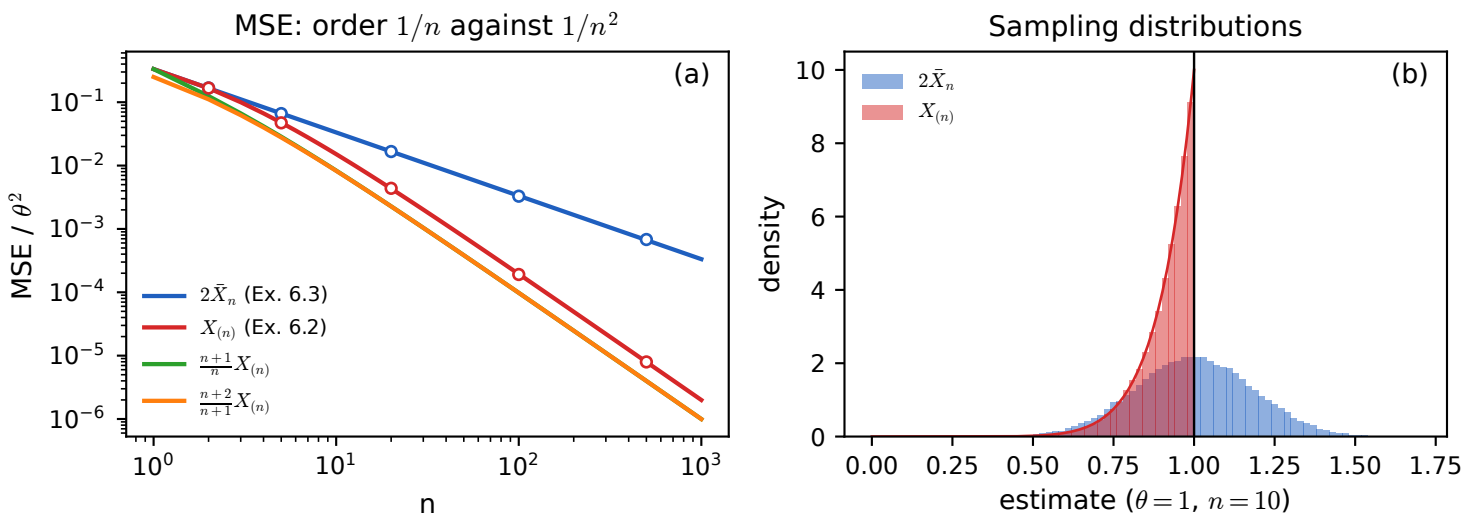

MSE: order $1/n$ against $1/n^2$
(a)
MSE / θ^2
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
$2\bar{X}_n$ (Ex. 6.3)
$X_{(n)}$ (Ex. 6.2)
$\frac{n+1}{n}X_{(n)}$
$\frac{n+2}{n+1}X_{(n)}$
10^0
10^1
10^2
10^3
n
Sampling distributions
(b)
$2\bar{X}_n$
$X_{(n)}$
density
0
2
4
6
8
10
0.00
0.25
0.50
0.75
1.00
1.25
1.50
1.75
estimate ($\theta = 1$, $n = 10$)