

	iteration complexity	iteration cost	total
Smooth and strongly convex problems ($\kappa = L/\mu$)			
GD	$\mathcal{O}(\kappa \log(1/\varepsilon))$	$\mathcal{O}(n)$	$\mathcal{O}(n\kappa \log(1/\varepsilon))$
SGD	$\mathcal{O}(1/\varepsilon)$	$\mathcal{O}(1)$	$\mathcal{O}(1/\varepsilon)$
Nonconvex problems			
GD	$\mathcal{O}(1/\varepsilon^2)$	$\mathcal{O}(n)$	$\mathcal{O}(n/\varepsilon^2)$
SGD	$\mathcal{O}(1/\varepsilon^4)$	$\mathcal{O}(1)$	$\mathcal{O}(1/\varepsilon^4)$