

2 Review of convexity

Review of convex functions:

- Definition in terms of Jensen's inequality
- First-order condition, second-order condition (Hessian)
- Nonsmooth functions: subgradient, subdifferential
- Functions with Lipschitz continuous gradient
- Strongly convex functions

See Chapters 2 and 3 of “Convex Optimization”, Boyd & Vandenberghe. <https://web.stanford.edu/~boyd/cvxbook/>

For subgradients, subdifferentials, see http://stanford.edu/class/ee364b/lectures/subgradients_notes.pdf.