Exercises
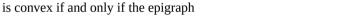
E15.b.5 [181] Let $C \subset \mathbb{R}^n$ be a convex set. Let $f : C \to \mathbb{R}$, show that f is convex if and only if the epigraph

$$\{(x, y) \mid x \in C,\ f(x) \leq y\}$$

is a convex subset of $C \times \mathbb{R}$.