

Exercises

E17.e.4 [1HB] Prerequisites: [1F6], [1GB], [1H8]. Let f, φ be of class C^2 in the open set A , and let \bar{x} be a minimum point for f constrained to E_a ; let λ be the Lagrange multiplier; let's define $h = f(x) + \lambda\varphi(x)$, then

$$\forall v, v \cdot \nabla \varphi(x) = 0 \implies v \cdot Hv \geq 0$$

where H is the Hessian matrix of h .

Solution 1. [1HC]